Stage II Detailed Site Investigation

2-6 Cavill Avenue or 1-9 Thomas Street, Ashfield NSW 2131

Prepared for: Shayher Alliance Pty Ltd

STC-1858-18526 | DSI / v1f | Date: 13th November 2020

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For and on behalf of
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CONTENTS

1 Introduction 11

1.1 Background and Purpose 11

1.2 Proposed Development 11

1.3 Project Objectives 12

2 Scope of Work 12

2.1 Phase One – Desktop Study 12

2.2 Phase Two – Field Investigation and Sampling 12

2.3 Phase Three – Analytical Test Works 13

2.4 Phase Four – Data Assessment and Conclusions 13

2.5 Guidelines and Codes of Practice 13

2.6 Overall Report 15

3 Site Information and Setting 16

3.1 Site Location 16

3.2 Summary of Site Details 16

3.3 Current Site Description 16

3.4 Regional Setting 17

3.5 Surrounding Land Use 17

4 Summary of Previous Reports 18

4.1 ADE Consulting Group Pty Ltd (2020) – *Stage I Preliminary Site Investigation, 2-6 Cavill Avenue or 1-9 Thomas Street, Ashfield NSW 2131, Prepared for: Shayher Alliance Pty Ltd* . Report ref.: STC-1858-17331 / PSI / Mar 2020 (ADE 2020) 18

4.2 Douglas Partners Pty Ltd (2020) – *Report on Geotechnical Investigation, Proposed Mixed-Use Development 2-6 Cavill Avenue, Ashfield, Prepared for: Shayher Alliance Pty Ltd* . Report ref.: 99573.00.R.001.Rev0. Dated: 5th May 2020 (DP 2020) 19

5 Desktop Site History Review 19

5.1 Historical Title Records 19

5.2 Environmental and Heritage Search 19

5.3 Historical Aerial Photographs 19

5.4 Section 10.7 (former Section 149) 20

5.5 Contaminated Land Register Search 20

5.6 SafeWork NSW Site Search for Schedule 11 Hazardous Chemicals on Premises 20

5.7 Acid Sulfate Soils 20

5.8 Identified Contaminants of Potential Concern (CoPC) 20

6 Data Quality Objectives 21

6.1 Step 1 – State the Problem 21

6.2 Step 2 – Identify the Decision 21

6.3 Identify Inputs to the Decision 21

6.4 Step 4 – Define the Boundaries of the Study 22

6.5 Step 5 – Develop a Decision Rule 22
6.6 Step 6 – Specify Acceptable Limits on Decision Errors 23
6.7 Step 7 – Optimise the Design for Obtaining Data 25
7 Conceptual Site Model 25
8 Assessment Criteria 27
8.1 Soil Assessment Criteria 27
8.1.1 Health Investigation Levels (HILs) 27
8.1.2 Health Screening Levels (HSLs) 27
8.1.3 Petroleum Hydrocarbon Management Limits 28
8.1.4 Ecological Investigation Levels (EILs) and Ecological Screening Levels (ESLs) 28
8.1.5 Asbestos 31
8.1.6 Acid Sulfate Soils 31
8.1.7 PFAS 31
8.2 Preliminary Waste Classification Criteria 31
8.3 Groundwater Assessment Criteria 32
8.3.1 PFAS 34
8.4 Aesthetics 34
8.5 Statistical Treatment 34
9 Site Investigation Design and Procedure 35
9.1 Investigation Objectives 35
9.2 Sampling Design 35
9.3 Pre-work Procedure 35
9.4 Site Observations 35
9.5 Site Soil and Sub Soil Geology 36
9.6 Field Sampling and Locations 36
9.7 Soil Sampling 36
9.8 Groundwater Monitoring Well Locations 36
9.9 Groundwater Monitoring Wells Installation 37
9.10 Groundwater Sampling 37
10 Results and Discussion 38
10.1 Soil – Summary of Results 38
10.1.1 Heavy Metals 38
10.1.2 PAHs 38
10.1.3 BTEX 38
10.1.4 TRHs 38
10.1.5 VOCs 38
10.1.6 OCPs and OPPs 38
10.1.7 PCBs 38
10.1.8 Phenols 39

10.1.9 Total Cyanides 39
10.1.10 PFAS 39
10.1.11 Asbestos 39
10.2 Preliminary Waste Classification 39
10.3 Groundwater – Summary of Results 40
10.3.1 Field Observations 40
10.3.2 Heavy Metals 40
10.3.3 PAHs 40
10.3.4 BTEX 40
10.3.5 TRHs 41
10.3.6 OCPs and OPPs 41
10.3.7 PCBs 41
10.3.8 Phenols 41
10.3.9 PFAS 41
10.4 Duty to Report Contamination 41
10.4.1 On-Site soil contamination 41
10.4.2 Asbestos in, or on, soil 42
10.4.3 Groundwater or surface water 42
10.4.4 Duty to Report Contamination conclusion 42
11 REVISED CONCEPTUAL SITE MODEL 43
12 Data Quality Assessment 43
12.1 QA/QC Sampling 43
12.1.1 Blind Replicate Samples 44
12.1.2 Split Samples 44
12.1.3 Trip Blanks 44
12.1.4 Trip Spikes 45
12.1.5 Rinsates 45
12.1.6 Laboratory Duplicates 45
12.1.7 Laboratory Blanks 45
12.1.8 Percent Recoveries of Spikes and Surrogates 45
12.1.9 QA/QC DQO Reconciliation 46
13 Conclusions and Recommendations 47
13.1 Main Field Observations 47
13.2 Soil 47
13.2.1 Chemical Analysis 47
13.2.2 Asbestos contamination 47
13.3 Groundwater 48
13.4 Duty to Report Contamination 48
13.5 Recommendations 48

13.6 Suitability of Site 48
14 Limitations and Disclaimer 49
15 References 50
Appendix I – Figures 52
Appendix II – Photographs 53
Appendix III – Results Tables 61
Appendix IV – Supporting Documents 62
Appendix V – Borehole Logs 63
Appendix VI – QA / QC 64
Appendix VII – Sampling Methodology 67
Appendix VIII – Analytical Reports and Chain of Custody 69
Appendix IX – Equipment Calibration Certificate 70
Appendix X – Dial Before You Dig 71
Appendix XI – Site Plans 72
Appendix XIV – Groundwater Well Development 73

Abbreviations

Abbreviations	Full Form
ACM	Asbestos Containing Material
ADE	ADE Consulting Group Pty Ltd
AHD	Australian Height Datum
ALS	Australian Laboratory Services
ASS	Acid Sulfate Soils
ASSMAC	Acid Sulfate Soils Management Advisory Committee
BGL	Below ground level
BTEX	Benzene, toluene, ethylbenzene, xylene
BR	Blind Replicate
CoC	Chain of Custody
CoPC	Contaminants of Potential Concern
CRC CARE	Contamination Assessment and Remediation of the Environment
CSM	Conceptual Site Model
DBYD	Dial Before You Dig
DEC	Department of Environment and Conservation
DO	Dissolved Oxygen
DP	Deposited Plan
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
EC	Electrical Conductivity
EILs	Ecological Investigation Levels
EPA	NSW Environmental Protection Authority
ESLs	Ecological Screening Levels
GILs	Groundwater Investigation Levels
HILs	Health Investigation Levels
HMS	Hazardous Materials Survey
HSLs	Health Screening Levels
LDPE	Low-Density Polyethylene
LEP	Local Environmental Plan
m BGL	meters Below Ground Level
m BTOC	meters Below Top Casing
MW	Monitoring Well
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	National Environmental Protection (Assessment of Site Contamination) Measure
NHMRC	National Health and Medical Research Council
NSW	New South Wales
OCP	Office of Environment and Heritage
OEH	Organophosphorus Pesticides
OPP	Organochlorine Pesticides
PAHs	Polycyclic Aromatic Hydrocarbons
PFAS	Per and Polyfluoroalkyl Substances
PCB	Polychlorinated Biphenyls
pH	Soil Potential Hydrogen
PID	Photo-ionisation Detector
PSI	Preliminary Site Investigation
PVC	Polyvinyl chloride
QA/QC	Quality Assurance/Quality Control
RAP	Remedial Action Plan
REDOX	Reduction-Oxidation Potential
RPD	Relative Percent Difference
RL	Reduced Level
SAC	Site Assessment Criteria
SEPP	State Environmental Planning Policy
SH&EWMS	Safety Health and Environmental Works Method Statement
SLS	Sydney Laboratory Services

Abbreviations	Full Form
SVOC	Semi-Volatile Organic Compounds
SWL	Standing Water Level
TOC	Top of Casing
TRH	Total Recoverable Hydrocarbons
UCL	Upper Confidence Limit
USCS	Unified Soil Classification System
UST	Underground Storage Tank
UFP	Unexpected Finds Protocol
VOC	Volatile Organic Compounds

Executive Summary

ADE Consulting Group Pty Ltd (ADE) was engaged by Shayher Alliance Pty Ltd ('the Client') to undertake a Phase II Detailed Site Investigation (DSI) to assess the potential for contamination at the property located at 2-6 Cavill Avenue and 1-9 Thomas Street, Ashfield New South Wales (NSW) (hereafter referred to as 'the Site'). The Site encompasses Lot 1-2 Deposited Plan (DP) 556722, Lot 101 DP234926, Lot 17 DP168456, Lot 9 DP940918 and Lot 1, 2 and 5 DP6262 within the Local Government Area of Inner West Council.

The Phase II DSI was designed to assess the Site regarding contaminants of potential concern (CoPC) identified in the preliminary Site Investigation (PSI) by ADE (2020). The investigation also sought to determine if the Site is suitable for the proposed development.

The proposed development for the Site would involve the demolition of the existing buildings and structures, followed by construction of a nine (9) storey building with open space in the middle (refer to *Appendix XI – Site Plans)*. The plan proposes 277-286 residential units. The ground level is planned to accommodate retail, commercial and small offices/home offices. The proposed development also includes two (2) or three (3) storey basement carpark and a proposed open space communal area.

A review and summary of all previous investigation reports and documentation can be found in **Section 4**.

This project was undertaken in general accordance with the Guidelines for Consultants Reporting on Contaminated Sites, NSW Office of Environment and Heritage (OEH), 2020.

The Scope of Work for the investigation broadly involved the following:

- Conduct a Detailed Site Investigation (DSI) of soil and groundwater for the following contaminants of potential concern (CoPC):

    - **Soil:**
      Asbestos, Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), Heavy Metals (Arsenic, Cadmium Chromium, Copper, Lead, Mercury, Nickel and Zinc), Organochlorine Pesticides and Organophosphorus Pesticides (OCPs/OPPs), Polycyclic Aromatic Hydrocarbons (PAHs), Polychlorinated biphenyl (PCB), soil potential Hydrogen (pH), Semi-Volatile Organic Compounds (SVOCs), Total Recoverable Hydrocarbons (TRHs), Volatile Organic Compounds (VOCs), Phenols, Per- and Polyfluoroalkyl Substances (PFS) and Total Cyanides.

    - **Groundwater:**
      BTEX, 8 Dissolved Heavy Metals, OCPs, OPPs, PCBs, PAHs, TRH, Phenols, PFAS and VOCs.

- Preparation of a DSI report outlining the investigations methodology, interpretation of the results, and to make conclusions and recommendations concerning contamination impacting both environmental and human health within the Site.

<u>Main Field Observations</u>

- The two (2) commercial office buildings within the Site were observed to remain in use;
- The majority of the Site consisted of paved surfaces and buildings with a vegetations strip along the periphery;
- No evidence of any Underground Storage Tanks (USTs) was observed during the intrusive investigation; and

- No sheens or odours were observed within any of the monitoring wells. Light brown discolouration of water observed during MW1 and MW2 well development. Water was observed to be clear during groundwater sampling of both wells. Well caps and pipes were observed to be in good condition.

Soil Assessment

- A total of forty (40) selected soil samples from 20 boreholes were submitted to a National Association of Testing Authority (NATA) accredited laboratory for analysis of Heavy Metals, PAHs, BTEX, TRHs, OCPs, OPPs, PCBs, Phenols, Total Cyanides, VOCs and PFAS. The samples did not identify any exceedances above the adopted SAC for HIL-B; and
- All soil materials being disposed off-site should be classified in accordance with *Waste Classification Guidelines Part 1: Classifying Waste* (NSW Environment Protection Authority [EPA], 2014 (NSW EPA [Part 1], 2014 and *Waste Classification Guidelines Part 4: Acid sulfate soils* (NSW EPA [Part 4], 2014. However, a discussion on the preliminary Waste Classification for both fill material and underlying natural material has been provided as part the current report. ADE notes that actual waste classification reports should be completed under a different cover, prior to any offsite disposal.

Groundwater Assessment

The groundwater analytical results showed that concentrations of Heavy Metals, PAHs, PCB, OPPs, TRHs, BTEX, Phenols, VOCs and PFAS were not present in any samples above the laboratory detection limit.

Duty to Report Contamination

Following a review of the results for soils and groundwater at the Site, ADE considers that the Client does not have a Duty to Report Contamination to the NSW EPA regarding on-site contamination of soils or groundwater.

Recommendations

In accordance with the findings of this DSI and the proposed development of the Site, ADE makes the following recommendations:

- An Unexpected Finds Protocol (UFP) is to be prepared for the Site to detail the required actions should any asbestos be identified during future demolition and construction works;

- Any soil materials being disposed off-site will require a waste classification. It is further recommended that bulk excavation works are supervised by a suitably qualified environmental consultant to observe appropriate segregation of fill oppose to Virgin Excavated Natural Material (VENM); and

- Prior to any demolition works and commencement of construction, a Hazardous Materials Survey (HMS) should be undertaken with all hazardous materials identified on a register and a clearance certificate be obtained from a licensed removalist/asbestos assessor after removal of any identified hazardous material.

Suitability of Site

Taking into consideration the data obtained from previous and current investigation, ADE considers that the Site is suitable for the proposed development.

1 Introduction

1.1 Background and Purpose

ADE Consulting Group Pty Ltd (ADE) was engaged by Shayher Alliance Pty Ltd (hereafter referred to as 'the Client') to undertake a Phase II Detailed Site Investigation (DSI) to assess the suitability of the land for its intended land use at 2-6 Cavill Avenue and 1-9 Thomas Street, Ashfield New South Wales (NSW) (hereafter referred to as 'the Site') (refer to *Appendix I – Figures*).

The Stage II DSI was designed to assess the Site regarding Contaminants of Potential Concern (CoPC) identified during the Preliminary Site Investigation (PSI) undertaken by ADE (Report Ref: Stage I Preliminary Site Investigation, 2-6 Cavill Avenue and 1-9 Thomas Street, Ashfield NSW 2131, Prepared for: Shayher Alliance Pty Ltd. Report ref.: STC-1858-17331 / PSI / v1f. Dated: 16th March 2020 (ADE 2020)). The investigation also sought to determine if the Site is suitable for the proposed development. A review and summary of all previous investigation reports and documentation can be found in **Section 4**.

The Stage II DSI was undertaken to assess the potential for contamination within soil and groundwater. This was undertaken through:

i. Review of the Site's history;
ii. Identification of any CoPC highlighted in the PSI (ADE 2020); and
iii. Soil and groundwater sampling work for analysis and assessment of current site conditions.

The project brief issued to ADE by the client was to complete a Stage II DSI to determine the Site's suitability for the proposed future commercial / industrial land use. The required number of sampling points for the Site investigation was estimated in accordance with the NSW EPA's *Sampling Design Guidelines* (1995).

This report was written in accordance with Guidelines for Consultants Reporting on Contaminated Sites, NSW Office of Environment and Heritage (OEH), 2011.

This report should be read in conjunction with the following reports:

- ADE – Stage I Preliminary Site Investigation, 2-6 Cavill Avenue and 1-9 Thomas Street, Ashfield 2131, prepared for: Shayher Alliance Pty Ltd Report Ref.: STC-1858-18526 / PSI / v1f. Dated 16.03.2020 (ADE 2020); and
- Douglas Partners – Report on Geotechnical Investigation, Proposed Mixed-Use Development 2-6 Cavill Avnue, Ashfield. Prepared for Shayher Alliance Ptd Ltd Project No.: 99573.00, Document No.: R.001.Rev0, dated 05.05.2020 (DP 2020).

The field works were undertaken during October 2020.

1.2 Proposed Development

The proposed development for the Site would involve the demolition of the existing buildings and structures, followed by construction of a nine (9) storey building with open space in the middle (refer to *Appendix XI – Site Plans)*. The plan proposes 277-286 residential units. The ground level is planned to accommodate retail, commercial and walk-up residential units. The proposed development also includes three (3) storey basement carpark and a proposed open space communal area.

1.3 Project Objectives

The primary objective of this investigation is to characterise the vertical and lateral extent of soil, and groundwater contamination (if present) within the Site. The objectives of the investigation will be achieved by:

- Identify past and present potentially contaminating activities at the Site through a desktop review of previously available reports;
- Identify potential sources of contamination and types of contaminants;
- Discuss the current Site condition;
- Complete an investigation program developed in accordance with the NSW EPA (1995) *Sampling Design Guidelines* (NSW EPA 1995) and National Environment Protection Council (NEPC) (2013). *National Environment Protection (Assessment of Site Contamination) Measure (NEPM) - Schedule B(1) Guideline on the Investigation Levels of Soil and Groundwater* (NEPM 2013);
- Assess and describe the source, type, extent and level of contamination present on Site;
- Determine the potential risk posed to human health and ecological receptors (if present);
- Provide a preliminary waste classification for the in-situ fill and underlying natural materials; and
- Provide an assessment of Site contamination and recommendations for remediation (if required).

2 Scope of Work

The Scope of work for the Investigation involved the following:

2.1 Phase One – Desktop Study

- Preparation and completion of a Site-Specific Safety, Health & Environment Work Method Statement (SH&EWMS);
- Desktop Site review of:
    - All publicly available Site information;
    - Previously completed contamination assessments;
    - Identification of data gaps, if any;
    - SafeWork NSW Dangerous Goods Search; and
    - Review of the Site plans and any proposed development plans;
- Preparation of a sampling plan involving designing of a detailed soil and groundwater sampling program for the Site to address areas of environmental concern in accordance with NSW EPA endorsed guidelines; and
- Obtain and review 'Dial Before You Dig' (DBYD) documentation.

2.2 Phase Two – Field Investigation and Sampling

- Underground service clearance from an approved service locator;
- Mobilisation of plant and / or equipment at Site during intrusive assessment;
- Completion of twenty (20) boreholes (maximum depth of 10.0 m BGL within the ground level or to natural materials and 1.3 m BGL within the basement or to natural materials) using a Geoprobe 7822DT and a Miniprobe drill rig with solid flight auger and push tube attachments throughout the Site for assessment of soil, groundwater and in-situ preliminary waste classification assessment;
- Converting two (2) boreholes into groundwater monitoring wells;
- Logging of soils in accordance with Unified Soil Classification System (USCS) and observation of visual / olfactory indications of contamination throughout the soil profile. Soil samples were also screened in the field using a calibrated photo-ionisation detector (PID) to assess the potential presence of ionisable volatile organic compounds such as petroleum hydrocarbons;

- Collection of samples from each borehole based on visual observation and lithology, odour, staining, etc;
- Analysis of forty (40) soil samples for a standard suite of contaminants for Site characterisation:
- Soil:

  Asbestos (presence / absence), BTEX, Heavy Metals, OCPs/OPPs, PAHs, PCB, pH, SVOCs, TRHs, VOCs, Phenols, PFAS and Total Cyanides.
- Holding of soil samples taken at depth for future analysis if contamination was identified in shallower samples;
- Conversion of selected boreholes into groundwater monitoring wells;
- Development of existing and newly installed monitoring wells using High-Density Polyethylene (HDPE) tubing and Waterra foot valve;
- A calibrated water quality meter was used during the purging and sampling process to assess chemical equilibrium by measuring pH, redox potential (Eh), electrical conductivity, dissolved oxygen and temperature. The parameters were considered stable and at equilibrium when two (2) consecutive readings were within suitable limits;
- Gauging and groundwater sampling from existing and new monitoring wells, by a no-purge groundwater sampling technique using HydraSleeves;
- Analysis of groundwater samples for a standard suite of contamination:
  - BTEX, 8 Dissolved Heavy Metals, PAHs, TRH, OCPs, OPPs, PCBs, Phenols, PFAS and VOCs.
- Groundwater monitoring wells were surveyed to obtain spatial coordinates and top of well casing elevation m Australian Height Datum (AHD);
- Standard Quality Assurance / Quality Control (QA/QC) sampling for both soil and groundwater sampling programs;
- Cold storage of all soil and groundwater samples collected; and
- Analysis of samples for the following analytes based on the PSI (ADE 2020) and the provisional Conceptual Site Model (CSM).

2.3 Phase Three – Analytical Test Works

- Submission of samples to National Association of Testing Authorities (NATA) accredited laboratories for analysis under Chain of Custody (CoC) documentation; and
- Analysis of soil and groundwater samples by a NATA Accredited Laboratory.

2.4 Phase Four – Data Assessment and Conclusions

- Interpretation of analytical results and field observations in accordance with relevant guidelines and codes of conduct described in Section 10**;**
- Outline any constraints or limitations of the investigation;
- Discuss the likely impact of any off-site migration of contaminants (if any);
- Advise if there is a significant risk to human health and the environment as defined by the Contaminated Land Management Act 1997; and
- Preparation of a DSI report outlining the investigation, interpretation of results, and including conclusions and recommendations with reference to the proposed development.

2.5 Guidelines and Codes of Practice

The legislative framework for the report is based on guidelines that have been issued and/or endorsed by the NSW Environmental Protection Authority (EPA), formerly the Office of Environment and Heritage (OEH) under the following Acts/Regulations:

- Contaminated Land Management Act 1997;
- Environmental Planning and Assessment Act 1979;
- Protection of the Environment Operations Act 1997; and

- State Environmental Planning Policy (SEPP) 55 'Remediation of Land'.

The relevant guidelines issued under the provisions of the aforementioned Acts/Regulations include:

- ANZG (2018), Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Available at www.waterquality.gov.au/anz-guidelines;
- ANZECC. (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality;
- *Department of Environment and Conservation (DEC) Guidelines for the Assessment and Management of Groundwater Contamination (DEC 2007);*
- DEC NSW. (2007) Guidelines for the Assessment and Management of Groundwater Contamination;
- Enhealth. (2005) Management of Asbestos in the Non-Occupational Environment;
- Friebel & Nadebaum. (2011). Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater, Part 1: Technical Development Document, Technical Report No. 10;
- Friebel & Nadebaum. (2011). Health Screening levels for Petroleum Hydrocarbons in Soil and Groundwater, Part 2: Application Document, Technical Report No. 10;
- Guidance for the Preparation of Standard Operating Procedures for Quality-Related Documents (EPA QA/G-6);
- Guidance on Data Quality Indicators, EPA QA/G-5I;
- Guidelines for the NSW Site Auditor Scheme (3rd Edition), NSW 2017;
- Guidelines for Consultants Reporting on Contaminated Sites, NSW OEH 2020;
- Guidelines on the Duty to Report Contamination (2015) under the Contaminated Land Management Act 1997;
- Guidance for the Data Quality Objectives Process (EPA QA/G-4);
- Guidance for Data Quality Assessment: Practical Methods for Data Analysis (EPA QA/G-9);
- National Functional Guidelines for Inorganic Data Review, USEPA, (1994);
- NEPM 1999, as amended 2013 (NEPM 2013);
- NSW EPA Sampling Design Guidelines (1995);
- NSW EPA Waste Classification Guidelines - Part 1: Classifying Waste (2014) and Addendum (2016);
- National Environment Protection Council (NEPC). (2013). *National Environment Protection (Assessment of Site Contamination) Measure (NEPM)*. Schedule B(1) Guideline on the Investigation Levels of Soil and Groundwater;
- National Health and Medical Research Council (NHMRC). (2011). National Water Quality Management Strategy Australian Drinking Water Guidelines 6 (updated October 2017);
- NSW EPA. (1995). Sampling Design Guidelines;
- NSW EPA. (1997). Contaminated Land Management Act 1997;
- NSW EPA. (2014). Waste Classification Guidelines – Part 1: Classification of Waste;
- NSW EPA. (2015). Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997;
- NSW EPA. (2017). Guidelines for the NSW Site Auditor Scheme. Third Edition;
- NSW Government. (1997). Protection of the Environment Operations Act 1997;
- NSW Government. (2013). Ashfield Local Environmental Plan [LEP] 2013 (NSW);
- NSW OEH. (2020). Guidelines for Consultants Reporting on Contaminated Sites;
- SafeWork Australia. (2016). Model Code of Practice: How to Safely Remove Asbestos;
- SafeWork Australia. (2016). Code of Practice: How to Manage and Control Asbestos in the Workplace;
- US EPA. (1995). Guidance for the Preparation of Standard Operating Procedures (SOPs) for Quality-Related Documents (EPA QA/G-6);
- US EPA. (1997). Data Quality Evaluation Statistical Toolbox (DataQUEST) User's Guide (EPA QA/G-9D) QA96 Version;
- US EPA. (2000). Guidance for Data Quality Assessment: Practical Methods for Data Analysis (EPA QA/G-9) QA00 UPDATE;
- US EPA. (2001). EPA Requirements for Quality Assurance Project Plans (EPA QA/R-5);

- US EPA. (2001). Data Quality Objectives Decision Error Feasibility Trials Software (DEFT) – USER'S GUIDE (EPA QA/G-4D);
- US EPA. (2002). Guidance for Quality Assurance Project Plans (EPA QA/G-5);
- US EPA. (2006). Guidance on Systematic Planning Using the Data Quality Objectives Process (EPA QA/G-4); and
- Waste Classification Guidelines Part 4: Acid Sulfate Soils (NSW EPA [Part 4], 2014.

Australian Standards applied to this investigation:

- Standards Australia. (1998). AS/NZS5667.1-1998 Water Quality-Sampling. Part 1: Guidance on the Design of Sampling Programs, Sampling Techniques and the Preservation of Handling Samples;
- Standards Australia. (2005). Australian Standard AS 4482.1 Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds, (2005); and
- Standards Australia (1999). Australian Standard AS 4482.2 Guide to the sampling and investigation of potentially contaminated soil. Part 2: Volatile substances, (1999).

The following local government plans have also been taken into consideration for preparation of this DSI:

- *Ashfield Local Environmental Plan [LEP] 2013 (NSW); and*
- *Inner West Development Control Plan [DCP] 2013 NSW.*

2.6 Overall Report

No one section or part of a section, of this report should be taken as giving an overall idea of this report. Each section must be read in conjunction with the whole of this report, including its appendices and attachments.

3 Site Information and Setting

3.1 Site Location

The Site subject to the current investigation is located at 2-6 Cavill Avenue or 1-9 Thomas Street, Ashfield NSW, as illustrated in *Appendix I – Figures*, Figure 1.

3.2 Summary of Site Details

Table 1 below provides a summary of details pertaining to the Site.

Table 1. Site Details and Information.

Site Attribute	Description
Site Address	2-6 Cavill Avenue and 1-9 Thomas Street, Ashfield NSW 2131
Title Identification	Lot 1-2 DP556722, Lot 101 DP234926, Lot 17 DP168456, Lot 9 DP940918 and Lot 1, 2 and 5 DP6262
Local Government Area (LGA)	Inner West Council
Land Use Zoning	B4 - Mixed Use and R2 - Low Density Residential
Site Area	Approximately 8422m2 per survey
Current Land Use	Multi-storey commercial buildings
Proposed Development	Multi-storey Residential Complex, with commercial / mixed use on the ground floor and basement carparking.

3.3 Current Site Description

The Site consists of two (2) commercial office buildings, car park and two (2) extensions to the west that encompass a total area of approximately 8422m2 per survey The Site is owned by an individual property owner and currently, the land is used for commercial/public office space by NSW Department of Family and Community Services with access to a pantry/kitchenet.

Two (2) five (5) storey office buildings occupy most of the Site. A connected basement car park is present, connecting the two (2) buildings underground. While most of the surface is covered either by the buildings or paved surface, a landscaped strip with good vegetation cover from trees and hedges was observed to surround the outer boundaries of the property. An SCC link panel to the west of the buildings and a Telstra substation to the south of the southern building were also observed within the landscaped area. A plant room and a boiler room were observed in the southern building. Processing units consisting of multiple pumps and various containers with unknown contents were observed in the plant and boiler rooms. A server/switch board was also observed in the same room. Multiple fire doors were observed in the two (2) buildings.

In the basement car park, entrance to an underground confined space was observed. A container labelled 'Soil' was also observed on the same level. ADE was later informed by the client that it was part of a site-wide sewerage system. However, the contents were not tested. On the roof of the southern building, multiple communication antennae were observed.

3.4 Regional Setting

The regional setting information including Site topography, drainage, geology and hydrogeology are summarised in **Table 2** below.

Table 2. Regional Setting Information for the Site.

Attribute	Description
Topography	The Site has a relatively flat surface and is characterised by a gradual downward gradient in a nominal north-west to south-east directions.
Site Drainage	Much of the surface area within the Site consists of the multi-storey building foundations and the concrete driveway and pavements supported on a cement slab. Rainwater is likely to collect in the gutters and downpipes and then either migrate into the stormwater system or pool on the ground surface. In landscaped areas, vertical percolation is likely to occur through the topsoil and underlying fill or residual soil materials. Rainwater through overland flow may be transported along local roads and stormwater pipes.
Hydrogeology and Groundwater	The underlying soil in the area generally consists of residual sediments. These late Triassic sediments comprise the underlying surficial sediment aquifer, and are defined as porous, extensive aquifers of low to moderate productivity. A search for registered groundwater wells within a 500 m radius of the Site was detailed in ADE (2020). The search identified four (4) groundwater monitoring boreholes within a 500m radius of the Site. All four wells were found to be at approximately 380 m to the west of the Site. They were found to be privately owned and no further information was available.
Local Geology and Soil	The regional and local geology is outlined within the 1:100,000 Sydney Soil Landscape Series Sheet by Chapman and Murphy (1989). According to Chapman and Murphy (1989), the Site belongs to the Blacktown soil landscape. The Blacktown soil landscape comprises of gently undulating rises on Wianamatta Group shales with local relief to 30 m and no rock outcrop. The underlying geology comprises Ashfield Shale consisting of laminate and black to dark grey shale. It features shallow to moderately deep (<100cm) red and brown podzolic soils on crests, upper slopes and well-drained areas; deep (150-300 cm) yellow podzolic soils and soloths on lower slopes in areas. Blacktown landscape is known for moderately reactive highly plastic subsoil, low fertility and poor drainage. According to the ADE (2020), the geological unit on Site is Triassic alluvium with black to dark grey shale and laminate. The soil on Site is belonging to order Kurosol (Pb12). Kurosol soil gently rolling to rounded hilly country with some steep slopes and broad valleys: chief soils are hard acidic red soils (Dr2.21) with hard neutral and acidic yellow mottled soils (Dy3.42 and Dy3.41) on lower slopes and in valleys. Associated are small areas of various soils including (Gn3.54) on some ridges, (Dr3.31) on some slopes; (Dr2.23) in saddles and some mid-slope positions, and some low-lying swampy areas of (Uf6) soils and (Uc1.2) soils with peaty surfaces. Small areas of other soils such as (Db1.2) are likely throughout.
Acid Sulfate Soil Risk	A review of the Australian Soil Resources Information System (ASRIS) – *Atlas of Australian Acid Sulfate Soils* (ASRIS, 2013) was undertaken to determine the potential for Acid Sulfate Soil (ASS) at the Site. The search indicated that the Site was an "extremely low probability of occurrence" area in regard to ASS risk. No observations (staining, odour) indicative of ASS were noted on the land surface or within any of the boreholes advances within the Site.
Nearest Surface Water Features	Iron Cove Creek is the nearest water features at 350 m west to the Site. Similarly, Cooks river is located approximately 2 km south of the Site followed by Parramatta River at approximately 2.4 km on the north-east and north-west.

3.5 Surrounding Land Use

At the time of inspection, the primary surrounding land-uses were observed as described in **Table 3**.

Table 3. Surrounding Land Uses.

Orientation with Site	Description of Use and Sensitive Receptors
North	High-density residential property followed by rail corridor.
East	Low-density residential properties, commercial area including restaurants, medical imaging service, real-estate offices, and grocers, banks and a church, Ashfield train station, school and Ashfield Mall.
South	Medium to high-density residential properties and commercial area including grocers, government office, Ashfield RSL, restaurants, church, Speech clinic, camera repair service, electrical supplier, old age homes.
West	Medium to high-density residential properties and commercial area with automotive repair services, hairdressers and Iron-Cove creek.

4 Summary of Previous Reports

4.1 ADE Consulting Group Pty Ltd (2020) – *Stage I Preliminary Site Investigation, 2-6 Cavill Avenue or 1-9 Thomas Street, Ashfield NSW 2131, Prepared for: Shayher Alliance Pty Ltd*. Report ref.: STC-1858-17331 / PSI / v1f. Dated: 16th March 2020 (ADE 2020)

ADE Consulting Group Pty Ltd (ADE) was engaged by Shayher Alliance Pty Ltd to undertake a Stage I – Preliminary Site Investigation (PSI) within the Site located at the Site.

The objective of the investigation was to identify all past and present potentially contaminating activities occurring at the Site, to identify the presence of any Contaminants of Potential Concern (CoPC) and, to determine the need for further investigations based on a preliminary assessment of the Site's contamination. The scope of work for the investigation broadly involved the following:

- Appraisal of the Site's history;
- Desktop study of the Site's condition and its surrounding environment;
- A Site walkover and visual inspection; and
- Preparation of a PSI report outlining the results of these investigations.

Following the Site walkover and the desktop study, several sources of potential contamination were identified and ADE outlined the below items as CoPC:

- Asbestos;
- BTEX;
- OCPs;
- OPPS;
- PCBs;
- Ozone Depleting Substances (ODSs);
- PAHs;
- TRHs;
- Heavy Metals;
- VOCs; and
- Trichloroethylene (TCE) and Perchloroethylene (PCE).

Based on the results of the desktop study and Site walk-over investigation, ADE considered there was a medium to high potential for contamination to have occurred on-Site as a result of the past and present land uses. ADE (2020) recommended a Stage II Detailed Site Investigation (DSI) with the inclusion of sampling for soil and groundwater should be conducted and reported on.

4.2 Douglas Partners Pty Ltd (2020) – *Report on Geotechnical Investigation, Proposed Mixed-Use Development 2-6 Cavill Avenue, Ashfield, Prepared for: Shayher Alliance Pty Ltd*. Report ref.: 99573.00.R.001.Rev0. Dated: 5th May 2020 (DP 2020)

Douglas Partners Pty Ltd (DP) was engaged by Shayher Alliance Pty Ltd to carry out a geotechnical investigation at the Site.

The objective of the works was to provide information on subsurface conditions for design and planning purposes. DP's investigation involved the drilling of six (6) boreholes, laboratory testing of selected rock core and soil samples, engineering analysis and reporting.

The report commented on considerations relating to rail and RMS infrastructure, site preparation and excavation (conditions and support), groundwater and seepage, foundations, site preparation and engineered fill, aggressivity, and seismicity.

DP (2020) notes that no free groundwater was encountered during auger drilling works, with the exception of BH1 which identified water at 6.3 m BGL. The measured water may have been associated with perched water within the clay and top of rocks and not a permanent or regional groundwater table.

Furthermore, DP (2020) notes that some seepage flow should be expected along the top of the rock and through fractures and joints in the rock, especially following periods of wet weather. As such, seepage into future excavations should be readily controlled by perimeter and subfloor drainage connected to a "sump-and-pump" system.

5 Desktop Site History Review

The Site history has been compiled from information gathered from various sources including Lotsearch Pty Ltd approved information brokers with the Land and Property Information (LPI), NSW Government and Inner West Council.

5.1 Historical Title Records

The Site history has been compiled from information previously gathered from ADE (2020). The Site has been subjected to several changes of ownership since 1950. The most notable owners were Jonroe and Amory which owned the land sporadically from 1950 to 1991.

Based on the information obtained from past reports and Council records, the Site had various owners and lessees whom used the Site for a range of commercial activity including but not limited to, office use; food industry; and medical uses.

5.2 Environmental and Heritage Search

A search of the State Heritage Inventory items in the NSW OEH public register and a review of previous reports identified twelve (12) residential properties under private use, three (3) commercial / residential properties, one (1) conservation area and one (1) church within the immediate vicinity of the Site listed as local heritage items.

5.3 Historical Aerial Photographs

A review of aerial photographs was previously undertaken by ADE (ADE 2020). Aerial photographs from the years 1943, 1955, 1961, 1965-1970, 1982, 1991, 2000, 2017 and 2014-2019 were examined (refer to ADE 2020 for aerial photographs).

ADE observed the Site to consist of eight low to medium density residential properties with an open vegetated area surrounding the central property in 1943. A new building was observed to the north-west of the central property in 1961. No significant changes were observed until 1991 when all nine dwellings were replaced by two commercial buildings. This has remained unchanged until the present.

5.4 Section 10.7 (former Section 149)

A review of Section 10.7 Planning Certificates was previously undertaken by ADE (2020). The report reviewed Section 10.7 of the *Environmental Planning and Assessment Act 1979* (NSW) which indicated that the Site is not subject to known contamination.

5.5 Contaminated Land Register Search

A review of the OEH *'Contaminated Land – Record of Notices'* listed by the NSW EPA under the *Contaminated Land Management Act 1997* (CLM) did not identify any former or current notices directly related to the Site, as outlined in ADE (2020).

A review of List of NSW contaminated sites notified to EPA identified two (2) contaminated sites withing 500 m from the Site. Both sites, Caltex Service Station located at 404-410 Liverpool Road, Croydon and Vehicle Workshop at 445-449 Liverpool Road, Ashfield are listed as 'Regulation under CLM Act not required'.

5.6 SafeWork NSW Site Search for Schedule 11 Hazardous Chemicals on Premises

A search of the Safework NSW database for the storage of chemically hazardous materials on Site was previously undertaken by ADE (2020). Results for the Site search for Schedule 11 Hazardous Chemicals on Premises did not identify any records pertaining to the Site.

5.7 Acid Sulfate Soils

A review of the Australian Soil Resources Information System (ASRIS) – *Atlas of Australian Acid Sulfate Soils* (ASRIS, 2013) was undertaken to determine the potential for Acid Sulfate Soil (ASS) at the Site. The search indicated that the Site was an "extremely low probability of occurrence" area in regard to ASS risk as outlined in ADE (2020). During the sampling works, no evidence (staining, odour) indicative of ASS were observed.

5.8 Identified Contaminants of Potential Concern (CoPC)

The following Contaminants of Potential Concern have been identified following the desktop site history review and have been outlined within the Conceptual Site Model (CSM) within **Section 7**:

- Heavy Metals;
- TRHs;
- PAHs;
- BTEX;
- PCBs;
- OCPs;
- OPPs;
- Phenols;
- Total Cyanides;
- VOCs; and
- Asbestos.

Although not mentioned in previous reports, PFAS was analysed to abide by recommendations stipulated in HEPA (2018).

6 Data Quality Objectives

The DSI works were designed using the Data Quality Objectives (DQO) as defined by the US EPA and the NSW EPA in the "Guidelines for the NSW DEC Site Auditor Scheme" (3rd Edition), (NSW EPA 2017) and Australian Standard AS 4482.1 2005 (AS 2005).

The DQO process consists of a seven-step planning approach to facilitate the development of qualitative and quantitative statements that specify the quality of the data required to support decision making within the scope of the investigation. This process utilises systematic planning and statistical hypothesis testing to differentiate between two or more clearly defined alternatives.

6.1 Step 1 – State the Problem

Historical environmental investigations have inferred a medium to high potential for contamination resulting from past and present land uses. ADE (2020) recommended further environmental investigation targeting soil and groundwater within the Site.

Data is required as a result of the proposed development to characterise the soil and groundwater conditions at the Site to inform the need for remediation (if any) and / or management to render the Site suitable for the proposed construction activities and future intended land use at the Site.

6.2 Step 2 – Identify the Decision

Assessment of the Site is to focus on current and future human health and environmental risks associated with potential contamination. The decisions that needs to be made on the contamination status of the Site include:

- The extent of contamination (if present) in soil or groundwater at, or adjacent to, the Site that would preclude the proposed use of the Site during construction and future intended use of the Site post-construction;
- The extent of contamination (if present) in soil or groundwater at the Site that has the potential to:
  - Impact upon proposed construction works at the Site;
  - Impact upon the intended future use of the Site;
  - Create a human or environmental risk within the Site; and
  - Migrate to surrounding receptors.
- If additional contamination is encountered through the detailed assessment proposed, assess feasible remediation / management options.

The contamination would be considered not to pose a risk if analytical results for the media sampled and analysed are less than the adopted SAC presented in **Section 8** or are determined by a site-specific risk assessment not to represent an unacceptable risk. Where an unacceptable risk is indicated remediation and / or management options will need to be considered to address the risk and meet the Site objectives.

6.3 Identify Inputs to the Decision

The CoPCs selected were determined through onsite observations and the conclusions of the PSI, ADE (2020). In order to address the decision questions outlined in Step 2 of the DQOs (**Section 6.2**), the following inputs to the decision have been identified:

- A review of proposed development plan layout of the footprint, basement and ground level;
- A review of all historical environmental investigations undertaken at the Site;
- A review of the historical and current use of the Site;
- Investigation of the current soil conditions at the Site prior to any demolition works;
- Investigation of the current groundwater conditions at the Site prior to any demolition works; and

- Assessment of the current soil vapour conditions at the Site (if required).

6.4 Step 4 – Define the Boundaries of the Study

This step provides a detailed description of the spatial and temporal boundaries of the study area, characteristics that define the population of interest and any practical considerations for the study area. These are included in **Table 4**.

Table 4. Summary of the Study Boundaries.

Spatial Boundaries	The works performed for this report were restricted to the physical Site boundaries, as outlined in **Section 3** and shown on *Appendix I – Figures*. The vertical boundaries of the proposed investigations are limited to the estimated vertical extent of the basement excavation works (approximately 14.1 RL) and / or to the depth of the absence of visual / olfactory indicators of contamination or 0.5 m into underlying natural materials. The groundwater boundaries of the Site were based on the review of previous reports DP (2020).
Temporal Boundaries	The DSI environmental works for the proposed investigations at the Site were completed during October 2020.
Investigation Limit	The limit of the investigations has been undertaken to provide information as to the level and type of contamination within the Site.
Constraints	Time, cost, redesign, remediation and demolition activities undertaken at the Site.
Receptors of Concern	The potential receptors of concern are outlined in the conceptual site model within ADE (2020) and include but are not limited to, tenants, site workers, maintenance workers, construction workers, surface water bodies and associated ecological receptors and neighboring properties/residents.

6.5 Step 5 – Develop a Decision Rule

The purpose of this step is to define the parameters of interest, specify the action level and combine the outputs of the previous DQO steps into an "if…then…" decision rule that defines the conditions that would cause the decision maker to choose alternative actions.

The types of data quality required during the fieldwork, the laboratory components of the investigation and the acceptable limits for this data are specified in **Section 8**. A summary of the decision rules is included in **Table 5**.

Table 5. Summary of the Decision Rules.

Decision Rules	Based on the data quality types and limits the following decision rules applied: • If CoPCs are detected in the rinsate samples, then the field decontamination process may not have been adequate and cross contamination may potentially have occurred. Before assuming that this was the case, the project environmental scientist will check the rinsate results with the testing laboratory and compare the result with a check blank sample which used the same source of water. It is possible that detections in rinsate may reflect background concentrations in laboratory-supplied water or analytical error. If it is concluded that decontamination procedures were inadequate, the project environmental scientist will assess the implications of the cross contamination and subsequent influence on the ability to resolve the decision question. Possible actions included the raising of working detection limits or the collection of replacement data; • If the Relative Percent Difference (RPD) values for blind replicates or split samples are outside the acceptable limits, then there may have been errors in a laboratory analysis process. When assessing duplicate pairs with elevated RPD values, the project environmental scientist will check the results with the laboratories and examine the nature of the sample being assessed, since heterogeneous samples can often provide high RPD values. If it is believed that irreversible errors had occurred during the laboratory process, then additional investigation may be deemed to be required to resolve the decision question; • Should greater than 5% of the laboratory QA / QC data fail to meet the acceptable limits outlined in this report, the laboratory may be requested to re-analyse samples or provide justification for the analytical results; and

	• For the proposed investigation samples, if the absolute value of the measured concentration of a parameter or compound are below the nominated SAC; and were deemed suitable for 95% UCL (Upper Confidence Limit) analysis, then the subject material is deemed suitable to remain on-Site; and • 95% UCL data will only be considered where the standard deviation of the data set is less than 50% of the SAC, and the maximum concentration is less than 250% of the SAC. Samples exceeding this criterion will be excluded from the dataset and treated as a hotspot.

6.6 Step 6 – Specify Acceptable Limits on Decision Errors

This step is to establish the specific limits on decision errors, which were used to determine the targets for limiting uncertainty in the data. Data generated during the environmental investigation needs to be appropriate to allow decisions to be made with confidence.

The specific limits for this investigation were based on appropriate guidance from the NSW EPA, NEPC (2013), AS 2005 and appropriate indicators of DQIs used to assess QA / QC for field sampling and handling.

To assess the suitability of the analytical data obtained prior to making decisions, the data was assessed against pre-determined Data Quality Indicators (DQIs) to assess precision, accuracy, representativeness, comparability and completeness (PARCC parameters), as outlined in AS 2005. The acceptable limit on decision error was 95% compliance with the DQIs.

The pre-determined DQIs specified for the investigation works are discussed below in relation to the PARCC parameters as summarised in **Table 6**.

Table 6. Summary of Acceptable Limits on Decision Errors.

Precision	• Sampling and analysis of field blind duplicates and split replicates to be undertaken at a minimum rate of one (1) per 20 samples. • Laboratory duplicate analysis to be undertaken by the testing laboratory at a minimum rate of one (1) per 20 samples. • Field and laboratory RPD values to be less than 30% for analytical results greater than (>) 30 times the laboratory LOR, and less than (<) 50% for analytical results between 10 and 30 times the laboratory LOR.
Accuracy	• Laboratory surrogate spike recoveries were to be within 70 – 130% for all organic analyses (if applicable). • Laboratory control sample (LCS) recoveries to be assessed at a rate of one (1) sample per laboratory batch. LCS recoveries were to be within 70 – 130% (if applicable). • Matrix spike (MS) recoveries to be assessed at a rate of at a rate of one (1) sample per laboratory batch. LCS recoveries were to be within 70 – 130% (if applicable).
Representativeness	• Appropriate sampling methods undertaken for all samples. • All samples were extracted and analysed within holding times. • One laboratory blank collected per laboratory batch. All laboratory blank analytical results were below the laboratory LOR. • One (1) trip spike submitted with each sampling batch. Trip spike recoveries were to be within 70 – 130% (if applicable). • One (1) trip blank submitted with each sampling batch. Trip spike recoveries were to be within 70 – 130% (if applicable). • One (1) rinsate blank submitted with each sampling batch. All target analytes within the rinsate blank were to be below the laboratory LOR.
Comparability	• Sampling was completed in accordance with the recommended methods outlined within NEPM 2013, AS 2005 and ADE Standard Operating Procedures (SOPs). • Standard analytical methodologies were used by laboratories which were NATA accredited for the requested analyses. • Laboratory LORs were appropriate and consistent for the objectives of the validation assessment.
Completeness	• Field documentation complete and appropriate for all samples to meet objectives of the validation assessment.

	• Sample description and COC documentation complete and appropriate for all samples to meet the objectives of the validation assessment. • The sampling frequency and findings of the QA / QC sample review valid for >95% of samples.
Types of Decision Errors	The planning team determined that the two decision errors were: i) deciding that soil on Site is contaminated when it truly is not; and ii) deciding that soil on Site is not contaminated when it truly is. The true state of nature for decision error (i) is that soil is not contaminated. The true state of nature for decision error (ii) is that soil is contaminated.
Precision	Precision is a measure of agreement among replicate measurements of the same property, made under prescribed similar conditions. Review of laboratory and field duplicate measurements are to be assessed to identify if the levels of precision are adequate. Australian Standard 4482.1 specifies the typical Relative Percentage Difference (RPD) for blind replicate samples to be 30% - 50%. The following control limits are proposed to be used in the investigation for analysis of Blind Replicate (intra-laboratory duplicates) and Split Samples (inter-laboratory duplicates): 1. A control limit of 50% for the RPD for original and blind/split replicate sample values greater than or equal to 5x the Detection Limit (DL), 2. A control limit of ± the DL if either the sample or duplicate value is less than 5x the DL. 3. If both samples values are less than the DL, the RPD is not calculated.
Accuracy	Accuracy is a measure of the closeness of an individual measurement to the true value. Accuracy is determined by analysing a reference material of known pollutant concentration or by re-analysing a sample to which a material of known concentration or amount of pollutant has been added. Accuracy is to be evaluated by reviewing the values of percentage recoveries reported in: • Laboratory spiked (matrix and blank) samples; • Laboratory Method blanks; • Laboratory Control Samples.
Representativeness	Representativeness is a measure of the degree to which data accurately and precisely represent a characteristic of a population parameter at a sampling point or for a process condition or environmental condition. To ensure that field and laboratory investigation of soil and groundwater were representative of the environmental conditions, the following will be reviewed following the investigation: • Review of laboratory QA / QC results; • Critical review of field methodologies employed including collection methodologies, handling, storage and preservation techniques employed.
Comparability	Comparability is the qualitative term that expresses the ability to fairly compare sample test results taken from the same site at different times. Field personnel assigned for the project must have considerable experience in the environmental investigation of contaminated sites. Training records of the personnel are to be made available upon request by the client. Sampling and measurements in the field are to be performed by the same personnel during the field stage of the investigation. The environmental investigation procedures to be used by personnel in the field must be undertaken in accordance with methodologies approved by the environmental consultant and as per industry standards. No deviations from the sampling procedures are to be introduced during the field, limiting the potential for negligent bias in the data collected. The consultant must note spatial and temporal changes observed onsite during the sampling period, to account for any significant bias in the data produced due to the environmental dynamics. Units in which the data was measured in the field and the laboratory analysis must employ the same metrics.
Completeness	The following will be reviewed throughout the course of the investigation to ensure works were completed to satisfactory standards and to review the integrity of the data set produced: • Field observation logs,

	• Chain of Custodies, • Orders, • Laboratory accreditation, and • Laboratory reports.

The qualitative and quantitative descriptors, so called Data Quality Indicators (DQIs), are to be used in interpreting the degree of acceptability of the data acquired in the course of the investigation.

The principle DQIs are precision, accuracy, representativeness, comparability, and completeness referred to by the acronym PARCC. Precision and accuracy are the quantitative measures, representativeness and comparability are qualitative, and completeness is a combination of both quantitative and qualitative measures.

6.7 Step 7 – Optimise the Design for Obtaining Data

The organisation of the data collection and analysis design for optimising the generation of data to satisfy the DQOs and the objective of the investigation has been achieved via the following procedures outlined in **Table 7**.

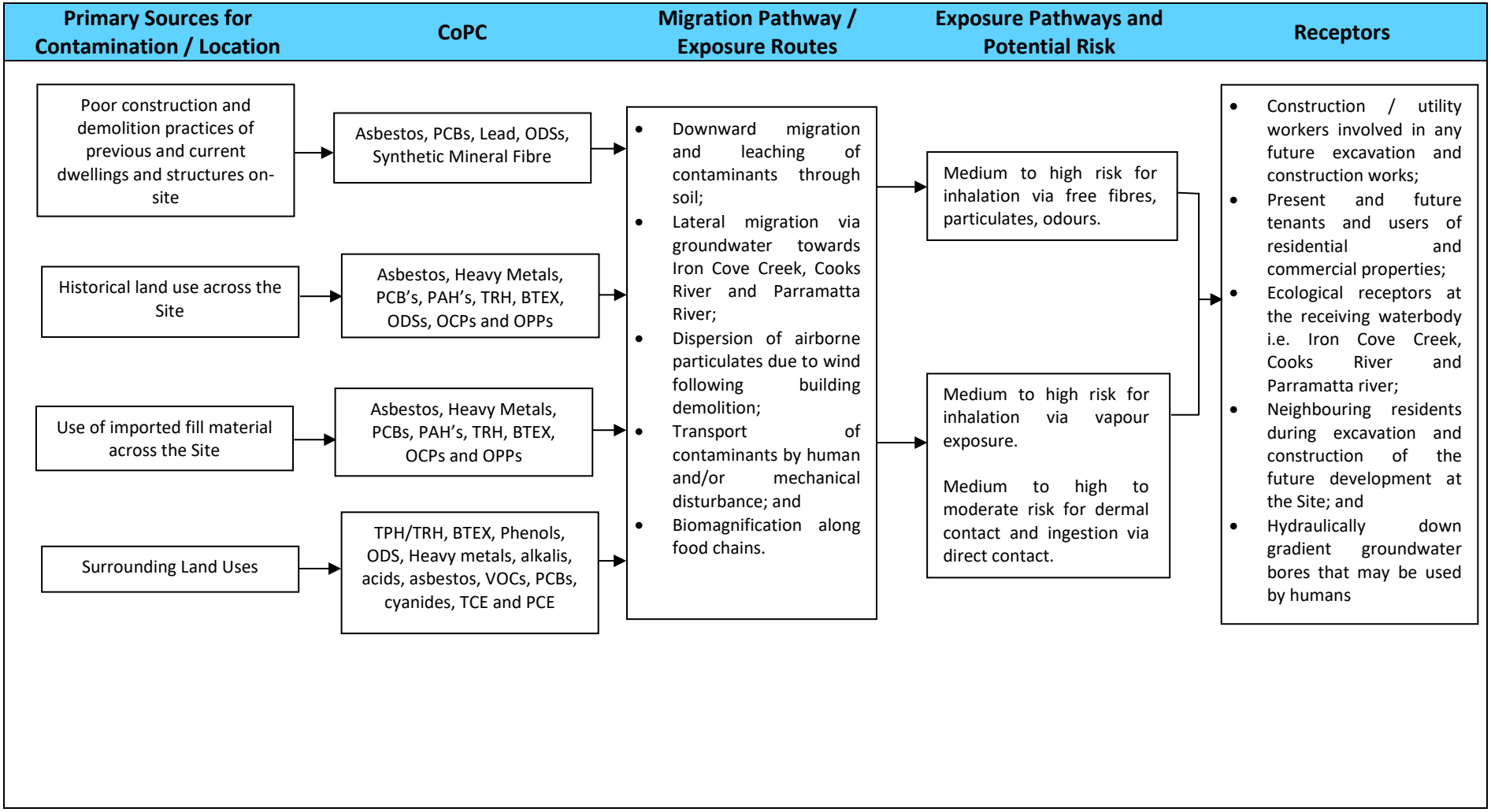
Table 7. Summary of Procedures to be Undertaken to Optimize the Design for Obtaining Data.

Pre-approved Work Plan	The sampling plan for the investigation at the site has been developed to assess the concentrations of contaminants present in soils at the site through the implementation of the components outlined within NEPM (2013), AS 4482.1 (2005) and AS/NZS 5667.1 (1998).
Compliance with EPA Guidelines	• Use of appropriate techniques for the sampling, storage and transportation of samples. • Implementation of NATA certified laboratory using analytical procedures as outlined in NEPM (2013). • Use of a secondary laboratory for split samples which is NATA certified for the required analyses.

7 Conceptual Site Model

ADE has reviewed the Conceptual Site Model (CSM) provided in ADE (2020) and has updated accordingly in accordance with NEPM Schedule B2 – National Environment Protection (Assessment of Site Contamination) Measure (2013), to assess the plausible connections between potential contamination sources and the receptors. The CSM provides a framework to review the current information and understand the migration and exposure pathways to sensitive receptors.

Figure 3. CSM including potential sources, locations, CoPC, pathways, risks and receptors present on Site.



8 Assessment Criteria

8.1 Soil Assessment Criteria

The assessment criteria specified in the following publications were employed for this DSI:

- *Acid Sulfate Soils Assessment Guidelines*. Published by the Acid Sulfate Soil Management Advisory Committee, 1998 (ASSMAC 1998);
- Assessment of Site Contamination, National Environment Protection (Assessment of Site Contamination) Measure, 2013 (NEPM 2013);
- *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. Available at www.waterquality.gov.au/anz-guidelines (ANZG 2018);
- Guidelines for the NSW Site Auditor Scheme, NSW DEC 2017, 3rd Edition (NSW EPA 2017);
- Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater. Part 1: Technical Development Document, CRC CARE Technical Report No. 10, CRC for Contamination Assessment and Remediation of the Environment, 2011 (CRC CARE 2011); and
- NSW EPA Waste Classification Guidelines. Part 1: Classifying Waste (NSW EPA 2014).

8.1.1 Health Investigation Levels (HILs)

The NEPM (2013) guidelines describe four broad land use settings for the assessment of potential human health risks for a broad range of metals and organic substances. These four Health Investigation Limit (HIL) categories are used to assess human health risk via all relevant pathways of exposure for the following broad land use categories:

- HIL A - Residential with garden / accessible soil (home grown produce <10% fruit and vegetable intake, no poultry, also includes children's day care centres, preschools and primary schools;

- HIL B - Residential with minimal opportunities for soil access includes dwellings with fully and permanently paved yard space such as high-rise buildings and flats;

- HIL C - Public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths. It does not include undeveloped public open space (such as urban bushland and reserves) which should be subject to a Site specific assessment where appropriate; and

- HIL D - Commercial / industrial such as shops, offices, factories and industrial Sites.

In accordance with the Site development information provided to ADE by the Client the HIL-B assessment criteria was adopted for this investigation. The HIL-B assessment criteria for this investigation were taken from Schedule B1 of NEPM (2013) and are summarised in **Table 10**.

8.1.2 Health Screening Levels (HSLs)

HSLs have been developed for selected petroleum compounds and fractions and are applicable to assessing human health risk via the inhalation and direct contact pathways. The HSLs depend on specific soil physicochemical properties, land use scenarios, and the characteristics of building structures. NEPM 2013 presents Tier 1 screening criteria for BTEX, naphthalene and TRH fractions C_6-C_{10} and C_{10}-C_{16} for vapour intrusion. As there is a potential pathway of exposure in relation to direct contact and ingestion for both construction workers and future users of the site, further tier 1 HSL screening criteria as per Friebel and Nadebaum's 'Health Screening levels for petroleum hydrocarbons in soil and groundwater, Part 2: Application

Document, Technical report No. 10 (2011)' has been adopted to include Vapour Risk to Intrusive Maintenance Workers (Shallow Trench 0.0 to <2.0 m), and HSL-B levels for direct human contact, outlined in **Table 10.** For the vapour intrusion pathway, ADE considers that HSL-B is the appropriate criteria.

8.1.3 Petroleum Hydrocarbon Management Limits

'Petroleum hydrocarbon management limits' ('management limits') are a set of assessment criteria outlined in NEPM 2013 applicable to petroleum hydrocarbon compounds which aim to avoid or minimise the potential effects of:

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

The Management Limits provide Tier 1 screening levels following evaluation of human health and ecological risks and risks to groundwater resources and are considered relevant for operating sites where significant sub-surface leakage of petroleum compounds has occurred and when decommissioning industrial and commercial sites.

The adopted Petroleum hydrocarbon Management Limits were taken from Table 1B (7) of Schedule B1 of the NEPM (2013) guideline and are summarised on the following page in **Table 10**.

8.1.4 Ecological Investigation Levels (EILs) and Ecological Screening Levels (ESLs)

Ecological Investigation Levels (EILs) have been derived for selected metals and organic compounds and are applicable for assessing risk to terrestrial ecosystems (NEPM, 2013). EILs depend on site specific soil physiochemical properties and land use scenarios and generally apply to top 2m of soil, which corresponds to root zone and habitat zone of many species. Schedule B1 of NEPM (2013) presents EILs and Ecological Screening Levels (ESLs) for different land uses. Areas of ecological significance (mg/kg) is the adopted land use criteria for this investigation.

The methodology outlined in Schedule B1 NEPM (2013) was developed to protect soil processes, soil biota (flora and fauna), terrestrial invertebrates and vertebrates. Derivation of Site specific EILs for metals (Cr, Cu, Ni & Zn) involves first establishing the Appropriate Added Contaminant Limit (ACL) values from Table 1B(1) - 1B(3) of Schedule B1 of NEPM (2013). The table takes into account the land use purposes as well as soil-specific properties such as pH and CEC to determine CoPCs recommended ACL. The ACL values are then added to the respective Ambient Background Concentration (ABC) of the contaminant, determined via suitable reference data or baseline investigations or through the use of methods defined by Olszowy et. al., (1995) or Hamon et al. (2004), to produce the site specific EIL (EIL = ABC + ACL).

The ABC is determined through direct measurement at an appropriate reference site or through the use of methods defined by Olszowy et. al., (1995) or Hamon et al. (2004). For the purpose of this investigation, ABC is determined by adopting the most conservative outlined for areas of ecological significance as New South Wales new suburbs with low traffic. Olszowy et. al., 1995 Trace Elements Surface Soils from Urban and Rural Areas in Australia.

The site-specific soil characteristics of pH, CEC and clay content used to calculate the EILs are shown in **Table 8.** The calculated EIL is shown in **Table 9**.

Table 8. Soil Properties and Calculation of EIL Criteria

Sample Name	Date	Depth (m BGL)	Sample Description	CEC ($cmol_c/kg$)	pH	Clay Content (% Clay)
BH11 2.0	13.10.2020	2.0	Silty CLAY	9.8	5.1	55
BH14 2.0	13.10.2020	2.0	Silty CLAY	5.6	5.3	57

Notes to Table 8

1-Most conservative criteria adopted outlined from *https://www.environment.nsw.gov.au/eSpade2Webapp*

Table 9. Derivation of Site Preliminary EILs

Analyte	ABC[1] (mg/kg)	ACL (mg/kg)	EILs (mg/kg)
Arsenic (As)	-	-	160[2]
Dichlorodiphenyltrichloroethane (DDT)	-	-	640[2]
Naphthalene	-	-	370[2]
Lead (Pb)	160	1,800[2]	1,960
Copper (Cu)	30	190	220
Nickel (Ni)	5	170	175
Chromium (Cr (III))	15	400	415
Zinc (Zn)	120	270	390

Notes to Table 9

1-ABC values derived from Olszowy et al, 1995; and
2-Generic EILs derived from NEPM (2013).

Table 10. Site Assessment Criteria for Soil Contamination at Residential Sites.

Analyte	Health Investigation Levels (HILs)[5]	Health Screening Levels (HSLs)[2, 5]			Management Limits[6]	Ecological Criteria
	HIL-B (mg/kg)	Vapour Intrusion (0 m to <1 m) – HSL-A/B (mg/kg)	Direct Contact – HSL Intrusive Maintenance Worker (mg/kg)	Direct Contact – HSL B (mg/kg)	Management Limits, Residential, parkland and public open space (mg/kg)	Ecological Investigation /Screening Levels for Urban residential / public open space (mg/kg)
Arsenic (total)	500	-	-	-	-	100[4]
Cadmium	150	-	-	-	-	-
Chromium (Total)	500	-	-	-	-	415
Copper	30 000	-	-	-	-	220
Lead	1 200	-	-	-	-	1,960
Mercury (inorganic)	120	-	-	-	-	-
Nickel	1 200	-	-	-	-	175
Zinc	60 000	-	-	-	-	390
Benzo (a)pyrene	-	-	-	-	-	0.7[4]
Carcinogenic PAHs (as BaP TEQ)[1]	4	-	-	-	-	-
Polycyclic aromatic hydrocarbons (PAHs)	400	-	-	-	-	-
PCBs (Total)	1	-	-	-	-	-
Phenols	45 000	-	-	-	-	-
DDT+DDE+DDD	600	-	-	-	-	180[4]
Aldrin and Dieldrin	10	-	-	-	-	-
Chlordane	90	-	-	-	-	-
Endosulfan	400	-	-	-	-	-
Endrin	20	-	-	-	-	-
Heptachlor	10	-	-	-	-	-
Hexachlorobenzene	15	-	-	-	-	-
Methoxychlor	500	-	-	-	-	-
Chlorpyrifos	340	-	-	-	-	-
Cyanide (free)	300					
Benzene	-	0.5	1 100	140	-	65[9]
Toluene	-	160	120 000	21 000	-	105[9]
Ethyl Benzene	-	55	85 000	5 900	-	125[9]
Xylene	-	40	130 000	17 000	-	45[9]
Naphthalene	-	3	29 000	2 200	-	170[4]
TRH: $C_6 – C_{10}$ (F1)	-	45	82 000	5 600	700[3]	180[8]
TRH: C_{10}-C_{16} (F2)	-	110	62 000	4 200	1 000[3]	120[8]
TRH: C_{16}- C_{34} (F3)	-	-	85 000	5 800	2 500	1 300[9]
TRH: $C_{34} – C_{40}$ (F4)	-	-	120 000	8 100	10 000	5 600[9]

Note to Table

1 Carcinogenic PAHs: HIL is based on the 8 carcinogenic PAHs and their Toxic Equivalency Factor (TEFs) (potency relative to B(a)P). The B(a)P TEQ (Toxic Equivalency Quantity) is calculated by multiplying the concentration of each carcinogenic PAH in the sample by its B(a)P TEF.
2 Most conservative criteria adopted outlined for vapour risk and direct contact. Values adopted for 'Sand, 0m-<1m' where applicable for screening purposes.
3 Separate management limits for BTEX and naphthalene are not available hence these should not be subtracted from the relevant fractions to obtain F1 and F2.
4 Generic EILs (Urban residential).
5 Generic land uses are described in detail in NEPM 2013, Schedule B7 Section 3.
6 Management limits are applied after consideration of relevant ESLs and HSLs.
7 Generic ESLs for TPH fractions, F1-F4, BTEX and benzo(a)pyrene.
8 ESL is of moderate reliability.
9 Value taken from fine soil texture.

8.1.5 Asbestos

For the purpose of this investigation, ADE has adopted an initial presence/absence screening for assessment of asbestos materials with analysis of soils in accordance with clauses 8.2.3 or 8.2.4 of the Australian Standard, Method for the qualitative identification of asbestos in bulk samples, Standards Australia (AS4964-2004).

Based on the results of the initial presence / absence screening, ADE will make recommendations for further preparation of a RAP (if required), to outline options for excavation and off-site disposal and / or further assessment for re-use on Site.

8.1.6 Acid Sulfate Soils

As the Site was identified as an "extremely low probability of occurrence" area in regard to ASS risk and no visual or olfactory indicators of ASS were observed during the field works, no assessment of ASS was deemed necessary for the current investigation.

8.1.7 PFAS

The PFAS National Environmental Management Plan (NEMP) 2018 provides guideline values that should be used to inform Site investigation. The NEMP 2018 provides Perfluorooctane Sulfonate (PFOS), Perfluorooctanoic Acid (PFOA) and Perfluorohexane Sulfonate (PFHxS) values for different land scenarios and land uses for soil. The Human HILs are used to assess the potential for exposure through direct soil contact, while the ecological guideline values consider both direct and indirect exposure. For the purpose of this investigation, the following Human HILs have been adopted.

Table 11. Soil Criteria for Investigation – Human Health Based Guidance Values

Exposure Scenario	PFOS / PFHxS (mg/kg)	PFOA (mg/kg)	Land Use
Soil – Human Health Screening Values	2	20	Residential with minimal opportunities for soil access

8.2 Preliminary Waste Classification Criteria

Waste classification of the material to be disposed off-Site will be undertaken in accordance with the NSW Environment Protection Authority (EPA) *Waste Classification Guidelines Part 1: Classifying Waste* (NSW 2014a), where applicable the NSW EPA *Waste Classification Guidelines Part 4: Acid Sulfate Soils* (NSW 2014b), Acid Sulfate Soil Management Advisory Committee (ASSMAC) (1998) *Acid Sulfate Soils Assessment Guidelines*, (ASSMAC 1998) and the Protection of the Environment Operations Act 1997 (POEO Act).

The following classes of waste are defined in clause 49 of Schedule 1 of the Protection of the Environment Operations Act 1997 (POEO Act):

- Special waste;
- Liquid waste;
- Hazardous waste;
- Restricted solid waste;
- General solid waste (putrescible); and
- General solid waste (non-putrescible).

The Specific Contaminant Concentration (SCC) for each contaminant must be less than or equal to the Contaminant Threshold (CT) value specified in **Table 12** to meet the criteria for General Solid Waste. If a waste's SCC value exceeds the CT1 value, further assessment using the Toxicity Characterisation Leaching

Procedure (TCLP) method may be used. Where the set value for Restricted Solid Waste (CT2) is exceeded, a TCLP test must be carried out. Natural materials can be compared against Background Ranges stipulated in **Table 12** for classification as VENM.

Table 12. Waste Classification Chemical Criteria

Waste Classification Assessment Criteria					
Analytes	**Maximum Values of Total Concentration Assigned for General Solid Waste CT1 / CT2, (mg/kg)**	**Maximum Values of Total Concentration Assigned for General Solid Waste TCLP1 (mg/L) / SCC1 (mg/kg)**	**Maximum Values of Total Concentration Assigned for Restricted Solid Waste TCLP2 (mg/L) / SCC2 (mg/kg)**	**Background Ranges[3]**	**Maximum Concentration Detected (mg/kg)**
PAHs					
Total PAHs	200 / 800	NA / 200	NA / 800	ND	7.08
Benzo(a)pyrene	0.8 / 3.2	0.04 / 10	0.16 / 23	ND	0.6
OCPs					
Endosulfan[1]	60 / 240	3 / 108	12 / 432	ND	ND
OPPs					
Chlorpyrifos	4 / 16	0.2 / 7.5	0.8 / 30	ND	ND
TRH					
C_6–C_9 Petroleum Hydrocarbons	650 / 2,600	NA / 650	NA / 2,600	ND	ND
C_{10}–C_{36} Petroleum Hydrocarbons	10,000 / 40,000	NA / 10,000	NA / 40,000	ND	ND
BTEX					
Benzene	10 / 40	0.5 / 18	2 / 72	ND	ND
Toluene	288 / 1,152	14.4 / 518	57.6 / 2,073	ND	ND
Ethylbenzene	600 / 2,400	30 / 1,080	120 / 4,320	ND	ND
Xylenes (Total)	1,000 / 4,000	50 / 1,800	200 / 7,200	ND	ND
Metals					
Arsenic	100 / 400	5.0 / 500	20 / 2,000	1-50	43.8
Cadmium	20 / 80	1.0 / 100	4 / 400	1	<1
Chromium[2]	100 / 400	5 / 1,900	20 / 7,600	5-1000	62.4
Copper	NA	NA	NA	2-100	112.4
Lead	100 / 400	5 / 1,500	20 / 6,000	2-200	**151.9**
Mercury	4 / 16	0.2 / 50	0.8 / 200	0.1	0.78
Nickel	40 / 160	2 / 1,050	8 / 4,200	5-500	**45.5**
Zinc	NA	NA	NA	10-300	171.3
Other					
Total PCBs	<50 / <50	NA / <50	NA / <50	ND	ND
Asbestos	ND	ND	ND	ND	ND
PFOS + PFHxS	NA	0.05/1.8	0.2/7.2	NA	ND
PFOA	NA	0.5/18	2.0/72	NA	ND

Notes to Table

ND Not detected/below Practical Quantitation Limit (PQL).
NA Not Applicable.
1 Endosulfan (CAS Registry Number 115-29-7) means the total of Endosulfan I (CAS Registry Number 959-98-8), Endosulfan II (CAS Registry Number 891-86-1) and Endosulfan Sulfate (CAS Registry Number 1031-07-8).
2 Chromium (Total).
3 Background ranges extracted from the Field Geologist's Manual, compiled by D A Berkman, Third Edition 1989. Publisher – The Australasian Institute of Mining & Metallurgy and Olszowy et al. 1995, Trace Element Concentrations in Soils from Rural and Urban Areas of Australia.

8.3 Groundwater Assessment Criteria

The criteria specified in the following publications have been adopted for the Site investigation as shown in **Table 13** and **14**:

- NEPM 2013; and
- ANZG 2018 (www.waterquality.gov.au/anz-guidelines).

Table 13. Site Assessment Criteria – GIL / HSL for Groundwater.

Substance	NEPM 2013, Groundwater Investigation Levels (GILs)			NEPM 2013, Health Screening Levels (HSLs)	ANZG 2018, Water Quality Guidelines		Adopted Groundwater Investigation Levels (GILs)
	Fresh Waters (µg/L)[4]	Marine Waters (µg/L)[4]	Drinking Water (µg/L)[5]	Groundwater HSLs for Vapour Intrusion (8 m+) – HSL B (µg/L)[7]	Toxicant Default Guideline Values for Freshwater Level of Protection (95% species) (µg/L)	Toxicant Default Guideline Values for Marine Water Level of Protection (95% species) (µg/L)	
Metals and Metalloids							
Arsenic (total)	24 (AsIII) 13 (AsV)	-	10	-	24 (AsIII) 13 (AsV)	-	13
Cadmium[1]	0.2	0.7[2]	2	-	0.2	5.5[3]	0.2
Chromium Cr (VI)	1[3]	4.4	50	-	0.4[3]	4.4	0.4
Copper[1]	1.4	1.3	2,000	-	1.4	1.3	1.4
Lead[1]	3.4	4.4	10	-	3.4	4.4	3.4
Mercury (Total)	0.06[2]	0.1[2]	1.0	-	0.6	0.4	0.6
Nickel[1]	11	7	20	-	11	70	11
Zinc[1]	8[3]	15[3]	-	-	8	15	8
Non-metallic Inorganics							
Cyanide (free)	7	4	0.08	-	-	-	-
Pesticides							
DDT	0.006[2]	-	9	-	0.01	-	0.006
Aldrin and Dieldrin	-	-	0.3	-	0.001[8]	0.003[8]	0.001
Chlordane	0.03[2]	-	2	-	0.08	0.001[8]	0.03
Endosulfan	0.03[2]	0.005[2]	20	-	0.2[3]	0.01	0.03
Endrin	0.01[2]	0.004[2]	-	-	0.02	0.008	0.01
Heptachlor	0.01[2]	-	-	-	0.09	0.0004[8]	0.01
Chlorpyrifos	0.01[2]	0.009[2]	10	-	0.01	0.009	0.01
Monocyclic Aromatic Hydrocarbons							
Benzene	950	500[3]	1	5,000	950	700[3]	950
Toluene	-	-	800	NL	180[8]	180[8]	180
EthylBenzene	-	-	300	NL	80[8]	5[8]	80
Xylene	200[6]	-	600	NL	200[6]	200[6, 8]	200
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	16	50[3]	16[4]	NL	16	70[3]	16
Total Recoverable Hydrocarbons (TRHs)							
TRH:C_6–C_{10}(F1)	-	-	-	6,000	-	-	6,000
TRH:C_{10}-C_{16}(F2)	-	-	-	NL	-	-	NL
TRH:C_{16}-C_{34}(F3)	-	-	-	NL	-	-	NL
TRH:C_{34}–C_{40}(F4)	-	-	-	NL	-	-	NL

Notes to Table

1 Values have been calculated using a hardness of 30 mg/L $CaCO_3$.
2 Chemical for which possible bioaccumulation and secondary poisoning effects should be considered.
3 Figure may not protect key species from chronic toxicity.
4 Investigation levels apply to typical slightly-moderately disturbed systems.
5 Investigation levels are taken from the health values of the Australian Drinking Water Guidelines 2011.
6 Xylene as p-xylene.
7 Health Screening Levels (HSL) for groundwater 2 m to 4 m (Sand) where applicable.
8 Unknown level of species protection.
NL Not Limiting

8.3.1 PFAS

Table 14. Groundwater Criteria for Investigation – Freshwater guideline values

Human Health Risk	PFOS + PFHxS (µg/L)	PFOA (µg/L)
Drinking Water x 1	0.07	0.56
Ecological Exposure (Marine and Freshwater)	**PFOS (µg/L)**	**PFOA (µg/L)**
99%	0.00023	19
95%	0.13	220
90%	2	632

8.4 Aesthetics

The NEPM 2013 guideline requires that aesthetic quality of accessible soils be considered even if analytical testing demonstrates that concentrations of CoPCs are within the Site assessment criteria.

It should be noted that there are no quantifiable guidelines in determining if soils are appropriately aesthetic. However, NEPM 2013 does indicate that professional judgement with regard to quantity, type and distribution of foreign materials and / or odours in relation to the specific land use should be employed.

The following examples would trigger further aesthetic assessment:

- Hydrocarbon sheen on surface water;
- Anthropogenic soil staining; and
- Odorous soils (i.e. hydrocarbon or hydrogen sulphide odours).

8.5 Statistical Treatment

Analytical results from the soil sampling program are statistically analysed to determine their applicability to the assessment and recommendation of remedial actions in the event of Site assessment criteria exceedances. A contaminant concentration in soil will be deemed a non-exceedance if:

- The maximum concentration of all samples meets the specified acceptance criteria; or
- The 95% Upper Control Limit (UCL) is below the acceptance criteria; and
- No individual exceedance is greater than 2.5 times the acceptance criteria.

If the 95% UCL of the arithmetic average of a contaminant's concentration is above the acceptance criteria, then the soil will be classified as a contaminated and will require further assessment, remediation, removal or management.

Modestly elevated concentrations above the acceptance criteria may be considered to pose an insignificant human health or environmental risk should the area of concern be located within a development area destined to be covered by concrete and road-base.

If the 95% UCL of the arithmetic average of a contaminant's concentration is below the acceptance criteria, and no individual contaminant concentrations within a designated region of contamination, the location will be considered a non-exceedance requiring no further assessment, remediation, removal or management. The statistical analysis for the assessment of ACM is not considered appropriate.

9 Site Investigation Design and Procedure

9.1 Investigation Objectives

The objectives of the investigation were to:

- Provide comprehensive information on the issues raised in the Site Inspection and Site history;
- Discuss the Site condition;
- Design a detailed soil sampling program consistent with the CSM available at the time of assessment;
- Assess and describe the source, type, extent and level of contamination (if present) throughout the Site;
- Determine the human health and environmental risk (if present) from soil and groundwater (if any); and
- To report on environmental impacts and recommend remedial actions in accordance with the Regulations and the proposed land use objectives.

9.2 Sampling Design

Soil sampling density for the investigation was determined in consultation of the NSW EPA Sampling Design Guidelines (1995). Table A of the Guide indicates that for a property of approximately 0.9 hectares in size, roughly equivalent to the Site dimensions, a sampling density of twenty (20) locations is appropriate to detect a "hot spot" of contamination with a diameter of 25 m^2 if a systematic pattern is used. A total of 20 locations were sampled across the Site, so as to provide adequate coverage across the entire Site and to target suspected areas of concern. The locations of all the sampling locations are displayed in *Appendix I – Figures.* ADE considers that the total number of sampling locations are sufficient to adequately characterise the Site. Following sampling, two (2) boreholes (BH13 and BH20) were converted to monitoring wells for groundwater analysis.

Groundwater wells were installed at the Site in:

- Central-eastern portion of the Site; and
- North-western corner of the Site.

The two (2) monitoring wells installed during the current investigation and the existing monitoring well at the Site installed by DP (2020) were spaced roughly equilaterally to calculate groundwater flow direction.

9.3 Pre-work Procedure

Prior to the commencement of the sampling works, a SH&EWMS was developed, discussed and signed by ADE staff and contractors in a pre-start toolbox talk.

9.4 Site Observations

At the time of inspection, the Site was used for commercial/public office space by NSW Department of Family and Community Services. A summary of observations encountered during the field investigation are listed below:

- The two (2) commercial office buildings within the Site were observed to remain in use;
- The majority of the Site consisted of paved surfaces and buildings with a vegetations strip along the periphery;
- An SCC link panel was present to the west of the buildings and a Telstra substation exists to the south of the southern building, within the landscaped area;
- A plant room and a boiler room were observed in the southern building. Processing units consisting of multiple pumps and various containers with unknown contents were observed in the plant and boiler rooms;

- A server/switch board was also observed in the same room. Multiple fire doors were observed in the two (2) buildings;
- In the basement car park, entrance to an underground confined space was observed;
- On the roof of the southern building, multiple communication antennae were observed; and
- No evidence of any Underground Storage Tanks (USTs) was observed during the intrusive assessment.

9.5 Site Soil and Sub Soil Geology

The Site mostly consisted of two (2) office buildings over a two (2) level basement carpark which covered majority of the Site. A concrete hardstand was observed throughout the basement car park with approximate thickness of 0.1 to 0.2m, overlying the in-situ soils.

Fill materials were encountered throughout the ground level of the Site from 0.0 m BGL to an average depth of 1.0 m BGL with the exception of BH20 where fill was observed to 3.8 m BGL (Refer to *Appendix V – Borehole Logs*). On the ground level, the underlying natural materials were observed from an average depth of 1.0 m BGL and extended to greater depths. Natural materials within the basement were observed from an average depth of 0.2 m BGL and extended to greater depths.

The fill materials were predominantly composed of gravelly SAND: medium grained, grey / brown, moderately graded, slightly moist. The natural materials were predominantly composed of Silty CLAY: medium to high plasticity, grey with red mottling, slightly moist and siltstone: grey to dark grey, brittle, highly weathered, Ashfield shale.

9.6 Field Sampling and Locations

Soil sampling was undertaken using a Geoprobe 7822DT and Miniprobe drill rig with 35mm push tube and 125 mm solid flight auger, under the supervision of an experienced Environmental Consultant. The locations of the bore holes and groundwater wells are shown in *Appendix I – Figures* with Borehole Locations.

9.7 Soil Sampling

ADE's standard decontamination procedures were undertaken prior to the drilling works at each sample location. Where concrete was encountered, a concrete corer was used to remove the concrete overlying the soils. The soil samples were collected from push tubing and / or a solid flight auger until refusal. The push tube is an acceptable method within the industry to obtain undisturbed samples with representation of subsurface lithology.

Samples were collected using fresh gloves and placed in sterile glass jars with Teflon lined lids and unpreserved plastic bags. Samples collected for PFAS analysis were placed in PFAS-free plastic containers. All samples were then placed into a pre-cooled Esky.

Each sample jar was well protected by packaging material. Ice was inserted in the Esky to maintain the samples at approximately 4°C. The original CoC form was enclosed in the Esky that was then sealed and dispatched to NATA accredited analytical laboratories.

A total of forty (40) selected soil samples were submitted to a NATA accredited laboratory for analysis of Heavy Metals, PAHs, BTEX, TRHs, OCPs, OPPs, PCBs, Phenols, Total Cyanides, VOCs and PFAS.

9.8 Groundwater Monitoring Well Locations

In order to conduct a semi-quantitative risk assessment, two (2) groundwater wells (MW2 and MW3) were installed and developed across the Site during the field investigation. In addition, one (1) previously installed groundwater well was also developed prior to sampling (MW1). The observations are described below in **Table 15**.

Table 15. Groundwater well locations installed during the field investigation.

Well ID	Eastings and Northings	Top of Casing (TOC) RL	Ground Surface RL	Total Depth (m BTOC)	SWL (m BTOC)[1]	Screen (m BTOC)
MW1	326230.594 6248750.568	19.527	19.581	10.0	6.7	2.5-10.0
MW2	326312.850 6248775.389	24.099	24.056	7.9	5.43	4.9-7.9
MW3	326270.075, 6248835.621	22.942	22.939	9.0	0.0[2]	5.0-9.0

Notes to Table 15
1- SWL recorded during ADE's sampling event on 23rd October 2020.
2- Groundwater was not encountered during the drilling works until refusal. Furthermore, no groundwater was encountered during subsequent development works (16th October 2020) and sampling works (23rd October 2020).

9.9 Groundwater Monitoring Wells Installation

Two (2) groundwater monitoring wells (MW2 and MW3) were installed during the Environmental Investigation works undertaken by ADE on the 13th and 14th October 2020. One (1) monitoring well (MW01) previously constructed by DP (2020) was incorporated in the groundwater investigation. The groundwater well locations and construction logs are shown in *Appendix I – Figures*. It is to be noted that free groundwater was not encountered during the soil sampling to shallow depths within any of the boreholes undertaken. ADE understands that the measured water is associated with perched water within clay and top of rock and is not a permanent or regional groundwater table.

Groundwater wells were installed by ADE using a Geoprobe 7822DT with a 125 mm solid flight auger. A sand pack was installed extending above the top of the screened interval and an average 1 m thick seal of bentonite was applied above the sand pack around the well casing. The remaining casing was compacted using backfill material to keep the casing pipe intact within the borehole.

MW01 was constructed by DP (2020) using solid Poly Vinyl Chloride (PVC) casing ranging from 0.0 - 2.5m BGL followed by 2.5 – 10.0 m BGL of machine slotted PVC screen. MW2 and MW3 were constructed using solid PVC casing ranging from 0.1 – 4.7 m and 5.0 m BGL followed by 4.7 – 7.9 m and 5.0 – 9.0 m of machine slotted PVC screens within MW2 and MW3 respectively. Following installation, the wells were developed in order to remove excess sand/silt to ensure representative groundwater was flowing into the well. The groundwater wells were gauged and developed on the 16th October 2020 and then sampled on the 23rd October 2020. Details of the water well development field parameter data are presented in *Appendix XIV – Groundwater Well Development.* A Site survey was conducted by Lawrence Consulting Group (LCG) on the 3rd November 2020 which included the groundwater monitoring well Top of Casing (TOC) Reduced Level (RL). The SWL in the groundwater monitoring wells was observed to be from RL 12.927 m AHD to RL 12.942 m AHD.

9.10 Groundwater Sampling

The monitoring wells were gauged using an interface probe meter to determine the standing water level (SWL), depth of well and presence of Light Non-Aqueous Phase Liquids (LNAPL) and Dense Non-Aqueous Phase Liquids (DNAPL). The calibration and decontamination certificate of the interphase probe is provided in *Appendix IX – Equipment Certificates*.

Groundwater wells were developed using a HDPE tubing and Waterra Foot Valve suitable for PFAS, PFOS & PFOA). During the development of groundwater wells, between 3 and 5 well volumes were removed and groundwater quality measurements with regard to potential of Hydrogen (pH), Electrical Conductivity (EC), Dissolved Oxygen (DO), redox potential and temperature were recorded using a calibrated water quality meter in regular defined intervals until steady readings were achieved. The calibration certificate for the water quality meter is provided in *Appendix IX – Equipment Certificates*. The resultant water was seemingly clear after the completion of the well development process.

Groundwater samples were collected after 7 days following well development using HDPE HyrdaSleeve's (a type of hyrdasleeve with top collars that is suitable for sampling PFAS), a "no-purge" groundwater sampling technique. Samples were collected using a fresh pair of disposable nitrile gloves and placed in sterile glass bottles or vials with the appropriate preservative (e.g. HCL). Each sample bottle was well protected by packaging material as required. Ice packs and / or ice packed in double layers of polythene plastic bags were inserted in the Esky to maintain the samples at 4°C. Before packing and dispatch of samples for analysis, a Chain of Custody (CoC) form was completed. This form recorded details of the individual samples being dispatched and the type of analysis required for each sample.

Groundwater samples were collected from each well location and field parameters were recorded at the time of sampling during the field investigation (refer to *Appendix III - Results Tables*). Groundwater samples were submitted to a NATA accredited laboratory for analysis of Heavy Metals, PAH, BTEX, TRH, OCPs, OPPs, PCBs, Phenols, PFAS and VOCs.

10 Results and Discussion

10.1 Soil – Summary of Results

10.1.1 Heavy Metals

Soil samples analysed for Heavy Metals within the fill and natural horizons did not indicate any exceedances above the adopted SAC for high density residential land use. Refer to *Appendix III - Results Tables.*

10.1.2 PAHs

Soil samples analysed for PAHs within the fill and natural horizons did not indicate any exceedances above the adopted SAC high density residential land use. Refer to *Appendix III - Results Tables.*

10.1.3 BTEX

Soil samples analysed for BTEX did not indicate any exceedances above the adopted SAC for high density residential land use. Refer to *Appendix III - Results Tables.*

10.1.4 TRHs

Soil samples analysed for TRHs within the fill and natural horizons did not indicate any exceedances above the adopted SAC for high density residential land use. Refer to *Appendix III - Results Tables.*

10.1.5 VOCs

Field screening of collected soil samples using a PID identified detections of VOCs, with a maximum recorded value of 4 ppm. Selected samples were submitted for VOC analysis and returned results below the PQL (Refer to *Appendix III - Results Tables*).

10.1.6 OCPs and OPPs

Soil samples analysed for OCPs and OPPs did not indicate any exceedances above the adopted SAC for high density residential land use. Refer to *Appendix III - Results Tables.*

10.1.7 PCBs

Soil samples analysed for PCBs did not indicate any exceedances above the adopted SAC for high density residential land use. Refer to *Appendix III - Results Tables.*

10.1.8 Phenols

Soil samples analysed for Phenols did not indicate any exceedances above the adopted SAC for high density residential land use. Refer to *Appendix III - Results Tables.*

10.1.9 Total Cyanides

Soil samples analysed for Cyanides did not indicate any exceedances above the adopted SAC for high density residential land use. Refer to *Appendix III - Results Tables.*

10.1.10 PFAS

Soil samples analysed for PFAS did not indicate any exceedances above the adopted SAC for high density residential land use. Refer to *Appendix III - Results Tables.*

10.1.11 Asbestos

No asbestos was detected within any of the 31 soil samples collected, however chrysotile asbestos was detected within the fibre cement sample collected from BH20 on the 13th of October 2020. The location and summary of the identified asbestos fibre cement sample is shown below in **Table 16** and in *Appendix I – Figures* showing the borehole locations. The details of the analysis results are presented in *Appendix III – Results Table.*

Table 16. Summary of Identified Asbestos Samples.

ADE Sample I.D.	Analyte	Matrix	Identification Result	Sample Location	Depth of Sample (m BGL)
BH20-FC1	Asbestos	Fibre Cement	**Chrysotile asbestos**	BH20	1.0 m BGL

The isolated asbestos fragment was sampled and removed at the time of the investigation works. No further asbestos fragments were found deeper than 1.0 m BGL at BH20 or nearby lateral boreholes. Additionally, due to predominantly underlying natural materials at shallow depths observed throughout the Site and no further ACM being observed or detected during this investigation, ADE is of the opinion that the isolated ACM fragment has been sampled and removed from the soil within the Site and that no further investigation or remediation is required in regard to asbestos contamination. Moreover, no ACM fragments were observed on the soil surface throughout the Site as well. However, ADE recommends an Unexpected Finds Protocol (UFP) to be completed for the Site prior to demolition works to accommodate for any potential asbestos finds during construction works.

10.2 Preliminary Waste Classification

Please note this Preliminary Waste Classification Analysis does not constitute a Waste Classification Report for off-site disposal of soil materials as it does not provide sufficient information on material characterisation for off-site disposal.

Surficial Topsoil / FILL material (refer to Section 9.5 Site Soil and Sub Soil Geology)

Soil samples analysed for Heavy Metals, PAH, BTEX, TRH, OCPs, OPPs, PCBs, Phenols, Cyanides, PFAS and VOCs indicated that the fill soil materials meet the criteria for classification as 'General Solid Waste' following a 95% UCL analysis.

Samples 'BH12 0.2', 'BH13 0.2' and 'BH19 0.2' returned a lead exceedance of 151.9 mg/kg above the CT1 criteria of 100 mg/kg. A 95% UCL analysis was undertaken on all data collected from the fill materials, with full PQL for lead used in substitution for samples with no lead detections. The analysis indicates that the lead

results are below waste classification criteria CT1 and therefore meets the criteria for 'General Solid Waste' (refer to *Appendix III – Results Tables*).

Sample 'BH11 0.2' returned a Nickel exceedance of 45.5 mg/kg above the CT1 criteria of 40 mg/kg. A 95% UCL analysis was undertaken on all data collected from the fill materials, with full PQL for nickel used in substitution for samples with no nickel detections. The analysis indicates that the nickel results are below waste classification criteria CT1 and therefore meets the criteria for 'General Solid Waste' (refer to *Appendix III – Results Tables*).

Natural / Subsoils (refer to Section 9.5 Site Soil and Sub Soil Geology)

Soil samples analysed for Heavy Metals, PAH, BTEX, TRH, OCPs, OPPs, PCBs, Phenols, Cyanides, VOCs and PFAS indicated that the natural soil materials meet the criteria for classification as VENM in accordance with POEO Act (1997), with the exception of sample 'BH13 1.5', which had a trace mercury concentration of 0.23 mg / kg, noted to be above the adopted VENM criteria of 0.1 mg/kg. It is recommended that bulk excavation works are supervised by a suitably qualified environmental consultant to observe appropriate segregation of fill oppose to VENM.

10.3 Groundwater – Summary of Results

Groundwater samples collected by ADE on the 23rd October 2020 and analysed for Heavy Metals, PAH, BTEX, TRH, OCPs, OPPs, PCBs, Phenols and PFAS did not indicate any exceedances of heavy metal, TRH, BTEX and PAH concentrations above the adopted Groundwater Investigation Levels (GILs). Refer to *Appendix III – Results Tables.* PFAS, specifically 6:2 Fluorotelomer sulfonic acid (6:2 FTS) was detected at 0.1 µg/L and 0.45 µg/L within MW1 and MW2 respectively.

10.3.1 Field Observations

The following field observations of groundwater quality were recorded during the field investigations on the 23rd October 2020:

- MW1: No sheen observed. No odour perceived. Light brown discolouration of water observed during well development. Water was observed to be clear during groundwater sampling. Well cap and pipe observed to be in good condition;
- MW2: No sheen observed. No odour perceived. Light brown discolouration of water observed during well development. Water was observed to be clear during groundwater sampling. Well cap and pipe observed to be in good condition; and
- MW3: No water was observed within the well during the developed or sampling field works.

There are currently no sensitive receptors on the Site and the main environmental receptors are Iron Cove Creek and Cooks River which lead to Georges River and Botany Bay respectively.

10.3.2 Heavy Metals

Groundwater samples analysed for Heavy Metals did not indicate any exceedances above the adopted GILs. Refer to *Appendix III - Results Tables.*

10.3.3 PAHs

Groundwater samples analysed for PAHs did not indicate any exceedances above the adopted GILs. Refer to *Appendix III - Results Tables.*

10.3.4 BTEX

Groundwater samples analysed for BTEX did not indicate any exceedances above the adopted GILs. Refer to *Appendix III - Results Tables.*

10.3.5 TRHs

Groundwater samples analysed for BTEX did not indicate any exceedances above the adopted GILs. Refer to *Appendix III - Results Tables.*

10.3.6 OCPs and OPPs

Groundwater samples analysed for OCPs and OPPs did not indicate any exceedances above the adopted GILs. Refer to *Appendix III - Results Tables.*

10.3.7 PCBs

Groundwater samples analysed for PCBs did not indicate any exceedances above the adopted GILs. Refer to *Appendix III - Results Tables.*

10.3.8 Phenols

Groundwater samples analysed for Phenols did not indicate any exceedances above the adopted GILs. Refer to *Appendix III - Results Tables.*

10.3.9 PFAS

Groundwater samples analysed for PFAS did not indicate any exceedances above the adopted criteria, however, trace concentrations of 6:2 Fluorotelomer sulfonic acid (6:2 FTS), were detected above the PQL within MW1 and MW2, with concentrations of 0.1 µg/L and 0.45 µg/L respectively. No limits or guidelines values are set out for 6:2 FTS under HEPA PFAS NEMP 2.0. As such, no assessment can be made regarding the risk of 6:2 FTS contamination, however considering the trace concentration detected it is suggested that the risk to the project posed by 6:2 FTS at or below 0.45 µg/L is low to negligible. Refer to *Appendix III – Results Tables.*

10.4 Duty to Report Contamination

In accordance with the *Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997* (CLM Act) the following provides an assessment of the client's responsibility to notify the NSW EPA of potential / identified contamination.

10.4.1 On-Site soil contamination

For the purposes of section 60(3)(b) of the CLM Act, notification of contamination in, or on, soil on the land is required where:

- The 95 % upper confidence limit on the arithmetic average concentration of a contaminant in or on soil is equal to or above the Health Investigation Level and / or Health Screening Level for that contaminant for the current or approved use of the respective on-site land, as specified in Section 6, Schedule B1 of the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (NEPC 2013)

  OR

- The concentration of a contaminant in an individual soil sample is equal to or more than 250% of the Health Investigation Level and / or Health Screening Level for that contaminant for the current or approved use of the respective on-site land, as specified in Section 6, Schedule B1 of the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (NEPC 2013)

  AND

A person has been or foreseeably will be exposed to the contaminant or a by-product of the contaminant.

10.4.2 Asbestos in, or on, soil

For the purposes of section 60(3)(b) of the CLM Act, notification of asbestos contamination is required where:

- Friable asbestos is present in or on soil on the land

  AND

- The level of asbestos (% weight for weight) in an individual soil sample is equal to or above the health screening level of friable asbestos in soil (0.001%) specified in Section 4.8, Schedule B1 of the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (NEPC 2013)

  AND

A person has been, or foreseeably will be, exposed to elevated levels of asbestos fibres by breathing them into their lungs.

10.4.3 Groundwater or surface water

For the purposes of section 60(3)(a) of the CLM Act, notification of actual or foreseeable contamination of groundwater or surface water on the site is required where:

- The contaminant has entered or will foreseeably enter groundwater or surface water

AND

- The concentration of the contaminant in the groundwater or surface water is, or will foreseeably be, above the groundwater investigation level for that contaminant as specified in Section 6, Schedule B1 of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC 2013)

AND

- The concentration of the contaminant in the groundwater or surface water will foreseeably continue to remain above the specified concentration. If separate-phase contamination of groundwater (i.e. immiscible organic liquid) is found, the EPA is required to be notified regardless of the concentration in the groundwater, unless the situation falls under one of the scenarios described in Section 2.6.3 of the Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (NSW EPA 2015).

10.4.4 Duty to Report Contamination conclusion

ADE notes the following:

- No soil sample exceeded the adopted SAC (HIL-B) for any soil contaminant;
- No asbestos (friable or non-friable) was detected within any soil samples collected;
- Chrysotile asbestos was detected within one (1) fibre cement fragment which was removed from the Site for sampling. The asbestos contamination is considered to be an isolated occurrence and is therefore not representative of the soil conditions within the Site. ADE considers no further investigation or remediation is required in regard to asbestos contamination; and
- No groundwater sample exceeded the adopted GILs for any analyte.

Due to the absence of contamination identified within the Site, ADE does not consider a RAP necessary for the Site. As such, ADE concludes no Duty to Report contamination is warranted.

11 REVISED CONCEPTUAL SITE MODEL

Following the completion of the DSI, ADE developed a revised CSM in accordance with the findings of the field investigation works. The revised CSM was also developed in accordance with NEPM Schedule B2 – NEPM (2013), to assess the plausible connections between potential contamination source and the receptors. The CSM provides a framework to review the current information and understand the migration and exposure pathways to sensitive receptors.

The potential contamination sources identified during the provisional CSM included historical use, fill material of unknown origin, surrounding land use and possible hazardous building material from demolition of existing structures. The exposure pathway risk was considered to be between low to moderate based largely on the Site's current condition. The soil and groundwater data showed that there is a low to negligible risk and soil and groundwater remediation is not warranted. However, there is still low to moderate risk considered from the demolition of existing structure which may contaminate nearby soils.

Based on these findings and the history of the Site, there is potential for asbestos and lead based paint to be present within the main buildings, which have the potential to impact the soils on Site. ADE recommends a Hazardous Materials Survey (HMS) is required to be undertaken prior to any demolition works with all hazardous materials identified on a register and a clearance certificate be obtained from a licensed removalist/asbestos assessor after removal of any identified hazardous material.

12 Data Quality Assessment

In order to carry out the assessment of the data acquired in the course of the investigation, the US EPA Guidelines including, but not limited to, the *'Guidance on Assessing Quality Systems'* (2003) and *'Guidance on Systematic Planning using the Data Quality Objectives Process'* (2006) were used.

The guidelines provide general strategy on assessing data quality criteria and performance specifications for decision making. The following is the output from most of the steps of the Data Quality Assessment (DQA) Process provided in the guidelines.

Quality control reports from the laboratories for sample analyses were reviewed. The review included an assessment of blank, duplicate, control, and spiked samples. The review of the QA/QC program was conducted in accordance with NSW EPA recommendations. Further details and information regarding the QA/QC program can be referred to in *Appendix VI – QA/QC*.

12.1 QA/QC Sampling

A summary of the QA/QC samples collected during field works is provided in **Table 17** below.

Table 17. Summary of Field QA/QC Samples Collected.

Field QA/QC	Frequency	Sample details
Intra-laboratory (Blind) Duplicate Samples	1 per 20	Soil Samples: • BR1 replicate of soil sample BH19 1.7; and • BR2 replicate of soil sample BH10 0.5.

Field QA/QC	Frequency	Sample details
		Water Sample: • BR1 replicate sample of water sample MW2.
Inter-laboratory (Split) Duplicate Samples	1 per 20	Soil Samples: • SR1 replicate of soil sample BH19 1.7; and • SR2 replicate of soil sample BH10 0.5.
Trip blank Samples	1 per sampling event per day	• TB1, 2 and 3 are blank samples used during the sample events.
Trip spike samples		• TS1, 2 and 3 are spiked BTEX samples used during the sample events.
Rinsate samples		• RS1, 2 and 3 are rinsate samples undertaken during the sample events.

12.1.1 Blind Replicate Samples

- Two (2) blind replicate samples were collected and submitted for analysis at SLS to determine the variability of the sampling process. Samples were collected simultaneously from the same source and under identical conditions as the original sample.
- Australian Standard 4482.1 specifies the typical RPD values for blind replicate samples to be 30% - 50%. Combining the AS4482.1 acceptance criterion with the recommendations of the USEPA methodology, the control limits described below were used.
- Considering the heterogeneous nature of the material within the Site the following criteria was considered appropriate:

    1. A control limit of 50% for the RPD for original and blind replicate sample values greater than or equal to 5x the Detection Limit (DL);
    2. A control limit of ± the DL if either the sample or duplicate value is less than 5x the DL; and
    3. If both samples values are less than the DL, the RPD is not calculated.

- All the analyte concentrations follow the conditions 2 and 3 described above and hence RPD values were not calculated.
- *Appendix VI – QA/QC* shows the RPD calculation between the blind replicate samples in comparison to primary samples.
- Blind Replicate (BR) samples showed 292 valid values and 5 invalid value.

12.1.2 Split Samples

- Split samples were analysed to measure the variability between laboratories.
- Two (2) split samples were submitted for analysis at ALS. These were compared to the original samples analysed by SLS.
- *Appendix VI – QA/QC* shows the RPD calculation between the split samples in comparison to primary samples.
- The assessment variability of the split samples showed 113 valid values and 1 invalid values.

Overall, precision has been deemed acceptable.

12.1.3 Trip Blanks

- Three (3) trip blanks were prepared prior to the DSI field works. The samples were stored with the investigation samples throughout the sample event. The trip blank sample was then packaged for shipment with the other representative samples and submitted for analysis.

- Trip blanks are used to determine if samples were contaminated during storage and / or transportation back to the laboratory (a measure of sample handling variability resulting in positive bias in contaminant concentration).
- The trip blank samples analysed returned results below the detection limit, resulting in 15 valid and nil invalid values.

12.1.4 Trip Spikes

- Three (3) trip spike (spiked BTEX) samples were analysed to estimate the loss of volatile compounds during the storage, handling and transportation of the investigation samples.
- Samples prepared by ALS prior to the field work were spiked with a concentration of 20 µg/L of BTEX. The samples were stored, handled and transported in the same way as the field samples.
- Samples prepared by SLS prior to the field work were spiked with a concentration of 40 µg/L of BTEX. The samples were stored, handled and transported in the same way as the field samples.
- The trip spike samples analysed returned results within the adopted criteria (60-140% of the original concentration), resulting in 15 valid values and nil invalid values.

12.1.5 Rinsates

- Three (3) rinsate water samples were analysed to check on the decontamination procedures undertaken on Site. Sampling equipment was rinsed with laboratory prepared rinsate water following the collection of each sample.
- Analysis of the Rinsate samples showed 267 valid values and nil invalid values.

12.1.6 Laboratory Duplicates

- Duplicate sample determinations were provided by the laboratories to demonstrate acceptable method precision at the time of analysis. Duplicates are, generally, analysed at a frequency of 1 for every 10 samples. Australia Standard AS 4482.1 provides an acceptable range of the RPD values up to 50% for quality control samples.
- Analysis of laboratory duplicates showed 772 valid values and 3 invalid values of RPD.

12.1.7 Laboratory Blanks

- The assessment of blank analysis results was to determine the existence and magnitude of contamination resulting from laboratory activities.
- The assessment of blank analysis results was carried out in order to determine the existence and magnitude of contamination resulting from laboratory activities. No contaminants were found in the blanks analysed by the laboratory.
- Analysis of laboratory blanks showed 770 valid values and nil invalid values.

12.1.8 Percent Recoveries of Spikes and Surrogates

- According to the US EPA methodology, it is recommended to consider the following actions based on the spike recovery results for inorganic analytes:
    - If the spike recovery is >125% and the reported sample results are less than the Practical Quantitation Limit (< PQL), the data is acceptable for use;
    - If the spike recovery is >125% or <75% and the sample results are > PQL, qualify the data for these samples as “estimated”;
    - If the spike recovery falls within the range of 30-74% and the sample results are < PQL, qualify the data for these samples as “estimated and may be inaccurate or imprecise”; and
    - If spike recovery results fall <30% and the sample results are < PQL, qualify the data for these samples as “unusable”.
- ALS and SLS laboratories limit of 70-130% for inorganics / metals, and 60-140% for organics was used in order to validate matrix spikes and laboratory control samples. The laboratory limit of 50-150% was

implemented in order to validate surrogate recoveries for organic analytes. These criteria, generally, conform to the USEPA recommended standards.

- Analysis of spikes and surrogates showed 741 valid values and 34 invalid values.

12.1.9 QA/QC DQO Reconciliation

QA/QC results for soil and water analyses are shown below in **Table 18**.

Table 18. Summary of Soil Sample DQO Reconciliation.

QA/QC Item	DQO Criteria	Valid Values	Not Valid Values	Completeness	Conclusion
Laboratory Duplicate samples	95%	772	3	99.61%	Acceptable
Laboratory Blank samples	100%	770	0	100.00%	Acceptable
Spike/surrogate recoveries	95%	741	34	95.61%	Acceptable
Laboratory Control samples	95%	589	9	98.49%	Acceptable
Intra-laboratory (Blind) Duplicate Samples	75%	292	5	98.32%	Acceptable
Inter-laboratory (Split) Duplicate Samples	75%	113	1	99.12%	Acceptable
Trip blank samples	95%	15	0	100.00%	Acceptable
Spike BTEX	75%	15	0	100.00%	Acceptable
Rinsate Samples	<PQL	267	0	100.00%	Acceptable
Overall Completeness	**95%**	**3574**	**52**	**98.57%**	**Acceptable**

Overall, the DQO Reconciliation has been deemed acceptable.

13 Conclusions and Recommendations

Based on the data and evidence collected from the Stage II DSI the following conclusions can be made:

13.1 Main Field Observations

- The two (2) commercial office buildings within the Site were observed to remain in use;
- The majority of the Site consisted of paved surfaces and buildings with a vegetation strip along the periphery;
- No evidence of any USTs was observed during the intrusive assessment; and
- No sheens or odours were observed within any of the monitoring wells. Light brown discolouration of water observed during MW1 and MW2 well development. Water was observed to be clear during groundwater sampling of both wells. Well caps and pipes were observed to be in good condition.

13.2 Soil

13.2.1 Chemical Analysis

Land use:

Soil samples analysed for Heavy Metals, PAHs, BTEX, TRHs, OCPs, OPPs, PCBs, Phenols, Cyanides, VOCs and PFAS did not identify any exceedances above the adopted SAC for Residential with minimal soil access land use. Refer to *Appendix III - Results Tables.*

Preliminary Classification for Off-Site Disposal:

Please note this Preliminary Waste Classification Analysis does not constitute a Waste Classification Report for off-site disposal of soil materials as it does not provide sufficient information on material characterisation for off-site disposal. Should off-site disposal be required, further detailed analysis for Waste Classification of soil materials proposed for off-site disposal would need to be undertaken.

Surficial Topsoil / FILL material (depth range between 0.0 m BGL to an average of 1.0 m BGL)

Soil samples predominantly consisting of gravelly SAND: medium grained, grey / brown, moderately graded, slightly moist were analysed for Heavy Metals, PAH, BTEX, TRH, OCPs, OPPs, PCBs, VOCs, Phenols, PFAS and asbestos.

The results indicated that the fill soil materials generally meet the criteria for classification as ‘General Solid Waste’.

Natural / Subsoils (from an average depth of 1.0 m BGL and extending to greater depths within the ground level and from 0.0 and 0.2 m BGL within the basement)

Soil samples predominately consisting of Silty CLAY: medium to high plasticity, grey with red mottling, slightly moist and siltstone: grey to dark grey, brittle, highly weathered, Ashfield shale were analysed for Heavy Metals, PAH, BTEX, TRH, OCP, OPPs, PCBs, VOCs, Phenols, PFAS and asbestos.

The results indicated that the natural soil materials generally meet the criteria for classification as ‘Virgin Excavated Natural Material’.

13.2.2 Asbestos contamination

One (1) bonded asbestos-containing fragment was observed within sample location BH20 1.0.

The isolated asbestos fragment was sampled and removed at the time of the investigation works. No further asbestos fragments were found deeper than 1.0 m BGL at BH20 or nearby lateral boreholes. Additionally, due to predominantly underlying natural materials at shallow depths observed throughout the Site and no further ACM being observed or detected during this investigation, ADE is of the opinion that the isolated ACM fragment has been sampled and removed from the soil within the Site and that no further investigation or remediation is required in regard to asbestos contamination. Moreover, no ACM fragments were observed on the soil surface throughout the Site as well. However, ADE recommends an Unexpected Finds Protocol (UFP) to be completed for the Site prior to demolition works to accommodate for any potential asbestos finds during construction works.

13.3 Groundwater

Groundwater at the Site was recorded approximately RL 12.927 within MW1 and RL 12.942 within MW2 and is inferred to flow from an east to south–west direction (refer to *Appendix I – Figures*).

- The groundwater analytical results showed that concentrations of Heavy Metals, PAH, BTEX, TRH, OCPs, OPPs, PCBs, Phenolsand VOCs were not present in any samples above the laboratory detection limit; and
- The levels of PFAS detected in groundwater suggest that there is unlikely any site-wide PFAS impacts in groundwater.

If groundwater is proposed to be discharged off-site during the proposed development works / remediation works, then a Dewatering Management Plan (DMP) would need to be developed for the Site.

13.4 Duty to Report Contamination

Following a review of the results for soils and groundwater within Site, ADE considers that the Client does not have a Duty to Report Contamination to the NSW EPA regarding on-site contamination of soils or groundwater.

13.5 Recommendations

In accordance with the findings of this DSI and the proposed development of the Site, ADE makes the following recommendations:

- An Unexpected Finds Protocol (UFP) is to be prepared for the Site to detail the required actions should any asbestos be identified during future demolition and construction works;

- Any soil materials being disposed off-site will require a waste classification. It is further recommended that bulk excavation works are supervised by a suitably qualified environmental consultant to observe appropriate segregation of fill oppose to VENM; and

- Prior to any demolition works and commencement of construction, a Hazardous Materials Survey (HMS) should be undertaken with all hazardous materials identified on a register and a clearance certificate be obtained from a licensed removalist/asbestos assessor after removal of any identified hazardous material.

13.6 Suitability of Site

Taking into consideration the data obtained from previous and current investigation, ADE considers that the Site is suitable for the proposed development.

14 Limitations and Disclaimer

This report has been prepared for the exclusive use of the client and is limited to the scope of the work agreed in the terms and conditions of contract (including assumptions, limitations and qualifications, circumstances, and constraints). ADE has relied upon the accuracy of information and data provided to it by the client and others.

ADE has used a degree of care and skill ordinarily exercised in similar investigations by reputable members of the environmental industry in Australia. No other warranty, expressed or implied, is made or intended. No one section or part of a section, of this report should be taken as giving an overall idea of this report. Each section must be read in conjunction with the whole of this report, including its appendixes and attachments. The report is an integral document and must be read in its entirety.

To the fullest extent permitted by law, ADE does not accept or assume responsibility to any third party (other than the client) for the investigative work, the report or the opinions given.

The scope of work conducted, and report herein may not meet the specific needs (of which ADE is not aware) of third parties. ADE cannot be held liable for third party reliance on this document. Any third party who relies upon this report does so at its own risk.

The subsurface environment can present substantial uncertainty due to it complex heterogeneity. The conclusions presented in this report are based on limited investigation of conditions at specific sampling locations chosen to be as representative as possible under the given circumstances. However, it is possible that this investigation may not have encountered all areas of contamination at the site due to the limited sampling and testing program undertaken.

The material subject to classification pertains only to the site and subject area outlined within the report and must be consistent with the waste description reported. If there are any unexpected finds that are not consistent with this classification, ADE must be notified immediately.

ADE does not verify the accuracy or completeness of, or adopt as its own, the information or data supplied by others and excludes all liability with respect to such information and data. To the extent that conditions differ from assumptions set out in the report, and to the extent that information provided to ADE is inaccurate or incomplete or has changed since it was provided to ADE, the opinions expressed in this report may not be valid and should be reviewed.

ADE's professional opinions are based upon its professional judgement, experience, training, and results from analytical data. In some cases, further testing and analysis may be required, thus producing different results and/or opinions. ADE has limited its investigation to the scope agreed upon with its client.

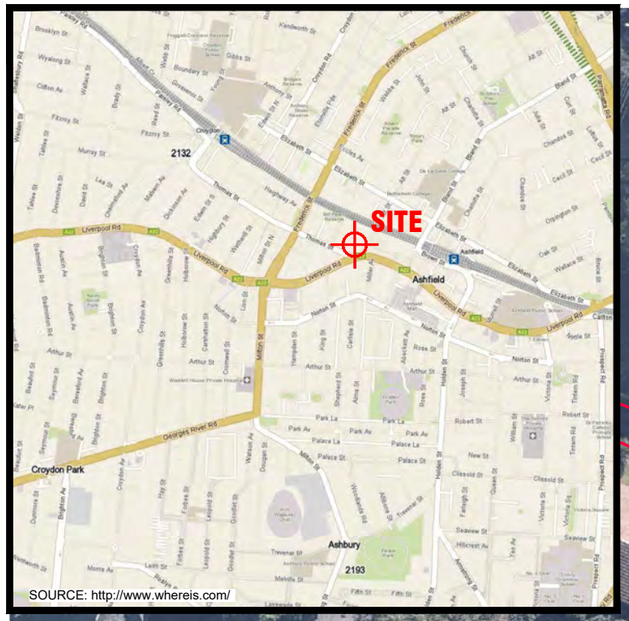
This Limitation and Disclaimer must accompany every copy of this report.

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Appendix I – Figures



LEGEND

- APPROXIMATE SITE BOUNDARY
- OUTLINE OF EXISTING BASEMENT
- OUTLINE OF CURRENT BASEMENT
- BH — BORE HOLE LOCATION (ADE, 2020)
- MW — EXISTING GROUNDWATER WELL (DP, 2020)
- BH/MW — BORE HOLE / GROUNDWATER WELL (ADE, 2020)

NOTE:
ALL LOCATIONS ARE APPROXIMATE
DIMENSIONS IN METRES.

AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM, 01 AUG 2020.

revision	no.	description	drawn	approved	date
	A	FIRST ISSUE	MC	SS	27/10/20

0 6 12 18 24 30
SCALE 1:600 @A3 METRES

drawn	MC
approved	SS
date	27/10/2020
scale	AS SHOWN
original size	A3

client: Shayher Alliance Pty Ltd

project: STAGE 2 DETAILED SITE INVESTIGATION
2-6 CAVILL AVENUE, ASHFIELD, NSW

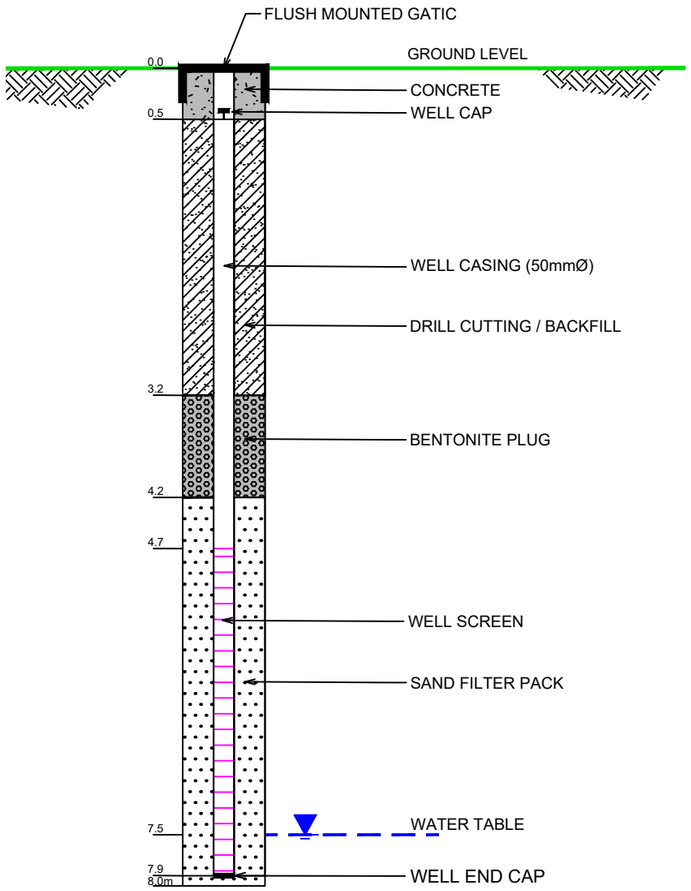
title: SITE LOCATION AND SAMPLING PLAN

project no: STC-1858-18526_DSI | figure no: FIGURE 1 | rev: A

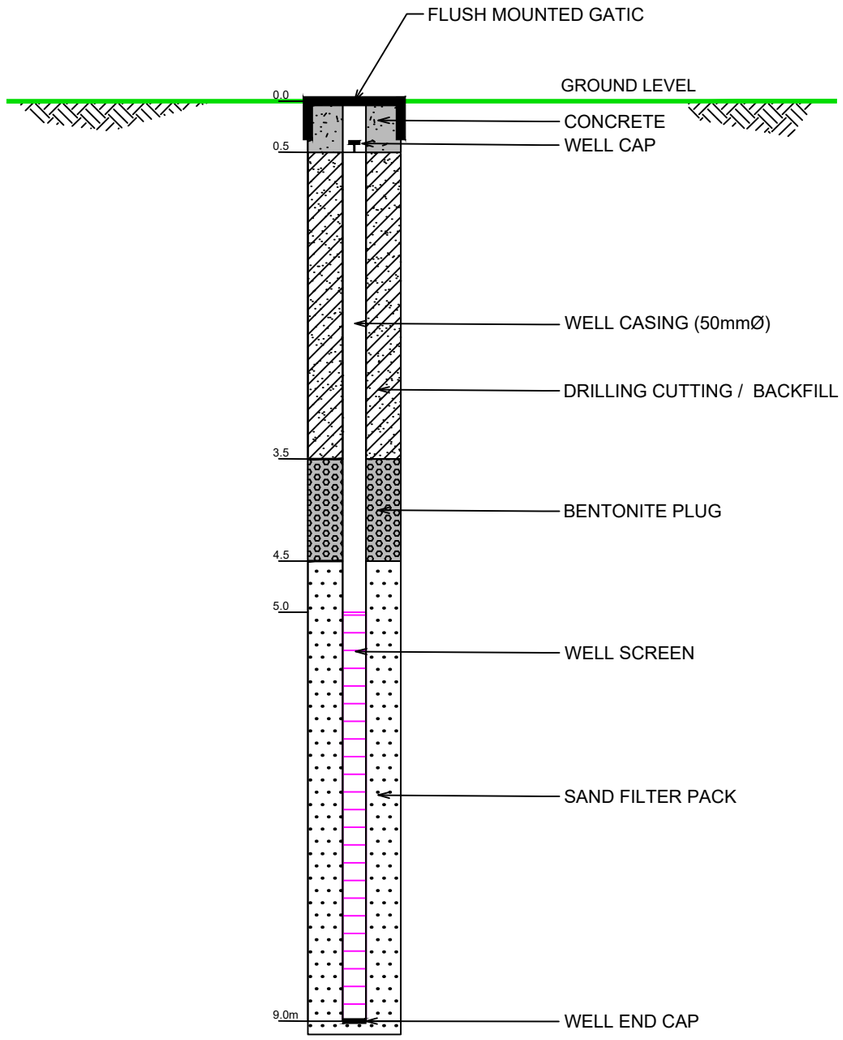
ADE CONSULTING GROUP
Sydney Office
ADE Consulting Group Pty Ltd
Unit 6 / 7 Millennium Court, Silverwater, NSW 2128
www.ADE.group | info@ade.group | 1300 976 922

PLOT DATE: 2/11/2020 2:36:40 PM DWG FILE: W:\STC - SHORT TERM CLIENTS\STC-1858-17331 PSI SHAYHER GROUP (ASHFIELD) 17.02.2020 SS\STC-1858-18526 (DSI)\1-WORKING DOCUMENTS\4-CAD (MC)\STC-18

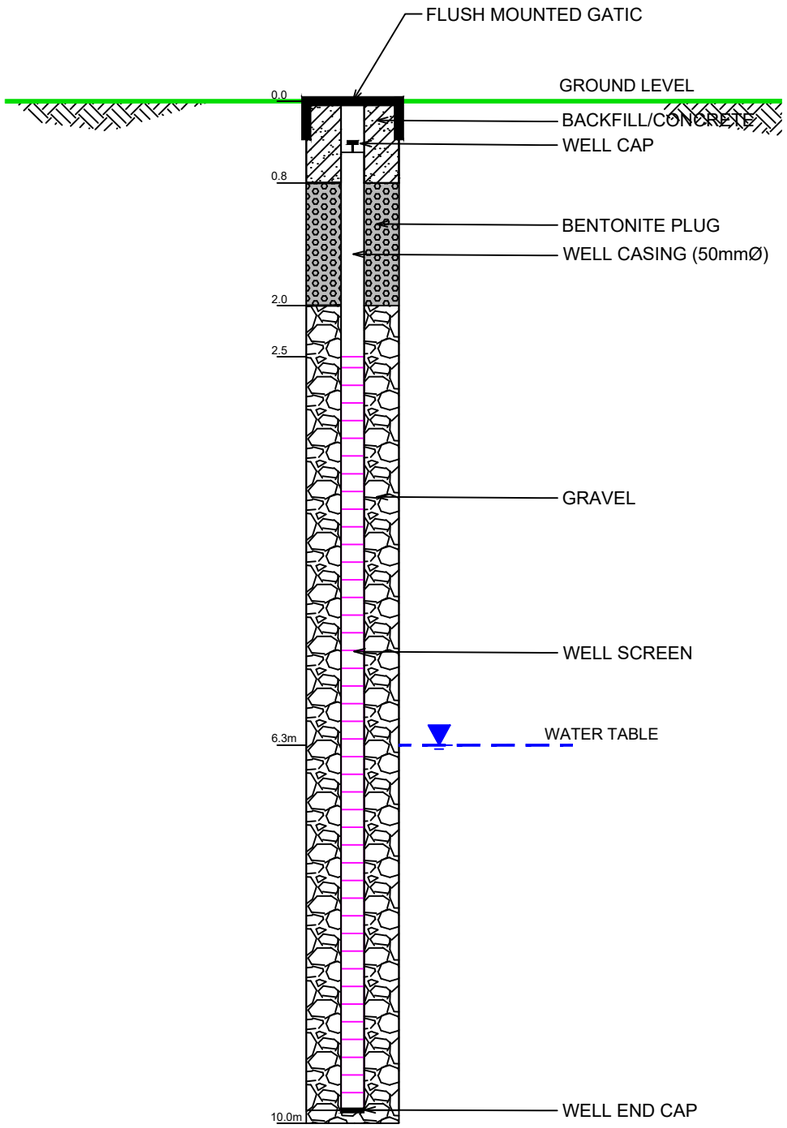
BH13 / MW2



BH20 / MW3



MW1



NOTE:
ALL LOCATIONS ARE APPROXIMATE
DIMENSIONS IN METRES.

revision	no.	description	drawn	approved	date
	A	FIRST ISSUE	MC	SS	27/10/20

0 0.6 1.2 1.8 2.4 3
SCALE 1:60 @A3 METRES

drawn	MC
approved	SS
date	27/10/2020
scale	AS SHOWN
original size	A3

client: Shayher Alliance Pty Ltd

project: STAGE 2 DETAILED SITE INVESTIGATION
2-6 CAVILL AVENUE, ASHFIELD, NSW

title: MONITORING WELL CONSTRUCTIONS

project no: STC-1858-18526_DSI | figure no: FIGURE 2 | rev: A

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PLOT DATE: 9/11/2020 1:09:50 PM DWG FILE: W:\STC - SHORT TERM CLIENTS\STC-1858-17331 PSI SHAYHER GROUP (ASHFIELD) 17.02.2020 SS\STC-1858-18526 (DSI)\1-WORKING DOCUMENTS\4-CAD (MC)\STC-1



LEGEND

- APPROXIMATE SITE BOUNDARY
- BH/MW — BORE HOLE / GROUNDWATER WELL (ADE, 2020)
- MW — EXISTING GROUNDWATER WELL (DP, 2020)
- INFERRED GROUNDWATER FLOW DIRECTION
- 1.550 — INFERRED GROUNDWATER ELEVATION CONTOUR (mAHD)
- DTSWL — GAUGED DEPTH TO WATER (metres)
- SWL mAHD — GROUNDWATER ELEVATION (mAHD)

NOTE:
ALL LOCATIONS ARE APPROXIMATE
DIMENSIONS IN METRES.

AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM, 01 AUG 2020.

NOTE:
DATA FROM BH20/MW03 (STANDING WATER LEVEL) IS ONLY ASSUMPTION, DUE TO WELL DRY.

revision	no.	description	drawn	approved	date
	A	FIRST ISSUE	MC	SS	27/10/20

0 7 14 21 28 35
SCALE 1:700 @A3 METRES

drawn	MC
approved	SS
date	27/10/2020
scale	AS SHOWN
original size	A3

client: Shayher Alliance Pty Ltd

project: STAGE 2 DETAILED SITE INVESTIGATION
2-6 CAVILL AVENUE, ASHFIELD, NSW

title: GROUNDWATER CONTOUR PLAN

project no: STC-1858-18526_DSI | figure no: FIGURE 3 | rev: A

ADE CONSULTING GROUP
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PLOT DATE: 6/11/2020 12:22:00 PM DWG FILE: W:\STC - SHORT TERM CLIENTS\STC-1858-17331 PSI SHAYHER GROUP (ASHFIELD) 17.02.2020 SS\STC-1858-18526 (DSI)\1-WORKING DOCUMENTS\4-CAD (MC)\STC-1858-18526_DSI.DWG

Appendix II – Photographs



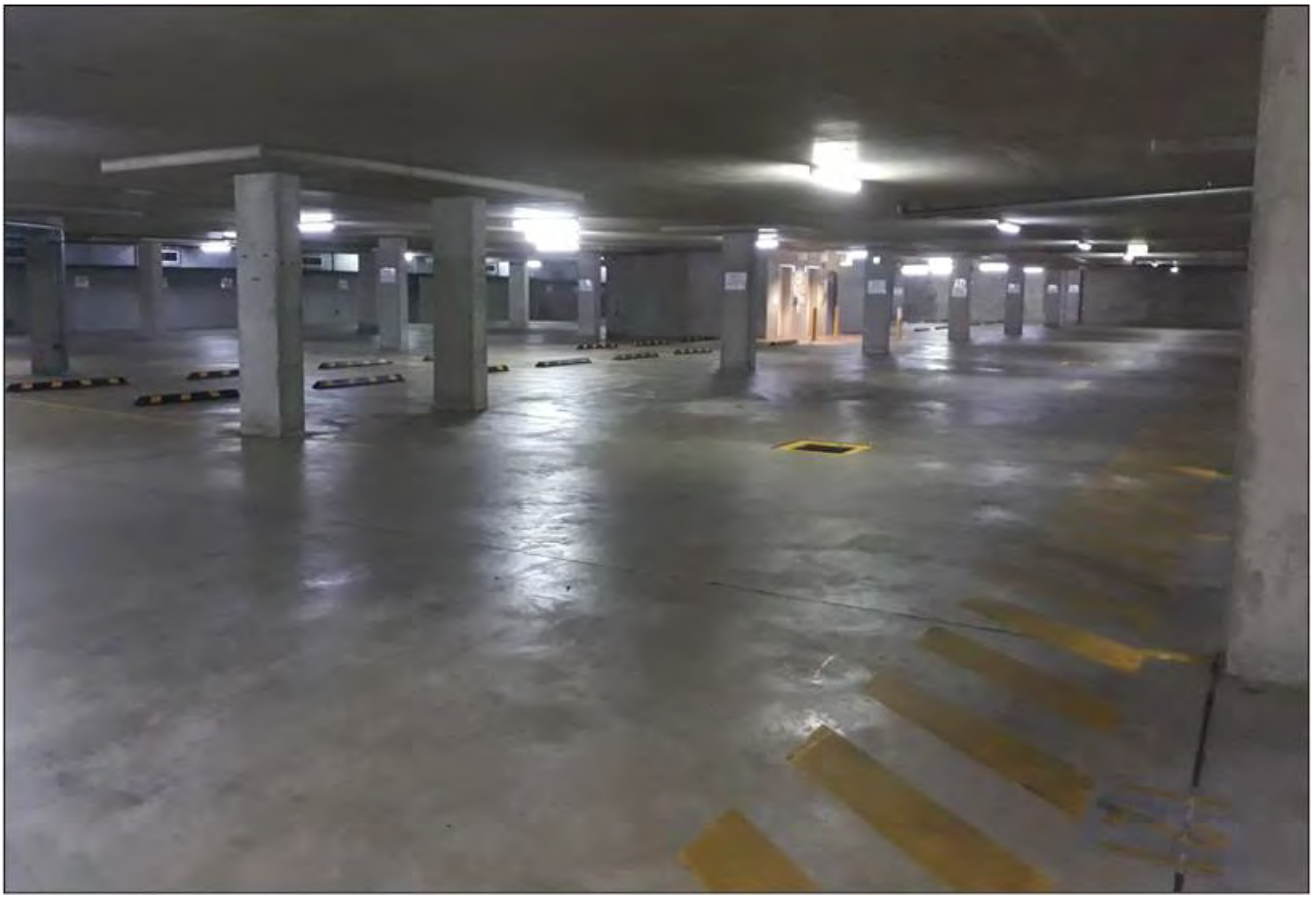
Photograph 1. Western portion of the Site (facing south). Date: 23.10.2020.



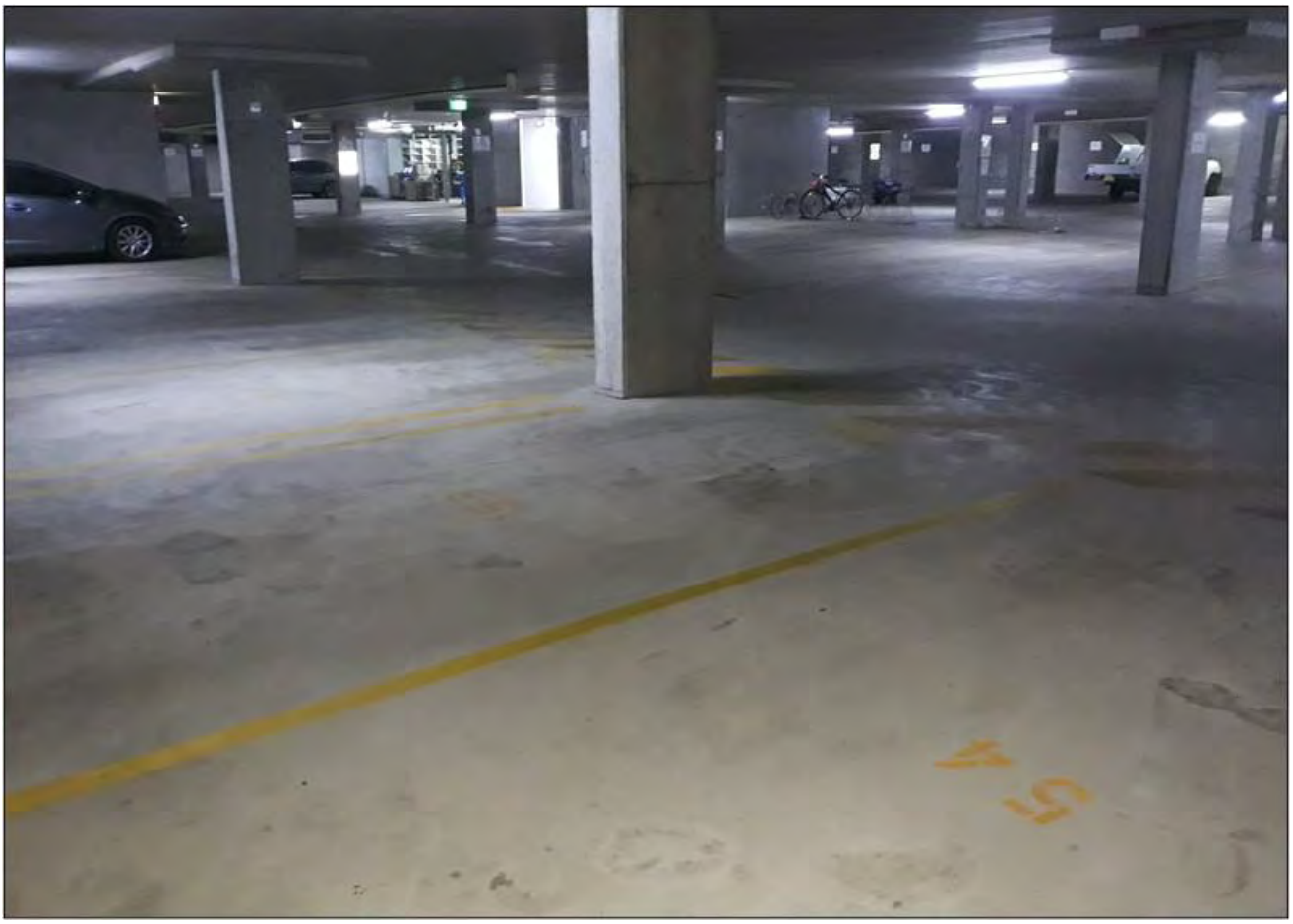
Photograph 2. Northern portion of the Site (facing north-west). Date: 23.10.2020.



Photograph 3. Eastern portion of the Site area adjacent to Cavill Avenue (facing south). Date: 23.10.2020.



Photograph 4. Southern building, lower basement carpark. Date: 14.10.2020.



Photograph 5. Northern building, lower basement carpark. Date: 14.10.2020.



Photograph 6. Example of natural clay and siltstone materials observed at BH20, approximately 4.0 m. Date: 13.10.2020.



Photograph 7. Representative natural material matrix found in the Site, observed at BH19. Date 13.10.2020.



Photograph 8. Representative fill material found in the Site, observed at BH13. Date 13.10.2020.



Photograph 9. Representative fill material found in the Site, observed at BH3. Date 14.10.2020.



Photograph 10. Representative natural material found in the Site, observed at BH6. Date 14.10.2020.



Photograph 11. Representative fill material found in the Site, observed at BH20. Date 13.10.2020.



Photograph 12. Representative fill and natural material found in the Site, observed at BH14. Date 13.10.2020.



Photograph 13. MW2 Hydrasleeve during sampling. Date 23.10.2020.



Photograph 14. MW1 Hydrasleeve during sampling. Date 23.10.2020.

Appendix III – Results Tables

		Acid Sulphate Soils	Particle Size		Particulates	BTEX							Cyanides	TRH							
		pH (CaCl2)	Clay in soils <2um	Density	Organic Matter	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	Cyanide (WAD)	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	3&4-Methylphenol (m&p-cresol)
		-	%	g/cm3	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.1	1	0.01	0.5	0.2	0.5	0.5	0.5	0.5	0.5	0.2	1	10	10	50	50	100	100	50	1
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil														700		1,000		3,500	10,000		
Direct Contact – HSL Intrusive Maintenance Worker						1,100	120,000	85,000			130,000			82,000		62,000		85,000	120,000		
Direct Contact – HSL B						140	21,000	5,900			17,000			5,600		4,200		5,800	8,100		
NSW 2014 General Solid Waste CT1 (No Leaching)						10	288	600			1,000										
NSW 2014 General Solid Waste SCC1 (with leached)						18	518	1,080			1,800										
NSW 2014 Restricted Solid Waste CT2 (No Leaching)						40	1,152	2,400			4,000										
NSW 2014 Restricted Solid Waste SCC2 (with leached)						72	2,073	4,320			7,200										
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m						0.5	160	55			40				45		110				
Ecological Investigation /Screening Levels for Urban residential / public open space						65	105	125			45			180		120		1300	5600		
NEPM 2013 Table 1A(1) HILs Res B Soil																					
Field ID	**Date**																				
BH1 0.4	**14/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	<1	<35	<35	<50	-	<100	<100	0	<1
BH2 0.3	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH3 0.2	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH3 0.4	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH4 0.2	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH4 0.4	**16/10/2020**	-	-	-	-	<0.50	<0.5	<0.5	<0.5	<0.5	0	0	<1	<35	<35	<50	-	<100	<100	0	<1
BH5 0.2	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH5 0.4	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH6 0.4	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH7 0.2	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH8 0.3	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	<1	<35	<35	<50	-	<100	<100	0	<1
BH10 0.5	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH11 0.2	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH11 0.5	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH11 1.0	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH11 2.0	**16/10/2020**	3.9	55	2.59	<0.5	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH12 0.2	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	<1
BH12 0.5	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH12 1.0	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH13 0.2	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH13 0.5	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	<1	<35	<35	<50	-	<100	<100	0	<1
BH13 1.0	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH13 1.5	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH14 0.3	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH14 1.0	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH14 2.0	**16/10/2020**	3.9	57	2.48	<0.5	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH15 0.3	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	<1
BH16 0.2	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH18 0.2	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	<1	<35	<35	<50	-	<100	<100	0	<1
BH18 1.0	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH18 2.0	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH19 0.2	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	<1
BH19 1.0	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH19 1.7	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH20 0.5	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH20 1.0	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH20 2.0	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH20 3.0	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH20 4.0	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BH20 5.0	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BR1	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
BR2	**16/10/2020**	-	-	-	-	<0.50	<0.50	<1.0	<2.0	<1.0	0	0	-	<35	<35	<50	-	<100	<100	0	-
SR1	**16/10/2020**	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	<10	<10	<50	<50	<100	<100	<50	-
SR2	**16/10/2020**	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	<10	<10	<50	<50	<100	<100	<50	-
Statistics																					
Number of Results		**2**	**2**	**2**	**2**	**44**	**44**	**44**	**44**	**44**	**44**	**44**	**5**	**44**	**44**	**44**	**2**	**44**	**44**	**44**	**8**
Number of Detects		**2**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**42**	**42**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**42**	**0**
Minimum Concentration		**3.9**	**55**	**2.48**	**<0.5**	**<0.2**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**0**	**0**	**<1**	**<10**	**<10**	**<50**	**<50**	**<100**	**<100**	**0**	**<1**
Maximum Concentration		**3.9**	**57**	**2.59**	**<0.5**	**<0.5**	**<0.5**	**<1**	**<2**	**<1**	**<0.5**	**<0.2**	**<1**	**<35**	**<35**	**<50**	**<50**	**<100**	**<100**	**<50**	**<1**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)

		Phenols																				
		2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenol	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																							
Direct Contact – HSL Intrusive Maintenance Worker																							
Direct Contact – HSL B																							
NSW 2014 General Solid Waste CT1 (No Leaching)		8,000	40					4,000					200	600	26	24		14				10	
NSW 2014 General Solid Waste SCC1 (with leached)		14,400	72					7,200				518	360	1,080	46.8	43.2		0.7				0.5	
NSW 2014 Restricted Solid Waste CT2 (No Leaching)		32,000	160					16,000					800	2,400	104	96		56				40	
NSW 2014 Restricted Solid Waste SCC2 (with leached)		57,600	288					28,800				2,073	1,440	4,320	187.2	172.8		100				72	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m																							
Ecological Investigation /Screening Levels for Urban residential / public open space																							
NEPM 2013 Table 1A(1) HILs Res B Soil											130	45,000											
Field ID	**Date**																						
BH1 0.4	**14/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH2 0.3	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3 0.2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3 0.4	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4 0.2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4 0.4	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH5 0.2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5 0.4	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6 0.4	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7 0.2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8 0.3	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH10 0.5	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 0.2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 0.5	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 1.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 2.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12 0.2	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH12 0.5	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12 1.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13 0.2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13 0.5	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH13 1.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13 1.5	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14 0.3	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14 1.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14 2.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15 0.3	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH16 0.2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18 0.2	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH18 1.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18 2.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19 0.2	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH19 1.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19 1.7	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 0.5	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 1.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 2.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 3.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 4.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 5.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BR1	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BR2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SR1	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SR2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistics																							
Number of Results		**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
Number of Detects		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration		**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
Maximum Concentration		**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)

		Chlorinated Hydrocarbons																				
		1,3-dichloropropane	2,2-dichloropropane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																							
Direct Contact – HSL Intrusive Maintenance Worker																							
Direct Contact – HSL B																							
NSW 2014 General Solid Waste CT1 (No Leaching)						10			120						10	14			4			86	
NSW 2014 General Solid Waste SCC1 (with leached)						18			126						18	25.2			7.2			4.3	
NSW 2014 Restricted Solid Waste CT2 (No Leaching)						40			480						40	56			16			344	
NSW 2014 Restricted Solid Waste SCC2 (with leached)						72			864						72	100.8			28.8			620	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m																							
Ecological Investigation /Screening Levels for Urban residential / public open space																							
NEPM 2013 Table 1A(1) HILs Res B Soil																							
Field ID	**Date**																						
BH1 0.4	**14/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
BH2 0.3	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3 0.2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3 0.4	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4 0.2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4 0.4	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
BH5 0.2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5 0.4	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6 0.4	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7 0.2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8 0.3	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
BH10 0.5	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 0.2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 0.5	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 1.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 2.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12 0.2	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
BH12 0.5	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12 1.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13 0.2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13 0.5	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
BH13 1.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13 1.5	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14 0.3	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14 1.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14 2.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15 0.3	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
BH16 0.2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18 0.2	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
BH18 1.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18 2.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19 0.2	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
BH19 1.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19 1.7	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 0.5	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 1.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 2.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 3.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 4.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 5.0	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BR1	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BR2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SR1	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SR2	**16/10/2020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistics																							
Number of Results		**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
Number of Detects		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration		**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**	**<0.5**	**<5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
Maximum Concentration		**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**	**<0.5**	**<5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil
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NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)

		Halogenated Benzenes						Halogenated Hydrocarbons					Perfluoroalkane Carboxylic Acids										
		1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.5	0.5	0.5	0.5	0.5	0.05	0.5	5	5	0.5	5	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																							
Direct Contact – HSL Intrusive Maintenance Worker																							
Direct Contact – HSL B																							
NSW 2014 General Solid Waste CT1 (No Leaching)		150				2,000																	
NSW 2014 General Solid Waste SCC1 (with leached)		7.5				3,600											18						
NSW 2014 Restricted Solid Waste CT2 (No Leaching)		600				8,000																	
NSW 2014 Restricted Solid Waste SCC2 (with leached)		1,080				14,400											72						
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m																							
Ecological Investigation /Screening Levels for Urban residential / public open space																							
NEPM 2013 Table 1A(1) HILs Res B Soil							15																
Field ID	**Date**																						
BH1 0.4	**14/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.10	<0.5	<5	<5	<0.5	<5	-	-	-	-	-	-	-	-	-	-	-
BH2 0.3	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3 0.2	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3 0.4	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH4 0.2	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4 0.4	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.10	<0.5	<5	<5	<0.5	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH5 0.2	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5 0.4	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6 0.4	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7 0.2	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8 0.3	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.10	<0.5	<5	<5	<0.5	<5	-	-	-	-	-	-	-	-	-	-	-
BH10 0.5	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH11 0.2	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 0.5	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 1.0	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 2.0	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12 0.2	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.10	<0.5	<5	<5	<0.5	<5	-	-	-	-	-	-	-	-	-	-	-
BH12 0.5	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12 1.0	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13 0.2	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13 0.5	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.10	<0.5	<5	<5	<0.5	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH13 1.0	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13 1.5	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14 0.3	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14 1.0	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14 2.0	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15 0.3	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.10	<0.5	<5	<5	<0.5	<5	-	-	-	-	-	-	-	-	-	-	-
BH16 0.2	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18 0.2	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.10	<0.5	<5	<5	<0.5	<5	-	-	-	-	-	-	-	-	-	-	-
BH18 1.0	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18 2.0	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19 0.2	**16/10/2020**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.10	<0.5	<5	<5	<0.5	<5	-	-	-	-	-	-	-	-	-	-	-
BH19 1.0	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19 1.7	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 0.5	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 1.0	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 2.0	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 3.0	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 4.0	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 5.0	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BR1	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BR2	**16/10/2020**	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SR1	**16/10/2020**	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SR2	**16/10/2020**	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistics																							
Number of Results		**8**	**8**	**8**	**8**	**8**	**44**	**8**	**8**	**8**	**8**	**8**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
Number of Detects		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration		**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.05**	**<0.5**	**<5**	**<5**	**<0.5**	**<5**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**
Maximum Concentration		**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.1**	**<0.5**	**<5**	**<5**	**<0.5**	**<5**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)

		Perfluoroalkane Sulfonic Acids					Inorganics								MAH								
		Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Moisture Content	Exchangeable Calcium	Exchangeable Magnesium	Exchangeable Potassium	Exchangeable Sodium	Cation Exchange Capacity	Electrical Conductivity (Lab)	pH (Lab)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	meq/100g	meq/100g	meq/100g	meq/100g	meq/100g	µS/cm	-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.005	0.005	0.005	0.005	0.005	0.1	0.1	0.1	0.1	0.1	0.1	1	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																							
Direct Contact – HSL Intrusive Maintenance Worker																							
Direct Contact – HSL B																							
NSW 2014 General Solid Waste CT1 (No Leaching)																						60	
NSW 2014 General Solid Waste SCC1 (with leached)																						108	
NSW 2014 Restricted Solid Waste CT2 (No Leaching)																						240	
NSW 2014 Restricted Solid Waste SCC2 (with leached)																						432	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m																							
Ecological Investigation /Screening Levels for Urban residential / public open space																							
NEPM 2013 Table 1A(1) HILs Res B Soil																							
Field ID	**Date**																						
BH1 0.4	**14/10/2020**	-	-	-	-	-	14.0	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH2 0.3	**16/10/2020**	-	-	-	-	-	14.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3 0.2	**16/10/2020**	-	-	-	-	-	3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3 0.4	**16/10/2020**	<0.005	<0.005	<0.005	<0.005	<0.005	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4 0.2	**16/10/2020**	-	-	-	-	-	6.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4 0.4	**16/10/2020**	<0.005	<0.005	<0.005	<0.005	<0.005	10.5	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH5 0.2	**16/10/2020**	-	-	-	-	-	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5 0.4	**16/10/2020**	-	-	-	-	-	13.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6 0.4	**16/10/2020**	-	-	-	-	-	9.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7 0.2	**16/10/2020**	-	-	-	-	-	13.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8 0.3	**16/10/2020**	-	-	-	-	-	8.5	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH10 0.5	**16/10/2020**	<0.005	<0.005	<0.005	<0.005	<0.005	12.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 0.2	**16/10/2020**	-	-	-	-	-	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 0.5	**16/10/2020**	-	-	-	-	-	19.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 1.0	**16/10/2020**	-	-	-	-	-	19.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11 2.0	**16/10/2020**	-	-	-	-	-	13.1	1.0	2.6	0.2	0.5	9.8	71	5.1	-	-	-	-	-	-	-	-	-
BH12 0.2	**16/10/2020**	-	-	-	-	-	9.5	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH12 0.5	**16/10/2020**	-	-	-	-	-	24.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12 1.0	**16/10/2020**	-	-	-	-	-	17.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13 0.2	**16/10/2020**	-	-	-	-	-	13.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13 0.5	**16/10/2020**	<0.005	<0.005	<0.005	<0.005	<0.005	17.8	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH13 1.0	**16/10/2020**	-	-	-	-	-	21.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13 1.5	**16/10/2020**	-	-	-	-	-	22.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14 0.3	**16/10/2020**	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14 1.0	**16/10/2020**	-	-	-	-	-	9.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14 2.0	**16/10/2020**	-	-	-	-	-	7.8	<0.1	2.2	0.2	0.8	5.6	57	5.3	-	-	-	-	-	-	-	-	-
BH15 0.3	**16/10/2020**	-	-	-	-	-	12.8	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH16 0.2	**16/10/2020**	-	-	-	-	-	11.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18 0.2	**16/10/2020**	-	-	-	-	-	14.1	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH18 1.0	**16/10/2020**	-	-	-	-	-	25.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18 2.0	**16/10/2020**	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19 0.2	**16/10/2020**	-	-	-	-	-	10.8	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH19 1.0	**16/10/2020**	-	-	-	-	-	21.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19 1.7	**16/10/2020**	-	-	-	-	-	18.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 0.5	**16/10/2020**	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 1.0	**16/10/2020**	-	-	-	-	-	6.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 2.0	**16/10/2020**	-	-	-	-	-	17.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 3.0	**16/10/2020**	-	-	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 4.0	**16/10/2020**	-	-	-	-	-	14.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20 5.0	**16/10/2020**	<0.005	<0.005	<0.005	<0.005	<0.005	12.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BR1	**16/10/2020**	-	-	-	-	-	14.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BR2	**16/10/2020**	-	-	-	-	-	10.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SR1	**16/10/2020**	-	-	-	-	-	17.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SR2	**16/10/2020**	-	-	-	-	-	11.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistics																							
Number of Results		**5**	**5**	**5**	**5**	**5**	**44**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
Number of Detects		**0**	**0**	**0**	**0**	**0**	**44**	**1**	**2**	**2**	**2**	**2**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration		**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**1.5**	**<0.1**	**2.2**	**0.2**	**0.5**	**5.6**	**57**	**5.1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
Maximum Concentration		**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**25.5**	**1**	**2.6**	**0.2**	**0.8**	**9.8**	**71**	**5.3**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)

		Metals									Organic	Organochlori											
		Arsenic	Cadmium	Chromium (III+VI)	Copper	Iron	Lead	Mercury	Nickel	Zinc	Total Organic Carbon	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD
		mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		5	0.3	2	5		5	0.1	2	5		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																							
Direct Contact – HSL Intrusive Maintenance Worker																							
Direct Contact – HSL B																							
NSW 2014 General Solid Waste CT1 (No Leaching)		100	20	100			100	4	40														
NSW 2014 General Solid Waste SCC1 (with leached)		500	100	1,900			1,500	50	1,050														
NSW 2014 Restricted Solid Waste CT2 (No Leaching)		400	80	400			400	16	160														
NSW 2014 Restricted Solid Waste SCC2 (with leached)		2,000	400	7,600			6,000	200	4,200														
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m																							
Ecological Investigation /Screening Levels for Urban residential / public open space		160		415	220		1960		175	390												640	180
NEPM 2013 Table 1A(1) HILs Res B Soil		500	150		30,000		1,200	120	1,200	60,000					10		90						600
Field ID	**Date**																						
BH1 0.4	**14/10/2020**	<5.0	<0.30	<5.0	14.6	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH2 0.3	**16/10/2020**	10.7	<0.30	<5.0	11.2	-	18.9	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH3 0.2	**16/10/2020**	<5.0	<0.30	<5.0	<5.0	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH3 0.4	**16/10/2020**	16.9	<0.30	<5.0	22.9	-	<10.0	<0.20	<10.0	27.2	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH4 0.2	**16/10/2020**	<5.0	<0.30	<5.0	14.4	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH4 0.4	**16/10/2020**	<5.0	<0.30	<5.0	21.5	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH5 0.2	**16/10/2020**	<5.0	<0.30	<5.0	<5.0	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH5 0.4	**16/10/2020**	<5.0	<0.30	<5.0	18.6	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH6 0.4	**16/10/2020**	<5.0	<0.30	<5.0	14.6	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH7 0.2	**16/10/2020**	<5.0	<0.30	<5.0	7.9	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH8 0.3	**16/10/2020**	<5.0	<0.30	<5.0	7.4	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH10 0.5	**16/10/2020**	<5.0	<0.30	5.9	44.8	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH11 0.2	**16/10/2020**	<5.0	<0.30	46.3	14.2	-	<10.0	<0.20	45.5	35.4	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH11 0.5	**16/10/2020**	<5.0	<0.30	<5.0	<5.0	-	<10.0	<0.20	<10.0	5.8	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH11 1.0	**16/10/2020**	10.8	<0.30	34.8	<5.0	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH11 2.0	**16/10/2020**	33.3	<0.30	40.2	<5.0	5.58	23.3	<0.20	<10.0	<5.0	<0.5	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH12 0.2	**16/10/2020**	6	<0.30	34	8	-	114.3	<0.20	<10.0	21.4	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH12 0.5	**16/10/2020**	9.1	<0.30	37.7	<5.0	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH12 1.0	**16/10/2020**	<5.0	<0.30	16.8	<5.0	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH13 0.2	**16/10/2020**	6.5	<0.30	20.5	13.8	-	127.1	0.78	<10.0	45.7	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH13 0.5	**16/10/2020**	<5.0	<0.30	8.3	<5.0	-	17.3	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH13 1.0	**16/10/2020**	9.1	<0.30	37.8	<5.0	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH13 1.5	**16/10/2020**	21.9	<0.30	33.3	<5.0	-	32.5	0.85	<10.0	34.8	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH14 0.3	**16/10/2020**	<5.0	<0.30	<5.0	14.8	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH14 1.0	**16/10/2020**	<5.0	<0.30	<5.0	<5.0	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH14 2.0	**16/10/2020**	12.7	<0.30	<5.0	7.9	3.93	<10.0	<0.20	<10.0	<5.0	<0.5	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH15 0.3	**16/10/2020**	<5.0	<0.30	<5.0	47.1	-	14.5	<0.20	<10.0	37.8	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH16 0.2	**16/10/2020**	<5.0	<0.30	<5.0	27.8	-	<10.0	<0.20	<10.0	5.7	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH18 0.2	**16/10/2020**	5.2	<0.30	18.6	5.4	-	21.5	<0.20	<10.0	9	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH18 1.0	**16/10/2020**	11.7	<0.30	40.9	<5.0	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH18 2.0	**16/10/2020**	6.8	<0.30	30.4	<5.0	-	11.8	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH19 0.2	**16/10/2020**	10.1	<0.30	14.6	17	-	151.9	<0.20	<10.0	171.3	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH19 1.0	**16/10/2020**	11.9	<0.30	62.4	<5.0	-	55.1	<0.20	<10.0	28.2	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH19 1.7	**16/10/2020**	13.7	<0.30	42.1	<5.0	-	17.7	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH20 0.5	**16/10/2020**	39.5	<0.30	11.4	10.8	-	83	<0.20	<10.0	95.5	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH20 1.0	**16/10/2020**	17.1	<0.30	6.9	5.5	-	43.7	<0.20	<10.0	48.2	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH20 2.0	**16/10/2020**	43.8	<0.30	21.7	112.4	-	93.2	<0.20	<10.0	127.5	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH20 3.0	**16/10/2020**	<5.0	<0.30	6.6	<5.0	-	35	<0.20	<10.0	32.9	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH20 4.0	**16/10/2020**	8.3	<0.30	17.3	<5.0	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BH20 5.0	**16/10/2020**	<5.0	<0.30	<5.0	<5.0	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BR1	**16/10/2020**	24.2	<0.30	33.1	<5.0	-	18.2	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
BR2	**16/10/2020**	<5.0	<0.30	7.4	55	-	<10.0	<0.20	<10.0	<5.0	-	<0.10	<0.10	<0.10	-	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	-
SR1	**16/10/2020**	7	<1	42	<5	-	23	<0.1	<2	<5	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
SR2	**16/10/2020**	<5	<1	5	35	-	10	<0.1	<2	<5	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
Statistics																							
Number of Results		**44**	**44**	**44**	**44**	**2**	**44**	**44**	**44**	**44**	**2**	**44**	**44**	**44**	**2**	**44**	**2**	**44**	**44**	**44**	**44**	**44**	**2**
Number of Detects		**22**	**0**	**26**	**24**	**2**	**18**	**1**	**1**	**16**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration		**<5**	**<0.3**	**<5**	**<5**	**3.93**	**<10**	**<0.1**	**<2**	**<5**	**<0.5**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.1**	**<0.05**
Maximum Concentration		**43.8**	**<1**	**62.4**	**112.4**	**5.58**	**151.9**	**0.78**	**45.5**	**171.3**	**<0.5**	**<0.1**	**<0.1**	**<0.1**	**<0.05**	**<0.1**	**<0.05**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.2**	**<0.05**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)

		ne Pesticides												Organophosphorous Pesticides									
		Dieldrin	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																							
Direct Contact – HSL Intrusive Maintenance Worker																							
Direct Contact – HSL B																							
NSW 2014 General Solid Waste CT1 (No Leaching)			60															4					
NSW 2014 General Solid Waste SCC1 (with leached)			3															7.5					
NSW 2014 Restricted Solid Waste CT2 (No Leaching)			240															16					
NSW 2014 Restricted Solid Waste SCC2 (with leached)			432															30					
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m																							
Ecological Investigation /Screening Levels for Urban residential / public open space																							
NEPM 2013 Table 1A(1) HILs Res B Soil			400				20				10		500					340					
Field ID	**Date**																						
BH1 0.4	**14/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH2 0.3	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH3 0.2	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH3 0.4	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH4 0.2	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH4 0.4	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH5 0.2	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH5 0.4	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH6 0.4	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH7 0.2	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH8 0.3	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH10 0.5	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH11 0.2	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH11 0.5	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH11 1.0	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH11 2.0	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH12 0.2	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH12 0.5	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH12 1.0	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH13 0.2	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH13 0.5	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH13 1.0	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH13 1.5	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH14 0.3	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH14 1.0	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH14 2.0	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH15 0.3	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH16 0.2	**16/10/2020**	0.1	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH18 0.2	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH18 1.0	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH18 2.0	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH19 0.2	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH19 1.0	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH19 1.7	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH20 0.5	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH20 1.0	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH20 2.0	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH20 3.0	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH20 4.0	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BH20 5.0	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BR1	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
BR2	**16/10/2020**	<0.10	-	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	-	-	<0.10	<0.10	<0.10	-	-	-
SR1	**16/10/2020**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SR2	**16/10/2020**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Statistics																							
Number of Results		**44**	**2**	**44**	**44**	**44**	**44**	**44**	**44**	**44**	**44**	**44**	**44**	**2**	**2**	**2**	**2**	**44**	**44**	**44**	**2**	**2**	**2**
Number of Detects		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration		**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.1**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**
Maximum Concentration		**<0.1**	**<0.05**	**<0.2**	**<0.2**	**<0.1**	**<0.2**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.2**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.1**	**<0.1**	**<0.1**	**<0.05**	**<0.05**	**<0.05**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)

									PAH															
		Ethoprop	Fenthion	Malathion	Methyl parathion	Monocrotophos	Prothiofos	Ronnel	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.1	0.05	0.05	0.1	0.2	0.05	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																							
Direct Contact – HSL Intrusive Maintenance Worker																							29,000
Direct Contact – HSL B																							2,200
NSW 2014 General Solid Waste CT1 (No Leaching)													0.8										
NSW 2014 General Solid Waste SCC1 (with leached)													10										
NSW 2014 Restricted Solid Waste CT2 (No Leaching)													3.2										
NSW 2014 Restricted Solid Waste SCC2 (with leached)													23										
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m																							3
Ecological Investigation /Screening Levels for Urban residential / public open space													0.7										370
NEPM 2013 Table 1A(1) HILs Res B Soil																							
Field ID	**Date**																						
BH1 0.4	**14/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH2 0.3	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH3 0.2	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH3 0.4	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH4 0.2	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH4 0.4	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH5 0.2	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH5 0.4	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH6 0.4	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH7 0.2	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH8 0.3	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH10 0.5	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH11 0.2	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH11 0.5	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH11 1.0	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH11 2.0	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH12 0.2	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH12 0.5	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH12 1.0	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH13 0.2	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	0.34	0.49	0.54	-	0.33	<0.30	0.42	<0.30	0.72	<0.30	<0.30	<0.30
BH13 0.5	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH13 1.0	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH13 1.5	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH14 0.3	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH14 1.0	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH14 2.0	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH15 0.3	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH16 0.2	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH18 0.2	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH18 1.0	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH18 2.0	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH19 0.2	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	0.44	0.48	0.6	0.57	-	0.36	<0.30	0.56	<0.30	1.28	<0.30	<0.30	<0.30
BH19 1.0	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH19 1.7	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH20 0.5	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH20 1.0	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH20 2.0	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH20 3.0	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	0.3	0.3	0.36	-	<0.30	0.5	<0.30	<0.30	0.65	<0.30	<0.30	<0.30
BH20 4.0	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BH20 5.0	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BR1	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
BR2	**16/10/2020**	<0.10	-	-	<0.10	-	-	<0.10	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
SR1	**16/10/2020**	-	<0.05	<0.05	<0.2	<0.2	<0.05	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SR2	**16/10/2020**	-	<0.05	<0.05	<0.2	<0.2	<0.05	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Statistics																							
Number of Results		**42**	**2**	**2**	**44**	**2**	**2**	**42**	**44**	**44**	**44**	**44**	**44**	**42**	**2**	**44**	**44**	**44**	**44**	**44**	**44**	**44**	**44**
Number of Detects		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**3**	**3**	**0**	**2**	**1**	**2**	**0**	**3**	**0**	**0**	**0**
Minimum Concentration		**<0.1**	**<0.05**	**<0.05**	**<0.1**	**<0.2**	**<0.05**	**<0.1**	**<0.3**	**<0.3**	**<0.3**	**0.3**	**0.3**	**<0.3**	**<0.5**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**
Maximum Concentration		**<0.1**	**<0.05**	**<0.05**	**<0.2**	**<0.2**	**<0.05**	**<0.1**	**<0.5**	**<0.5**	**0.44**	**0.48**	**0.6**	**0.57**	**<0.5**	**<0.5**	**0.5**	**0.56**	**<0.5**	**1.28**	**<0.5**	**<0.5**	**<1**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)

						PCBs								Pesticides					Solvents				
		Phenanthrene	Pyrene	PAHs (Sum of total)	PAHs (Sum of positives)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	DEF	Demeton-S-methyl	Fenamiphos	Parathion	Pirimphos-ethyl	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Carbon disulfide	Vinyl acetate
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.3	0.3	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.05	0.05	0.2	0.05	5	5	5	0.5	5
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																							
Direct Contact – HSL Intrusive Maintenance Worker																							
Direct Contact – HSL B																							
NSW 2014 General Solid Waste CT1 (No Leaching)				200									50						4,000				
NSW 2014 General Solid Waste SCC1 (with leached)				200									50						7,200				
NSW 2014 Restricted Solid Waste CT2 (No Leaching)				800									50						16,000				
NSW 2014 Restricted Solid Waste SCC2 (with leached)				800									50						28,800				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m																							
Ecological Investigation /Screening Levels for Urban residential / public open space																							
NEPM 2013 Table 1A(1) HILs Res B Soil				400									1										
Field ID	**Date**																						
BH1 0.4	**14/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	<5	<5	<5	<0.5	<5
BH2 0.3	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH3 0.2	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH3 0.4	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH4 0.2	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH4 0.4	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	<5	<5	<5	<0.5	<5
BH5 0.2	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH5 0.4	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH6 0.4	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH7 0.2	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH8 0.3	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	<5	<5	<5	<0.5	<5
BH10 0.5	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH11 0.2	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH11 0.5	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH11 1.0	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH11 2.0	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH12 0.2	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	<5	<5	<5	<0.5	<5
BH12 0.5	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH12 1.0	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH13 0.2	**16/10/2020**	<0.30	0.73	-	3.57	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH13 0.5	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	<5	<5	<5	<0.5	<5
BH13 1.0	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH13 1.5	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH14 0.3	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH14 1.0	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH14 2.0	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH15 0.3	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	<5	<5	<5	<0.5	<5
BH16 0.2	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH18 0.2	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	<5	<5	<5	<0.5	<5
BH18 1.0	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH18 2.0	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH19 0.2	**16/10/2020**	1.61	1.18	-	7.08	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	<5	<5	<5	<0.5	<5
BH19 1.0	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH19 1.7	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH20 0.5	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH20 1.0	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH20 2.0	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH20 3.0	**16/10/2020**	0.36	0.65	-	3.12	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH20 4.0	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BH20 5.0	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BR1	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
BR2	**16/10/2020**	<0.30	<0.30	-	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.10	-	-	-	-	-	-	-	-	-
SR1	**16/10/2020**	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.1	-	<0.05	<0.05	<0.2	<0.05	-	-	-	-	-
SR2	**16/10/2020**	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.1	-	<0.05	<0.05	<0.2	<0.05	-	-	-	-	-
Statistics																							
Number of Results		**44**	**44**	**2**	**42**	**44**	**44**	**44**	**44**	**44**	**44**	**44**	**2**	**42**	**2**	**2**	**2**	**2**	**8**	**8**	**8**	**8**	**8**
Number of Detects		**2**	**3**	**0**	**42**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration		**<0.3**	**<0.3**	**<0.5**	**0**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.1**	**<0.1**	**<0.05**	**<0.05**	**<0.2**	**<0.05**	**<5**	**<5**	**<5**	**<0.5**	**<5**
Maximum Concentration		**1.61**	**1.18**	**<0.5**	**7.08**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.1**	**<0.1**	**<0.05**	**<0.05**	**<0.2**	**<0.05**	**<5**	**<5**	**<5**	**<0.5**	**<5**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil
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NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)

		TPH					VOCs		
		C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	Pentachloroethane
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		10	50	100	100	50	0.5	0.5	0.5
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil									
Direct Contact – HSL Intrusive Maintenance Worker									
Direct Contact – HSL B									
NSW 2014 General Solid Waste CT1 (No Leaching)		650				10,000			
NSW 2014 General Solid Waste SCC1 (with leached)		650				10,000			
NSW 2014 Restricted Solid Waste CT2 (No Leaching)		2,600				40,000			
NSW 2014 Restricted Solid Waste SCC2 (with leached)		2,600				40,000			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m									
Ecological Investigation /Screening Levels for Urban residential / public open space									
NEPM 2013 Table 1A(1) HILs Res B Soil									
Field ID	**Date**								
BH1 0.4	**14/10/2020**	<25	<50	<100	<100	0	<0.5	<0.5	<0.5
BH2 0.3	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH3 0.2	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH3 0.4	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH4 0.2	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH4 0.4	**16/10/2020**	<25	<50	<100	<100	0	<0.5	<0.5	<0.5
BH5 0.2	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH5 0.4	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH6 0.4	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH7 0.2	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH8 0.3	**16/10/2020**	<25	<50	<100	<100	0	<0.5	<0.5	<0.5
BH10 0.5	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH11 0.2	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH11 0.5	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH11 1.0	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH11 2.0	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH12 0.2	**16/10/2020**	<25	<50	<100	<100	0	<0.5	<0.5	<0.5
BH12 0.5	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH12 1.0	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH13 0.2	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH13 0.5	**16/10/2020**	<25	<50	<100	<100	0	<0.5	<0.5	<0.5
BH13 1.0	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH13 1.5	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH14 0.3	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH14 1.0	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH14 2.0	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH15 0.3	**16/10/2020**	<25	<50	<100	<100	0	<0.5	<0.5	<0.5
BH16 0.2	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH18 0.2	**16/10/2020**	<25	<50	<100	<100	0	<0.5	<0.5	<0.5
BH18 1.0	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH18 2.0	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH19 0.2	**16/10/2020**	<25	<50	<100	<100	0	<0.5	<0.5	<0.5
BH19 1.0	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH19 1.7	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH20 0.5	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH20 1.0	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH20 2.0	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH20 3.0	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH20 4.0	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BH20 5.0	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BR1	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
BR2	**16/10/2020**	<25	<50	<100	<100	0	-	-	-
SR1	**16/10/2020**	<10	<50	<100	<100	<50	-	-	-
SR2	**16/10/2020**	<10	<50	<100	<100	<50	-	-	-
Statistics									
Number of Results		**44**	**44**	**44**	**44**	**44**	**8**	**8**	**8**
Number of Detects		**0**	**0**	**0**	**0**	**42**	**0**	**0**	**0**
Minimum Concentration		**<10**	**<50**	**<100**	**<100**	**0**	**<0.5**	**<0.5**	**<0.5**
Maximum Concentration		**<25**	**<50**	**<100**	**<100**	**<50**	**<0.5**	**<0.5**	**<0.5**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)

		BTEX							TRH											
		Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	3&4-Methylphenol (m&p-cresol)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		1	2	2	2	2	2	1	20	20	100	100	100	100	100	2	1	1	1	1
ANZECC 2000 FW 90%		1,300				470												40	200	
ANZECC 2000 FW 95%		950				350												20	160	
ANZECC 2000 FW 99%		600				200												3	120	
ANZECC 2000 MW 90%		900																		
ANZECC 2000 MW 95%		700																		
NEPM 2013 Table 1C GILs, Drinking Water		1	800	300			600											20	200	
NEPM 2013 Table 1C GILs, Fresh Waters		950				350	550											3	120	
NEPM 2013 Table 1C GILs, Marine Waters		500																		
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Silt		4,000 | 5,000 | 5,000								6,000 | 6,000 | 6,000										
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay		5,000 | 5,000 | 5,000																		
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Silt																				
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt		30,000 | 30,000 | 30,000																		
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay		30,000 | 30,000 | 35,000																		
Field ID	**Date**																			
BR1	**23/10/2020**	<1	<2	<2	<2	<2	<2	<1	<20	<20	<100	<100	100	<100	100	<2.0	<1.0	<1.0	<1.0	<1.0
MW1	**23/10/2020**	<1	<2	<2	<2	<2	<2	<1	<20	<20	<100	<100	120	<100	120	<2.0	<1.0	<1.0	<1.0	<1.0
MW2	**23/10/2020**	<1	<2	<2	<2	<2	<2	<1	<20	<20	110	110	160	<100	270	<2.0	<1.0	<1.0	<1.0	<1.0
RS3	**23/10/2020**	<1	<2	<2	<2	<2	<2	<1	<20	<20	<100	<100	<100	<100	<100	<2.0	<1.0	<1.0	<1.0	<1.0
Statistics																				
Maximum Concentration		**<1**	**<2**	**<2**	**<2**	**<2**	**<2**	**<1**	**<20**	**<20**	**110**	**110**	**160**	**<100**	**270**	**<2**	**<1**	**<1**	**<1**	**<1**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

DoE, 2000, ANZECC 2000 slightly-moderately disturbed systems
DoE, 2000, ANZECC 2000 FW 90%
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 FW 99%
DoE, 2000, ANZECC 2000 Irrigation Long Term Trigger Values
DoE, 2000, ANZECC 2000 Irrigation Short Term Trigger Values
DoE, 2000, ANZECC 2000 Livestock DW Low Risk Trigger Values
DoE, 2000, ANZECC 2000 MW 90%
DoE, 2000, ANZECC 2000 MW 95%
DoE, 2000, ANZECC 2000 Recreational water quality and aesthetics

		Phenols																			
		2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenol	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		1	1	1	1	1	2	1	5	5	5	5	5	5	5	5	5	5	5	5	5
ANZECC 2000 FW 90%			630				17	600				7,300									
ANZECC 2000 FW 95%			490				10	320				6,500									
ANZECC 2000 FW 99%			340				3.6	85				5,400									
ANZECC 2000 MW 90%							33	520				5,800									
ANZECC 2000 MW 95%							22	400				1,900									
NEPM 2013 Table 1C GILs, Drinking Water			300				10							30				3			
NEPM 2013 Table 1C GILs, Fresh Waters			340				3.6	320				6,500									
NEPM 2013 Table 1C GILs, Marine Waters							11	400				1,900									
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Silt	4																				
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay	5																				
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Silt																					
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay																					
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt	30,																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay	30,																				
Field ID	**Date**																				
BR1	**23/10/2020**	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MW1	**23/10/2020**	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MW2	**23/10/2020**	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
RS3	**23/10/2020**	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Statistics																					
Maximum Concentration		**<1**	**<1**	**<1**	**<1**	**<1**	**<2**	**<1**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

DoE, 2000, ANZECC 2000 slightly-moderately disturbed systems
DoE, 2000, ANZECC 2000 FW 90%
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 FW 99%
DoE, 2000, ANZECC 2000 Irrigation Long Term Trigger Values
DoE, 2000, ANZECC 2000 Irrigation Short Term Trigger Values
DoE, 2000, ANZECC 2000 Livestock DW Low Risk Trigger Values
DoE, 2000, ANZECC 2000 MW 90%
DoE, 2000, ANZECC 2000 MW 95%
DoE, 2000, ANZECC 2000 Recreational water quality and aesthetics

		Chlorinated Hydrocarbons																			
		Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		5	5	5	5	50	5	50	5	5	5	5	5	5	5	5	50	5	5	5	5
ANZECC 2000 FW 90%																		16	220	200	350
ANZECC 2000 FW 95%																		10	170	160	260
ANZECC 2000 FW 99%																		3	85	120	160
ANZECC 2000 MW 90%																			140		
ANZECC 2000 MW 95%																			80		
NEPM 2013 Table 1C GILs, Drinking Water				3								0.7		50			0.3	30	30	1,500	
NEPM 2013 Table 1C GILs, Fresh Waters																		3	85	160	260
NEPM 2013 Table 1C GILs, Marine Waters																			20		
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Silt	4																				
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay	5																				
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Silt																					
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay																					
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt	30,																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay	30,																				
Field ID	**Date**																				
BR1	**23/10/2020**	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5	<5
MW1	**23/10/2020**	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5	<5
MW2	**23/10/2020**	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5	<5
RS3	**23/10/2020**	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5	<5
Statistics																					
Maximum Concentration		**<5**	**<5**	**<5**	**<5**	**<50**	**<5**	**<50**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<50**	**<5**	**<5**	**<5**	**<5**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

DoE, 2000, ANZECC 2000 slightly-moderately disturbed systems
DoE, 2000, ANZECC 2000 FW 90%
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 FW 99%
DoE, 2000, ANZECC 2000 Irrigation Long Term Trigger Values
DoE, 2000, ANZECC 2000 Irrigation Short Term Trigger Values
DoE, 2000, ANZECC 2000 Livestock DW Low Risk Trigger Values
DoE, 2000, ANZECC 2000 MW 90%
DoE, 2000, ANZECC 2000 MW 95%
DoE, 2000, ANZECC 2000 Recreational water quality and aesthetics

		Halogenated Benzenes						Halogenated Hydrocarbons					Perfluoroalkane Carboxylic Acids					(n:2) Fluorotelomer Sulfonic Acids			
		1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		5	5	5	5	5	0.5	5	50	50	5	50	0.1	0.02	0.02	0.02	0.01	0.05	0.05	0.05	0.05
ANZECC 2000 FW 90%		75																			
ANZECC 2000 FW 95%		60																			
ANZECC 2000 FW 99%		40																			
ANZECC 2000 MW 90%																					
ANZECC 2000 MW 95%																					
NEPM 2013 Table 1C GILs, Drinking Water		40				300			1												
NEPM 2013 Table 1C GILs, Fresh Waters		60																			
NEPM 2013 Table 1C GILs, Marine Waters																					
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Silt	4																				
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay	5																				
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Silt																					
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay																					
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt	30,																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay	30,																				
Field ID	**Date**																				
BR1	**23/10/2020**	<5	<5	<5	<5	<5	<0.5	<5	<50	<50	<5	<50	<0.1	<0.02	<0.02	<0.02	<0.01	<0.05	0.34	<0.05	<0.05
MW1	**23/10/2020**	<5	<5	<5	<5	<5	<0.5	<5	<50	<50	<5	<50	<0.1	<0.02	<0.02	<0.02	<0.01	<0.05	0.10	<0.05	<0.05
MW2	**23/10/2020**	<5	<5	<5	<5	<5	<0.5	<5	<50	<50	<5	<50	<0.1	<0.02	<0.02	<0.02	<0.01	<0.05	0.45	<0.05	<0.05
RS3	**23/10/2020**	<5	<5	<5	<5	<5	<0.5	<5	<50	<50	<5	<50	<0.1	<0.02	<0.02	<0.02	<0.01	<0.05	<0.05	<0.05	<0.05
Statistics																					
Maximum Concentration		**<5**	**<5**	**<5**	**<5**	**<5**	**<0.5**	**<5**	**<50**	**<50**	**<5**	**<50**	**<0.1**	**<0.02**	**<0.02**	**<0.02**	**<0.01**	**<0.05**	**0.45**	**<0.05**	**<0.05**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

DoE, 2000, ANZECC 2000 slightly-moderately disturbed systems
DoE, 2000, ANZECC 2000 FW 90%
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 FW 99%
DoE, 2000, ANZECC 2000 Irrigation Long Term Trigger Values
DoE, 2000, ANZECC 2000 Irrigation Short Term Trigger Values
DoE, 2000, ANZECC 2000 Livestock DW Low Risk Trigger Values
DoE, 2000, ANZECC 2000 MW 90%
DoE, 2000, ANZECC 2000 MW 95%
DoE, 2000, ANZECC 2000 Recreational water quality and aesthetics

		Perfluoroalkane Sulfonic Acids			PFAS		MAH									Metals					
		Perfluorobutane sulfonic acid (PFBS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	Sum of PFAS (WA DER List)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Arsenic (filtered)	Cadmium (filtered)	Chromium (III+VI) (filtered)	Copper (filtered)	Lead (filtered)	Mercury (filtered)
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL		0.02	0.02	0.01	0.01	0.01	5	5	5	5	5	5	5	5	5	0.001	0.0001	0.001	0.001	0.001	0.0001
ANZECC 2000 FW 90%																	0.0004		0.0018	0.0056	0.0019
ANZECC 2000 FW 95%																	0.0002		0.0014	0.0034	0.0006
ANZECC 2000 FW 99%																	0.00006		0.001	0.001	0.00006
ANZECC 2000 MW 90%																	0.014		0.003	0.0066	0.0007
ANZECC 2000 MW 95%																	0.0055		0.0013	0.0044	0.0004
NEPM 2013 Table 1C GILs, Drinking Water														30		0.01	0.002		2	0.01	0.001
NEPM 2013 Table 1C GILs, Fresh Waters																	0.0002		0.0014	0.0034	0.00006
NEPM 2013 Table 1C GILs, Marine Waters																	0.0007		0.0013	0.0044	0.0001
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Silt	4																				
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay	5																				
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Silt																					
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay																					
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt	30,																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay	30,																				
Field ID	**Date**																				
BR1	**23/10/2020**	<0.02	<0.02	<0.01	<0.01	0.34	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.001	<0.0001	<0.001	0.003	<0.001	<0.0001
MW1	**23/10/2020**	<0.02	<0.02	<0.01	<0.01	0.10	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.001	<0.0001	<0.001	0.008	0.002	<0.0001
MW2	**23/10/2020**	<0.02	<0.02	<0.01	<0.01	0.45	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.001	<0.0001	<0.001	0.007	<0.001	<0.0001
RS3	**23/10/2020**	<0.02	<0.02	<0.01	<0.01	<0.01	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001
Statistics																					
Maximum Concentration		**<0.02**	**<0.02**	**<0.01**	**<0.01**	**0.45**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**0.001**	**<0.0001**	**<0.001**	**0.008**	**0.002**	**<0.0001**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

DoE, 2000, ANZECC 2000 slightly-moderately disturbed systems
DoE, 2000, ANZECC 2000 FW 90%
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 FW 99%
DoE, 2000, ANZECC 2000 Irrigation Long Term Trigger Values
DoE, 2000, ANZECC 2000 Irrigation Short Term Trigger Values
DoE, 2000, ANZECC 2000 Livestock DW Low Risk Trigger Values
DoE, 2000, ANZECC 2000 MW 90%
DoE, 2000, ANZECC 2000 MW 95%
DoE, 2000, ANZECC 2000 Recreational water quality and aesthetics

				Organochlorine Pesticides																	
	Nickel (filtered)	Zinc (filtered)	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde
	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.001	0.005	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5
ANZECC 2000 FW 90%	0.013	0.015						0.14					0.02						0.04	
ANZECC 2000 FW 95%	0.011	0.008						0.08					0.01						0.02	
ANZECC 2000 FW 99%	0.008	0.0024						0.03					0.006						0.01	
ANZECC 2000 MW 90%	0.2	0.023																	0.01	
ANZECC 2000 MW 95%	0.07	0.015																	0.008	
NEPM 2013 Table 1C GILs, Drinking Water	0.02					0.3		2					9							
NEPM 2013 Table 1C GILs, Fresh Waters	0.011	0.008						0.03					0.006						0.01	
NEPM 2013 Table 1C GILs, Marine Waters	0.007	0.015																	0.004	
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Silt 4																				
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay 5																				
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Silt																				
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt 30,																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay 30,																				
Field ID **Date**																				
BR1 **23/10/2020**	<0.001	0.033	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW1 **23/10/2020**	0.007	0.021	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW2 **23/10/2020**	0.002	0.027	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
RS3 **23/10/2020**	<0.001	<0.005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Statistics																				
Maximum Concentration	**0.007**	**0.033**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

DoE, 2000, ANZECC 2000 slightly-moderately disturbed systems
DoE, 2000, ANZECC 2000 FW 90%
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 FW 99%
DoE, 2000, ANZECC 2000 Irrigation Long Term Trigger Values
DoE, 2000, ANZECC 2000 Irrigation Short Term Trigger Values
DoE, 2000, ANZECC 2000 Livestock DW Low Risk Trigger Values
DoE, 2000, ANZECC 2000 MW 90%
DoE, 2000, ANZECC 2000 MW 95%
DoE, 2000, ANZECC 2000 Recreational water quality and aesthetics

							Organophosphorous Pesticides														
		Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Methyl parathion	Monocrotophos	Prothiofos
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		0.5	0.5	0.5	0.5	2	0.5	0.5	0.5	0.5	0.5	0.0005	0.5	0.5	0.5	0.5	0.5	0.5	2	2	0.5
ANZECC 2000 FW 90%			0.4	0.25			0.05				0.11		0.2		0.2			0.2			
ANZECC 2000 FW 95%			0.2	0.09			0.02				0.01		0.01		0.15			0.05			
ANZECC 2000 FW 99%			0.07	0.01			0.01				0.00004		0.00003		0.1			0.002			
ANZECC 2000 MW 90%											0.04										
ANZECC 2000 MW 95%											0.009										
NEPM 2013 Table 1C GILs, Drinking Water			10		0.3		30			2	10		4	5	7	4	7	70	0.7		
NEPM 2013 Table 1C GILs, Fresh Waters			0.2	0.01							0.01		0.01		0.15			0.05			
NEPM 2013 Table 1C GILs, Marine Waters											0.009										
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Silt	4																				
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay	5																				
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Silt																					
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay																					
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt	30,																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay	30,																				
Field ID	**Date**																				
BR1	**23/10/2020**	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.0005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5
MW1	**23/10/2020**	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.0005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5
MW2	**23/10/2020**	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.0005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5
RS3	**23/10/2020**	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.0005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5
Statistics																					
Maximum Concentration		**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.0005**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**	**<2**	**<0.5**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

DoE, 2000, ANZECC 2000 slightly-moderately disturbed systems
DoE, 2000, ANZECC 2000 FW 90%
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 FW 99%
DoE, 2000, ANZECC 2000 Irrigation Long Term Trigger Values
DoE, 2000, ANZECC 2000 Irrigation Short Term Trigger Values
DoE, 2000, ANZECC 2000 Livestock DW Low Risk Trigger Values
DoE, 2000, ANZECC 2000 MW 90%
DoE, 2000, ANZECC 2000 MW 95%
DoE, 2000, ANZECC 2000 Recreational water quality and aesthetics

		PAH																	PCBs	Pesti	
		Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	PCBs (Sum of total)	Demeton-S-methyl	Fenamiphos
		µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		1	1	1	1	0.5	0.001	1	1	1	1	1	1	1	1	1	1	0.5	1	0.5	0.5
ANZECC 2000 FW 90%															37						
ANZECC 2000 FW 95%															16						
ANZECC 2000 FW 99%															2.5						
ANZECC 2000 MW 90%															90						
ANZECC 2000 MW 95%															70						
NEPM 2013 Table 1C GILs, Drinking Water						0.01															0.5
NEPM 2013 Table 1C GILs, Fresh Waters															16						
NEPM 2013 Table 1C GILs, Marine Waters															50						
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Silt	4																				
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay	5																				
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Silt																					
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay																					
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt	30,																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay	30,																				
Field ID	**Date**																				
BR1	**23/10/2020**	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<1	<0.5	<0.5
MW1	**23/10/2020**	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<1	<0.5	<0.5
MW2	**23/10/2020**	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<1	<0.5	<0.5
RS3	**23/10/2020**	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<1	<0.5	<0.5
Statistics																					
Maximum Concentration		**<1**	**<1**	**<1**	**<1**	**<0.5**	**<0.001**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<0.5**	**<1**	**<0.5**	**<0.5**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

DoE, 2000, ANZECC 2000 slightly-moderately disturbed systems
DoE, 2000, ANZECC 2000 FW 90%
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 FW 99%
DoE, 2000, ANZECC 2000 Irrigation Long Term Trigger Values
DoE, 2000, ANZECC 2000 Irrigation Short Term Trigger Values
DoE, 2000, ANZECC 2000 Livestock DW Low Risk Trigger Values
DoE, 2000, ANZECC 2000 MW 90%
DoE, 2000, ANZECC 2000 MW 95%
DoE, 2000, ANZECC 2000 Recreational water quality and aesthetics

		Pesticides		Solvents					TPH					VOCs		
		Parathion	Pirimphos-ethyl	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Carbon disulfide	Vinyl acetate	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	Pentachloroethane
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		2	0.5	50	50	50	5	50	20	50	100	50	50	5	5	5
ANZECC 2000 FW 90%		0.01														
ANZECC 2000 FW 95%		0.004														
ANZECC 2000 FW 99%		0.0007														
ANZECC 2000 MW 90%																
ANZECC 2000 MW 95%																
NEPM 2013 Table 1C GILs, Drinking Water		20														
NEPM 2013 Table 1C GILs, Fresh Waters		0.004														
NEPM 2013 Table 1C GILs, Marine Waters																
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Silt	4															
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay	5															
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Silt																
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay																
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt	30,															
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay	30,															
Field ID	**Date**															
BR1	**23/10/2020**	<2.0	<0.5	<50	<50	<50	<5	<50	<20	<50	140	<50	140	<5	<5	<5
MW1	**23/10/2020**	<2.0	<0.5	<50	<50	<50	<5	<50	<20	<50	120	<50	120	<5	<5	<5
MW2	**23/10/2020**	<2.0	<0.5	<50	<50	<50	<5	<50	<20	<50	220	<50	220	<5	<5	<5
RS3	**23/10/2020**	<2.0	<0.5	<50	<50	<50	<5	<50	<20	<50	<100	<50	<50	<5	<5	<5
Statistics																
Maximum Concentration		**<2**	**<0.5**	**<50**	**<50**	**<50**	**<5**	**<50**	**<20**	**<50**	**220**	**<50**	**220**	**<5**	**<5**	**<5**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

DoE, 2000, ANZECC 2000 slightly-moderately disturbed systems
DoE, 2000, ANZECC 2000 FW 90%
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 FW 99%
DoE, 2000, ANZECC 2000 Irrigation Long Term Trigger Values
DoE, 2000, ANZECC 2000 Irrigation Short Term Trigger Values
DoE, 2000, ANZECC 2000 Livestock DW Low Risk Trigger Values
DoE, 2000, ANZECC 2000 MW 90%
DoE, 2000, ANZECC 2000 MW 95%
DoE, 2000, ANZECC 2000 Recreational water quality and aesthetics

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.15/11/2020 3:35:03 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Lead

General Statistics

Total Number of Observations	21	Number of Distinct Observations	11
		Number of Missing Observations	0
Minimum	10	Mean	40.58
Maximum	151.9	Median	10
SD	45.46	Std. Error of Mean	9.919
Coefficient of Variation	1.12	Skewness	1.365

Normal GOF Test

Shapiro Wilk Test Statistic	0.726	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.908	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.282	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.188	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	57.68	95% Adjusted-CLT UCL (Chen-1995)	60.05
		95% Modified-t UCL (Johnson-1978)	58.18

Gamma GOF Test

A-D Test Statistic	2.175	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.769	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.314	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.195	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.039	k star (bias corrected MLE)	0.922
Theta hat (MLE)	39.06	Theta star (bias corrected MLE)	44
nu hat (MLE)	43.63	nu star (bias corrected)	38.73
MLE Mean (bias corrected)	40.58	MLE Sd (bias corrected)	42.25
		Approximate Chi Square Value (0.05)	25.48
Adjusted Level of Significance	0.0383	Adjusted Chi Square Value	24.65

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	61.69	95% Adjusted Gamma UCL (use when n<50)	63.75

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.773	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.908	Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.316	**Lilliefors Lognormal GOF Test**

55	5% Lilliefors Critical Value					0.188	Data Not Lognormal at 5% Significance Level					
56	**Data Not Lognormal at 5% Significance Level**											
57												
58	**Lognormal Statistics**											
59	Minimum of Logged Data					2.303	Mean of logged Data					3.15
60	Maximum of Logged Data					5.023	SD of logged Data					1.042
61												
62	**Assuming Lognormal Distribution**											
63	95% H-UCL					74	90% Chebyshev (MVUE) UCL					68.55
64	95% Chebyshev (MVUE) UCL					82.07	97.5% Chebyshev (MVUE) UCL					100.8
65	99% Chebyshev (MVUE) UCL					137.7						
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data do not follow a Discernible Distribution (0.05)**											
69												
70	**Nonparametric Distribution Free UCLs**											
71	95% CLT UCL					56.89	95% Jackknife UCL					57.68
72	95% Standard Bootstrap UCL					56.31	95% Bootstrap-t UCL					62.33
73	95% Hall's Bootstrap UCL					57.53	95% Percentile Bootstrap UCL					57.45
74	95% BCA Bootstrap UCL					59.52						
75	90% Chebyshev(Mean, Sd) UCL					70.33	95% Chebyshev(Mean, Sd) UCL					83.81
76	97.5% Chebyshev(Mean, Sd) UCL					102.5	99% Chebyshev(Mean, Sd) UCL					139.3
77												
78	**Suggested UCL to Use**											
79	95% Chebyshev (Mean, Sd) UCL					83.81						
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												
86												
87	**Nickel**											
88												
89	**General Statistics**											
90	Total Number of Observations					21	Number of Distinct Observations					2
91							Number of Missing Observations					0
92	Minimum					10	Mean					11.69
93	Maximum					45.5	Median					10
94	SD					7.747	Std. Error of Mean					1.69
95	Coefficient of Variation					0.663	Skewness					4.583
96												
97	**Normal GOF Test**											
98	Shapiro Wilk Test Statistic					0.226	**Shapiro Wilk GOF Test**					
99	5% Shapiro Wilk Critical Value					0.908	Data Not Normal at 5% Significance Level					
100	Lilliefors Test Statistic					0.539	**Lilliefors GOF Test**					
101	5% Lilliefors Critical Value					0.188	Data Not Normal at 5% Significance Level					
102	**Data Not Normal at 5% Significance Level**											
103												
104	**Assuming Normal Distribution**											
105	**95% Normal UCL**						**95% UCLs (Adjusted for Skewness)**					
106	95% Student's-t UCL					14.61	95% Adjusted-CLT UCL (Chen-1995)					16.28
107							95% Modified-t UCL (Johnson-1978)					14.89
108												

109	**Gamma GOF Test**											
110	A-D Test Statistic				7.677	**Anderson-Darling Gamma GOF Test**						
111	5% A-D Critical Value				0.745	Data Not Gamma Distributed at 5% Significance Level						
112	K-S Test Statistic				0.547	**Kolmogorov-Smirnov Gamma GOF Test**						
113	5% K-S Critical Value				0.19	Data Not Gamma Distributed at 5% Significance Level						
114	**Data Not Gamma Distributed at 5% Significance Level**											
115												
116	**Gamma Statistics**											
117	k hat (MLE)				6.111	k star (bias corrected MLE)						5.27
118	Theta hat (MLE)				1.913	Theta star (bias corrected MLE)						2.218
119	nu hat (MLE)				256.7	nu star (bias corrected)						221.3
120	MLE Mean (bias corrected)				11.69	MLE Sd (bias corrected)						5.092
121						Approximate Chi Square Value (0.05)						187.9
122	Adjusted Level of Significance				0.0383	Adjusted Chi Square Value						185.5
123												
124	**Assuming Gamma Distribution**											
125	95% Approximate Gamma UCL (use when n>=50))				13.77	95% Adjusted Gamma UCL (use when n<50)						13.95
126												
127	**Lognormal GOF Test**											
128	Shapiro Wilk Test Statistic				0.226	**Shapiro Wilk Lognormal GOF Test**						
129	5% Shapiro Wilk Critical Value				0.908	Data Not Lognormal at 5% Significance Level						
130	Lilliefors Test Statistic				0.539	**Lilliefors Lognormal GOF Test**						
131	5% Lilliefors Critical Value				0.188	Data Not Lognormal at 5% Significance Level						
132	**Data Not Lognormal at 5% Significance Level**											
133												
134	**Lognormal Statistics**											
135	Minimum of Logged Data				2.303	Mean of logged Data						2.375
136	Maximum of Logged Data				3.818	SD of logged Data						0.331
137												
138	**Assuming Lognormal Distribution**											
139	95% H-UCL				13.02	90% Chebyshev (MVUE) UCL						13.81
140	95% Chebyshev (MVUE) UCL				14.94	97.5% Chebyshev (MVUE) UCL						16.51
141	99% Chebyshev (MVUE) UCL				19.59							
142												
143	**Nonparametric Distribution Free UCL Statistics**											
144	**Data do not follow a Discernible Distribution (0.05)**											
145												
146	**Nonparametric Distribution Free UCLs**											
147	95% CLT UCL				14.47	95% Jackknife UCL						N/A
148	95% Standard Bootstrap UCL				N/A	95% Bootstrap-t UCL						N/A
149	95% Hall's Bootstrap UCL				N/A	95% Percentile Bootstrap UCL						N/A
150	95% BCA Bootstrap UCL				N/A							
151	90% Chebyshev(Mean, Sd) UCL				16.76	95% Chebyshev(Mean, Sd) UCL						19.06
152	97.5% Chebyshev(Mean, Sd) UCL				22.25	99% Chebyshev(Mean, Sd) UCL						28.51
153												
154	**Suggested UCL to Use**											
155	95% Student's-t UCL				14.61	or 95% Modified-t UCL						14.89
156												
157	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
158	Recommendations are based upon data size, data distribution, and skewness.											
159	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
160	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
161												

Appendix IV – Supporting Documents

SUBSURFACE UTILITY INVESTIGATION REPORT

FOR

ADE

COMPLIED BY: W.W.

INVESTIGATION DATE: 12-Oct-2020

DIAL BEFORE YOU DIG CERTIFIED LOCATOR

Astrea Pty Ltd/ ABN 17 637 658 621
72 Melbourne Rd, Riverstone NSW 2765
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SUBSURFACE UTILITY INVESTIGATION REPORT

CLIENT:	ADE	DATE: 12-Oct-2020
SITE CONTACT:	Syed	MOBILE: 0405752313
EMAIL:	Syed.shah@ade.group	
WORK LOCATION:	2 Cavill Ave Ashfield	

INVESTIGATION BY:	W.W.	DBYD REF. NO: 20404309
SITE SPECIFIC PLANS:	N.A.	DBYD ENQUIRY DATE: 11-Oct-2020
SWMS NO:	COMPLETED: YES Ă NO ☐	
CLIENT SITE REVIEW:	COMPLETED: YES Ă NO ☐	ASTREA SITE SUPERVISOR: W.W.

LOCATING QUALITY LEVELS PURSUANT TO AS5488-2013	
Quality Level A **QL-A**	*Visualisation / Confirmation of a Service, position and depth, by non- destructive digging (NDD) methods or points of entry to pits or manholes. Recommended Quality Level prior to construction or excavation.*
Quality Level B **QL-B**	*Locating of Services using Radio Detection methods. Acceptable range of accuracy for Quality Level B is 300mm for position and 500mm in Depth.*
Quality Level C **QL-C**	*Services Marked out using only surface features in the field. Such surface features include, Hydrants, Gas Markers, Pits etc. No indication of service location or depth can be attained from Quality Level C.*
Quality Level D **QL-D**	*Services marked up using DBYD plans only. Offsets on plans can be used to obtain such indication of services in field but no indication of service confirmation can be given.*

SERVICES LOCATED

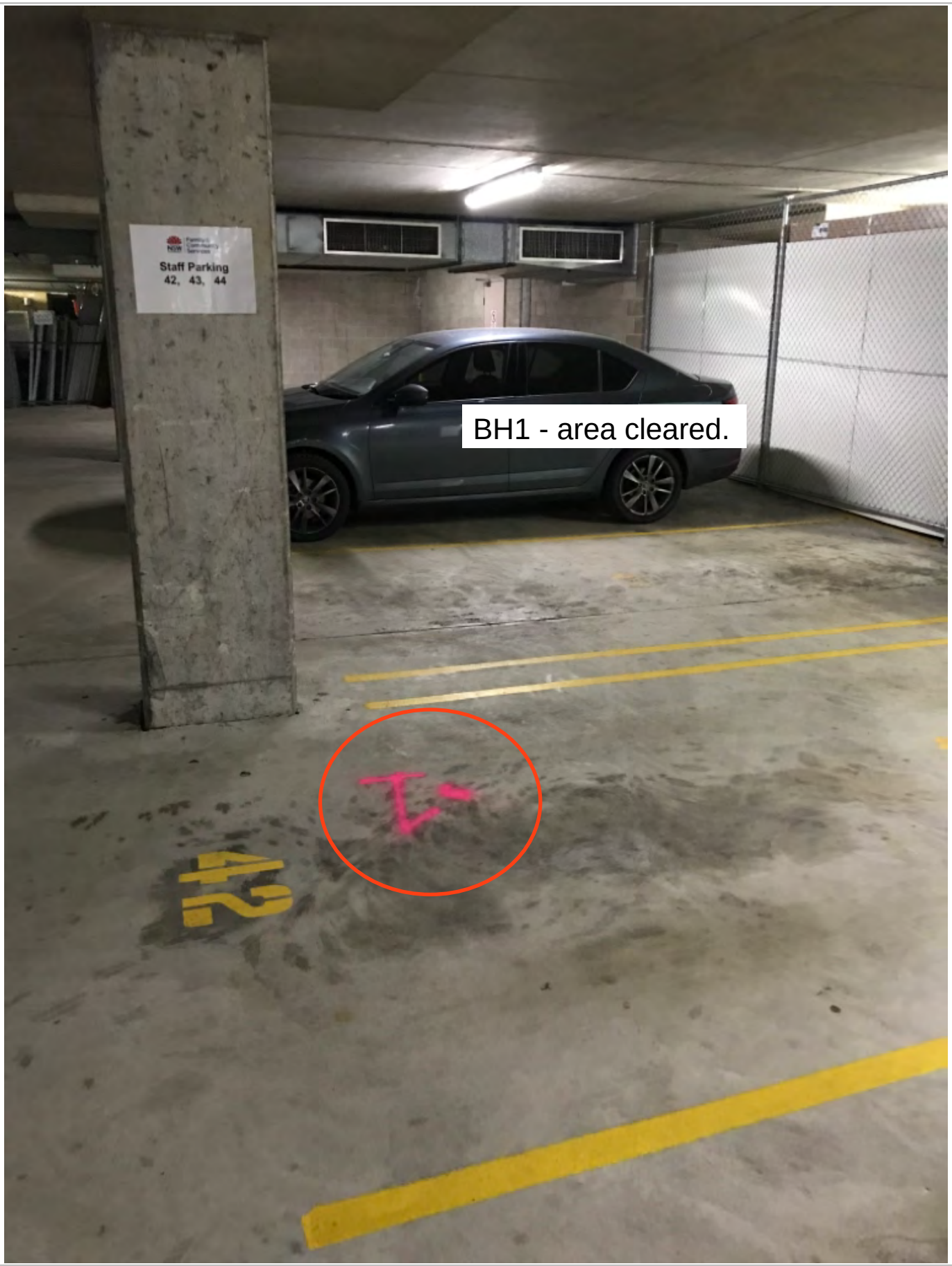
SERVICE:	QUALITY LEVEL:	COMMENTS:
TELECOMMUNICATIONS	QL-A ☐ QL-B Ă QL-C ☐ QL-D ☐	As per DBYD
OPTICAL FIBRE	QL-A ☐ QL-B Ă QL-C ☐ QL-D ☐	Rodded to confirm not in scope.
ELECTRICITY	QL-A ☐ QL-B Ă QL-C ☐ QL-D ☐	As per DBYD and car park lights
WATER	QL-A ☐ QL-B Ă QL-C ☐ QL-D ☐	As per DBYD and fire service in property
GAS	QL-A ☐ QL-B ☐ QL-C ☐ QL-D Ă	As per DBYD
SEWER	QL-A ☐ QL-B ☐ QL-C ☐ QL-D Ă	As per DBYD
STORMWATER	QL-A Ă QL-B ☐ QL-C Ă QL-D ☐	QLA at pits
UNKNOWN	QL-A ☐ QL-B ☐ QL-C ☐ QL-D Ă	GPR

Additional Comments

Optus pit FOW not in scope unable to rod.
Pipe networks rodded to blockage - not in scope.

Passive scans completed.
Inducon s weeps completed.
GPR scans completed where able.

Poor signal in areas due to reinforced concrete, parcularly in c ar park. Recommend to NDD or vacuum excavaon t o confirm the locaon and dep ths of all services and clearances.



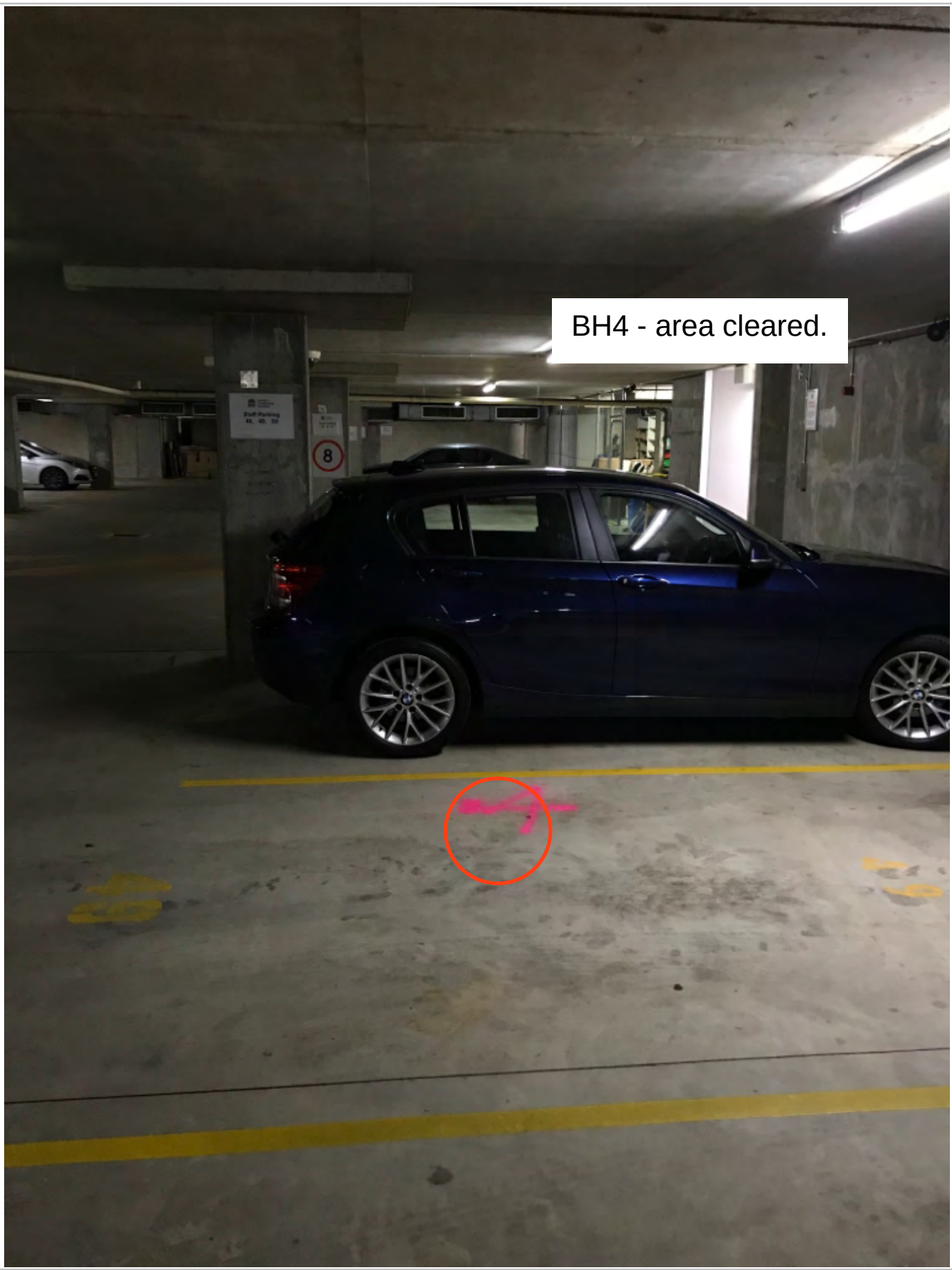
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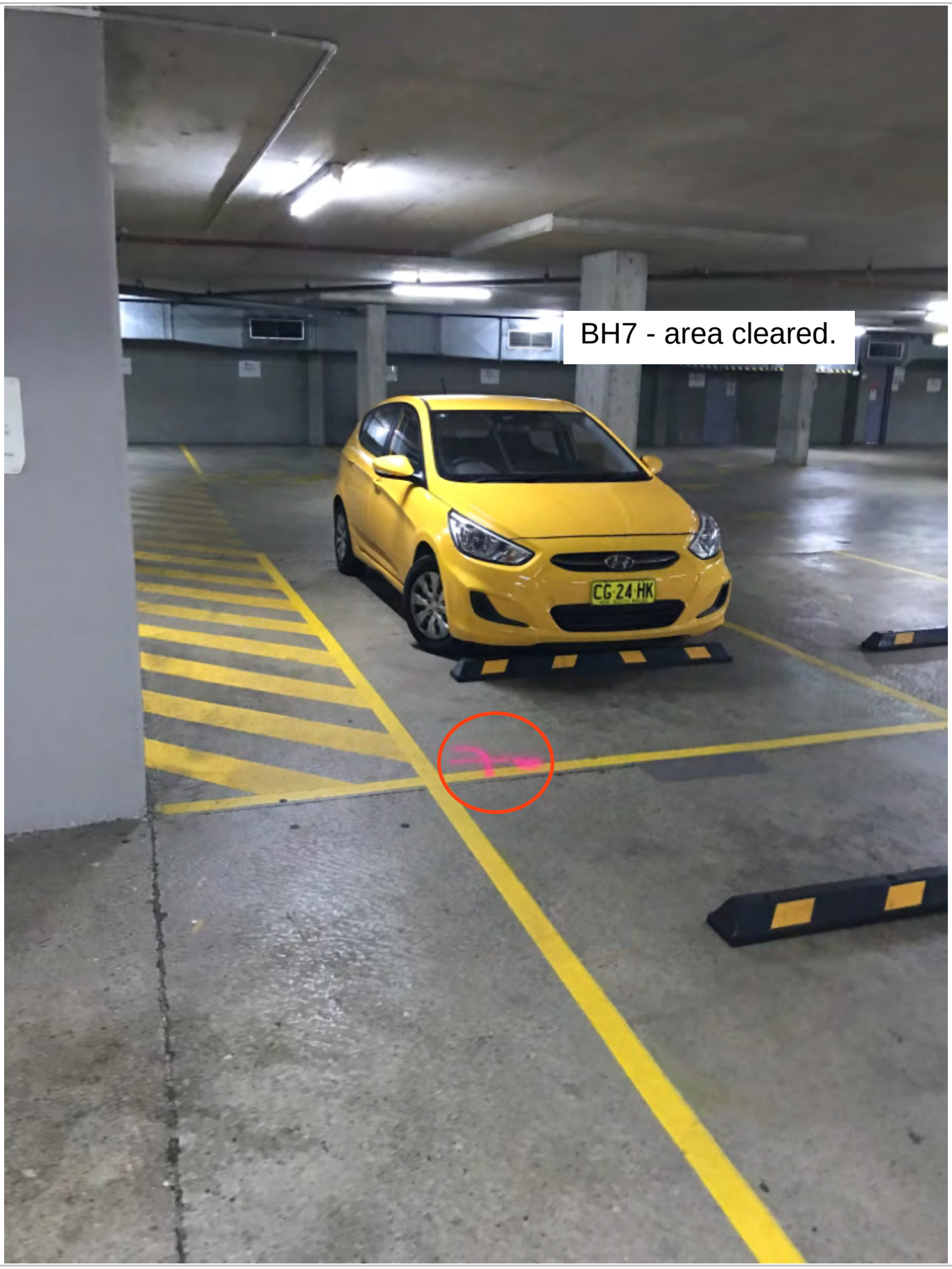
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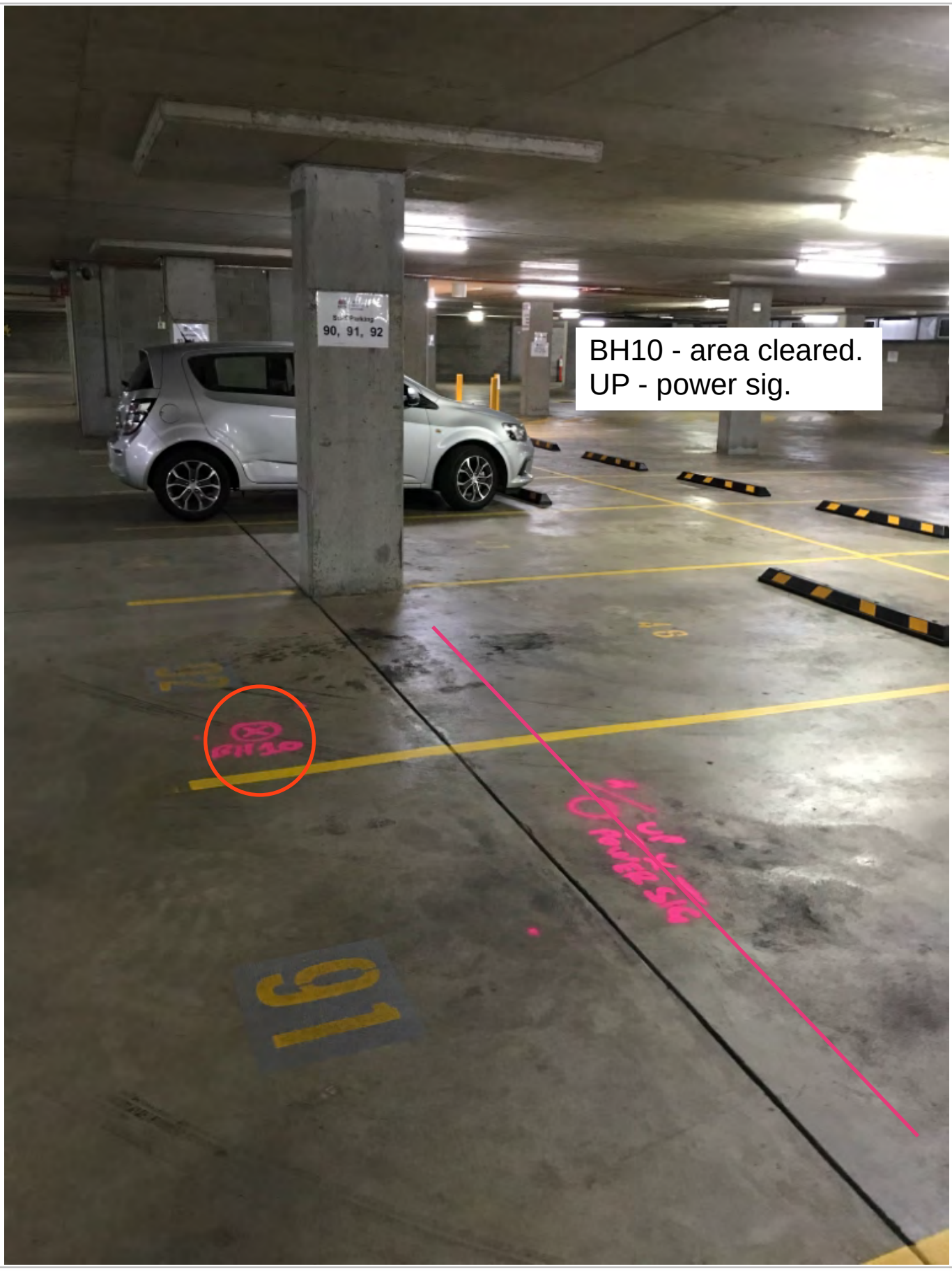
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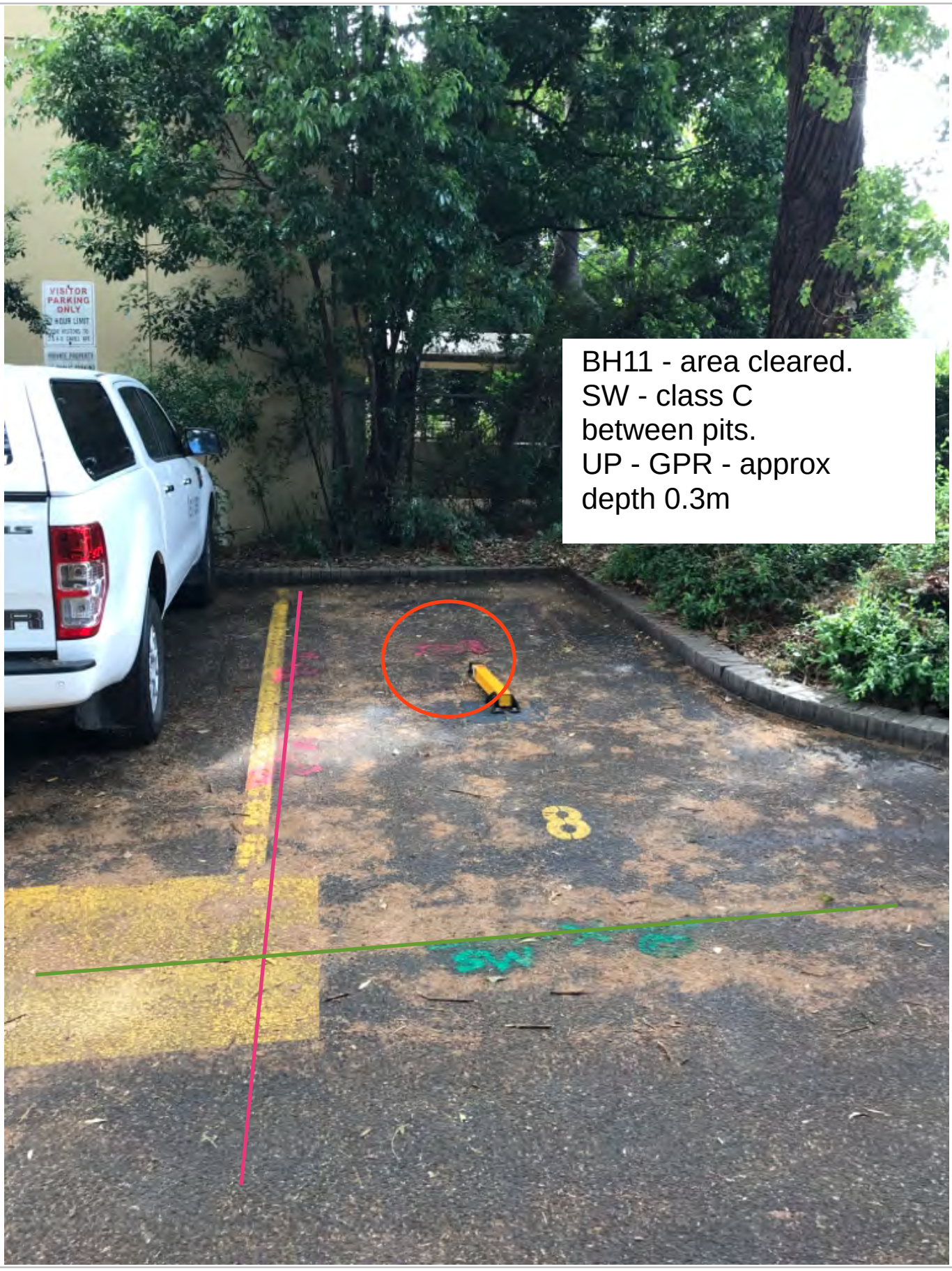
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BH11 - area cleared.
SW - class C
between pits.
UP - GPR - approx
depth 0.3m

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BH12 - area cleared. Passive scans only. Unable to GPR due to terrain and vegetation.

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DISCLAIMERS

This plan includes information describing the location of subterranean features, which were purported to exist at the time of the survey. This information was compiled from a combination of field techniques and available data from cooperating utility authorities. Whilst all care has been taken in the preparation of this plan of survey, Astrea cannot guarantee that the plan is without flaw of any kind. Therefore, Astrea expressly disclaims all liability for errors or omissions of any kind whatsoever or from any loss, damage or other consequences, which may arise from any person relying on anything, stated on this plan. In particular, it is recommended that users satisfy themselves as to the location of subterranean features such as utilities, which may or may not be shown on this plan by deploying vacuum excavation techniques.

Report by: W.W.

Date: 12-Oct-2020

SIGNATURE:

Astrea Pty Ltd/ ABN 17 637 658 621

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Appendix V – Borehole Logs

ENVIRONMENTAL BOREHOLE BH1

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 14.10.2020	**EASTING** 326279.02
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248824.5
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 0.9 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.1 m and push tube to 0.9 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: CONCRETE	
					Fill: SAND (SP): medium to coarse grained, poorly graded, yellow, moist.	
					Natural: SILTSTONE: brittle grey and red.	
	2.8	BH1-0.4	Y			
0.5					Natural: Silty CLAY (CL): medium to high plasticity, grey with orange mottling, dry.	
						Target depth reached
					BH refusal at 0.9 m due to rock	

Disclaimer This log is intended for environmental not geotechnical purposes.

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ENVIRONMENTAL BOREHOLE BH2

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 14.10.2020	**EASTING** 326298.41
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248816.61
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 0.9 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.2 m and push tube to 0.9 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: CONCRETE	
	1.2	BH1-0.3	Y		Natural: Silty CLAY (CL): medium to high plasticity, grey with orange mottling, dry.	
0.5					Transitional to: Natural: SILTSTONE: brittle grey and red.	Target depth reached
					BH refusal at 0.9 m due to rock	

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ENVIRONMENTAL BOREHOLE BH3

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 14.10.2020	**EASTING** 326290.12
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248797.31
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 0.9 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.1 m and push tube to 0.9 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: CONCRETE	
					Fill: SAND (SP): medium to coarse grained, poorly graded, yellow, moist.	
		BH3-0.2	Y			
					Natural: Silty CLAY (CL): medium to high plasticity, grey with orange mottling, dry.	
	0.9	BH3-0.4	Y			
0.5					Transitional to: Natural: SILTSTONE: brittle grey and red.	
						Target depth reached
					BH refusal at 0.9 m due to rock	

ENVIRONMENTAL BOREHOLE BH4

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 14.10.2020	**EASTING** 326270.6
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248805.25
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 0.9 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.1 m and push tube to 0.9 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: CONCRETE	
					Fill: SAND (SP): medium to coarse grained, poorly graded, brown, moist.	
		BH4-0.2	Y			
					Natural: Silty CLAY (CL): medium to high plasticity, grey with orange mottling, dry.	
	3.0	BH4-0.4	Y			
0.5					Transitional to: Natural: SILTSTONE: brittle grey	
					Natural: SILTSTONE: dark grey.	Target depth reached
					BH refusal at 0.9 m due to rock	

ENVIRONMENTAL BOREHOLE BH5

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 14.10.2020	**EASTING** 326262.25
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248785.97
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 1.2 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.1 m and push tube to 1.2 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: CONCRETE	
					Fill: SAND (SP): medium to coarse grained, poorly graded, brown, moist.	
		BH5-0.2	Y			
					Natural: Silty CLAY (CL): medium to high plasticity, grey with orange mottling, dry.	
	0.8	BH5-0.4	Y			
0.5					Transitional to: Natural: SILTSTONE: brittle grey	
					Natural: SILTSTONE: dark grey.	
						Target depth reached
1						
					BH refusal at 1.2 m due to rock	

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ENVIRONMENTAL BOREHOLE BH6

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 14.10.2020	**EASTING** 326281.71
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248778.06
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 1.2 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.1 m and push tube to 1.2 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: CONCRETE	
					Fill: SAND (SP): medium to coarse grained, poorly graded, yellow to brown, moist.	
	1.4	BH6-0.4	Y		Natural: Silty CLAY (CL): medium to high plasticity, grey with red mottling, slightly moist.	
0.5					Transitional to: Natural: SILTSTONE: brittle grey	
						Target depth reached
1						
					BH refusal at 1.2 m due to rock	

ENVIRONMENTAL BOREHOLE BH7

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 14.10.2020	**EASTING** 326253.87
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248766.71
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 0.8 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.1 m and push tube to 0.8 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: CONCRETE	
	0.7	BH7-0.2	Y		Natural: Silty CLAY (CL): medium to high plasticity, grey with orange mottling, dry.	
0.5					Transitional to: Natural: SILTSTONE: brittle grey and red.	Target depth reached
					BH refusal at 0.8 m due to rock	

Disclaimer This log is intended for environmental not geotechnical purposes.

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ENVIRONMENTAL BOREHOLE BH8

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 14.10.2020	**EASTING** 326273.18
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248759.05
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 0.8 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.1 m and push tube to 0.8 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: CONCRETE	
					Fill: SAND (SP): medium to coarse grained, poorly graded, yellow to brown, moist.	
	0.9	BH8-0.3	Y		Natural: Silty CLAY (CL): medium to high plasticity, grey with orange mottling, dry.	
0.5					Transitional to: Natural: SILTSTONE: brittle grey and red.	Target depth reached
					BH refusal at 0.8 m due to rock	

ENVIRONMENTAL BOREHOLE BH9

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 14.10.2020	**EASTING** 326287.4
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248762.92
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 0.7 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.1 m and push tube to 0.7 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: CONCRETE	
					Natural: Silty CLAY (CL): medium to high plasticity, grey, dry.	
	0.8	BH9-0.3	N			
0.5					Transitional to: Natural: SILTSTONE: brittle grey and red.	Target depth reached
					BH refusal at 0.7 m due to rock	

ENVIRONMENTAL BOREHOLE BH10

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 14.10.2020	**EASTING** 326279.35
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248745.62
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 0.7 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.1 m and push tube to 0.7 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: CONCRETE	
					Natural: SILTSTONE: brittle grey and red.	
0.5	0.8	BH10-0.3 BR2 SR2	Y			
						Target depth reached
					BH refusal at 0.7 m due to rock	

ENVIRONMENTAL BOREHOLE BH11

PROJECT NUMBER STC-1858-18526
PROJECT NAME Detailed Site Investigation
CLIENT Shayher Alliance Pty Ltd
ADDRESS 2-6 Cavill Avenue, Ashfield NSW

DRILLING DATE 13.10.2020
DRILLING COMPANY Terratest
DRILLER N/A
DRILLING METHOD Coring and Push Tube
TOTAL DEPTH 2.1 m

EASTING 326329.51
NORTHING 6248815.64
SURFACE ELEVATION NA
LOGGED BY Haneen Safadi
CHECKED BY Syed Shah

COMMENTS Coring to 0.1 m and push tube to 2.1 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: ASPHALT - CONCRETE	
	4.1	BH11-0.2	Y		Fill: Sandy CLAY (CL): medium plasticity, brown, dry, with gravels.	
0.5	1.8	BH11-0.5	Y		Fill: Silty CLAY (CL): medium to high plasticity, red and orange, dry, with gravels.	
1	2.3	BH11-1.0	Y		Natural: Silty CLAY (CL): medium to high plasticity, light grey with orange and yellow mottling, dry.	Target depth reached
1.5						
2	0.7	BH11-2.0	Y			
					BH refusal at 2.1 m due to rock	

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ENVIRONMENTAL BOREHOLE BH12

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 13.10.2020	**EASTING** 326321.73
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248796.99
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 2.2 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.1 m and push tube to 2.2 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: ASPHALT - CONCRETE	
	4.0	BH12-0.2	Y		Fill: Sandy CLAY (CL): medium plasticity, brown, dry, with gravels.	
0.5	2.1	BH12-0.5	Y		Fill: Silty CLAY (CL): medium to high plasticity, red and orange, dry, with gravels.	
1	2.1	BH12-1.0	Y		Natural: Silty CLAY (CL): medium to high plasticity, light grey with orange and yellow mottling, dry.	Target depth reached
1.5						
2	2.0	BH12-2.0	N			
					BH refusal at 2.2 m due to rock	

ENVIRONMENTAL BOREHOLE BH13

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 13.10.2020	**EASTING** 326311.34
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248777.75
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 8.0 m	**CHECKED BY** Syed Shah

COMMENTS Push tube to 2.2 m and solid flight auger to 8.0m.

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
0	4.0	BH13-0.2	Y		Fill: Vegetation Root	
					Fill: Silty SAND (SM): medium grained, well graded, brown, dry.	
0.5	2.1	BH13-0.5	Y		Fill: Silty CLAY (CL): low to medium plasticity, brown and orange, dry, with gravels.	
1	2.1	BH13-1.0	Y			
					Natural: Silty CLAY (CL): medium plasticity, grey with red mottling, dry.	
1.5	2.0	BH13-1.5	Y			Target depth reached
2						Finish of environmental sampling
2.5					Natural: SHALE	
3						
3.5						
4					Groundwater well installed: blank PVC 0.0-5.0 m, screen PVC 5.0-7.9 m, backfill 0.0-3.2 m, bentonite 3.2-4.2 m, sand 4.2-8.0m, gatic coverat the surface.	
4.5						
5						
5.5						
6						
6.5						
7						
7.5					No free groundwater observed whilst augering. Groundwater measured in monitoring well at 7.5m depth on 13/10/2020.	
8					BH terminate at 8.0 m.	

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ENVIRONMENTAL BOREHOLE BH14

PROJECT NUMBER STC-1858-18526
PROJECT NAME Detailed Site Investigation
CLIENT Shayher Alliance Pty Ltd
ADDRESS 2-6 Cavill Avenue, Ashfield NSW

DRILLING DATE 13.10.2020
DRILLING COMPANY Terratest
DRILLER N/A
DRILLING METHOD Coring and Push Tube
TOTAL DEPTH 3.2 m

EASTING 326301.42
NORTHING 6248758.42
SURFACE ELEVATION NA
LOGGED BY Haneen Safadi
CHECKED BY Syed Shah

COMMENTS Coring to 0.1 m and push tube to 3.2 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: BRICKS	
		BH14-0.3	Y		Fill: Silty SAND (SM): medium grained, well graded, brown, dry.	
0.5						
1	0.5	BH14-1.0	Y			
1.5						
					Natural: Silty CLAY (CL): medium plasticity, grey with red mottling, dry.	
2	0.5	BH14-2.0	Y			Target depth reached
2.5						
3						
					BH terminate at 3.2 m.	

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ENVIRONMENTAL BOREHOLE BH15

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 14.10.2020	**EASTING** 326284.88
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248736.28
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 0.7 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.1 m and push tube to 0.7 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: CONCRETE	
					Fill: SAND (SP): coarse grained, poorly graded, yellow , moist.	
	0.7	BH15-0.3	N		Natural: Silty CLAY (CL): medium plasticity, grey with red mottling, dry.	
0.5					Transitional to: Natural: SILTSTONE: brittle grey and red.	Target depth reached
					BH refusal at 0.7 m due to rock	

ENVIRONMENTAL BOREHOLE BH16

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 14.10.2020	**EASTING** 326251.24
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248741.62
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 0.8 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.1 m and push tube to 0.8 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: CONCRETE	
	0.3	BH16-0.2	Y		Natural: Silty CLAY (CL): high plasticity, grey with red mottling, dry.	
0.5					Transitional to: Natural: SILTSTONE: brittle grey and red.	Target depth reached
					BH refusal at 0.8 m due to rock	

ENVIRONMENTAL BOREHOLE BH17

PROJECT NUMBER STC-1858-18526
PROJECT NAME Detailed Site Investigation
CLIENT Shayher Alliance Pty Ltd
ADDRESS 2-6 Cavill Avenue, Ashfield NSW

DRILLING DATE 14.10.2020
DRILLING COMPANY Terratest
DRILLER N/A
DRILLING METHOD Coring and Push Tube
TOTAL DEPTH 0.8 m

EASTING 326233.75
NORTHING 6248766.13
SURFACE ELEVATION NA
LOGGED BY Haneen Safadi
CHECKED BY Syed Shah

COMMENTS Coring to 0.1 m and push tube to 0.8 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: CONCRETE	
	0.3	BH17-0.2	N		Natural: Silty CLAY (CL): medium to high plasticity, grey with red mottling, moist.	
0.5					Weathered SHALE: grey with red mottling.	Target depth reached
					BH refusal at 0.8 m due to rock	

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ENVIRONMENTAL BOREHOLE BH18

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 13.10.2020	**EASTING** 326244.9
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248790.46
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 2.2 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.1 m and push tube to 2.2 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: ASPHALT - CONCRETE	
	2.1	BH18-0.2	Y		Fill: Clayey SAND (SC): fine grained, moderately graded, brown and orange, dry.	
0.5						
					Fill: Silty CLAY (CL): medium plasticity, orange, slightly moist, with gravels.	
1	1.6	BH18-1.0	Y			
1.5						
					Natural: Silty CLAY (CL): medium plasticity, light grey with orange mottling, dry.	
2	1.8	BH18-2.0	Y			
					BH refusal at 2.2 m due to rock	

ENVIRONMENTAL BOREHOLE BH19

PROJECT NUMBER STC-1858-18526
PROJECT NAME Detailed Site Investigation
CLIENT Shayher Alliance Pty Ltd
ADDRESS 2-6 Cavill Avenue, Ashfield NSW

DRILLING DATE 13.10.2020
DRILLING COMPANY Terratest
DRILLER N/A
DRILLING METHOD Coring and Push Tube
TOTAL DEPTH 2.2 m

EASTING 326255.9
NORTHING 6248816.91
SURFACE ELEVATION NA
LOGGED BY Haneen Safadi
CHECKED BY Syed Shah

COMMENTS Coring to 0.1 m and push tube to 2.2 m

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: ASPHALT - CONCRETE	
	2.4	BH19-0.2	Y		Fill: Clayey SAND (SC): fine grained, well graded, brown, dry with gravels.	
0.5	0.9	BH19-0.5	N		Fill: Silty CLAY (CL): medium plasticity, brown and orange, slightly moist, with gravels.	Ash
1	0.8	BH19-1.0	Y			
1.5	0.7	BH19-1.7 BR1 SR1	Y		Natural: Silty CLAY (CL): medium plasticity, orange with yellow mottling, dry.	
2						Target depth reached
					BH refusal at 2.2 m due to rock	

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ENVIRONMENTAL BOREHOLE BH20

PROJECT NUMBER STC-1858-18526	**DRILLING DATE** 13.10.2020	**EASTING** 326267.11
PROJECT NAME Detailed Site Investigation	**DRILLING COMPANY** Terratest	**NORTHING** 6248842.6
CLIENT Shayher Alliance Pty Ltd	**DRILLER** N/A	**SURFACE ELEVATION** NA
ADDRESS 2-6 Cavill Avenue, Ashfield NSW	**DRILLING METHOD** Coring and Push Tube	**LOGGED BY** Haneen Safadi
	TOTAL DEPTH 8.0 m	**CHECKED BY** Syed Shah

COMMENTS Coring to 0.3 m, push tube to 5.3 m and solid flight auger to 9.1 m.

Depth (m)	PID	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
					Fill: ASPHALT - CONCRETE	
0.5	1.3	BH20-0.5	Y		Fill: Gravelly SAND (SP): medium grained, moderately graded, grey and brown, moist.	Metal sheet
1	1.1	BH20-1.0 BH20-FC1	Y			Fibre Cement
1.5						
2	1.3	BH20-2.0	Y		Fill: Gravelly SAND (SP): medium grained, moderately graded, yellow, moist.	
2.5						
3	1.4	BH20-3.0	Y		Fill: Gravelly SAND (SP): coarse grained, moderately graded, yellow, moist, with gravels.	
3.5						
4	1.4	BH20-4.0	Y		Natural: Silty CLAY (CL): medium plasticity, grey with red mottling, dry.	Target depth reached
4.5						
5	1.1	BH20-5.0	Y			Finish of environmental sampling
5.5					Natural: SHALE	
6						
6.5						
7					Groundwater well installed: blank PVC 0.0-5.0 m, screen PVC 5.0-9.0 m, backfill 0.0-4.0 m, bentonite 4.0-4.5 m, sand 4.5-9.1m, gatic coverat the surface.	
7.5						
8						
8.5						
9						
					BH terminate at 9.1 m.	

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Appendix VI – QA / QC

QA/QC Table 1: Soil intra-laboratory duplicate sample compared with primary sample.

	LOR SLS (mg/kg)	BH19 1.7	BR1	RPD, %	BH10 0.5	BR2	RPD, %
PAH							
Total PAH	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Acenaphthene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Acenaphthylene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Anthracene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Benz(a)anthracene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Benzo(a) pyrene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Benzo(b)fluoranthene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Benzo(k)fluoranthene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Chrysene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Fluoranthene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Fluorene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Indeno(1,2,3-c,d)pyrene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Naphthalene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Phenanthrene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Pyrene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
OCP							
4,4-DDE	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
a-BHC	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Aldrin	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
b-BHC	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Chlordane (cis)	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Chlordane (trans)	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
d-BHC	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
DDD	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
DDT	0.1	<0.1	<0.1	N/A	<0.1	<0.1	N/A
Dieldrin	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Endosulfan I	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Endosulfan II	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Endosulfan sulphate	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Endrin	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Endrin aldehyde	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Endrin ketone	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
g-BHC (Lindane)	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Heptachlor	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Heptachlor epoxide	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Methoxychlor	0.1	<0.1	<0.1	N/A	<0.1	<0.1	N/A
OPP							
Chlorpyrifos	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Chlorpyrifos-methyl	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Diazinon	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Ethoprop	0.1	<0.1	<0.1	N/A	<0.1	<0.1	N/A
Methyl parathion	0.1	<0.1	<0.1	N/A	<0.1	<0.1	N/A
Ronnel	0.1	<0.1	<0.1	N/A	<0.1	<0.1	N/A
Pesticides							
DEF	0.1	<0.1	<0.1	N/A	<0.1	<0.1	N/A
PCB							
Arochlor 1016	0.5	<0.5	<0.5	N/A	<0.5	<0.5	N/A
Arochlor 1221	0.5	<0.5	<0.5	N/A	<0.5	<0.5	N/A
Arochlor 1232	0.5	<0.5	<0.5	N/A	<0.5	<0.5	N/A
Arochlor 1242	0.5	<0.5	<0.5	N/A	<0.5	<0.5	N/A
Arochlor 1248	0.5	<0.5	<0.5	N/A	<0.5	<0.5	N/A
Arochlor 1254	0.5	<0.5	<0.5	N/A	<0.5	<0.5	N/A
Arochlor 1260	0.5	<0.5	<0.5	N/A	<0.5	<0.5	N/A
TRH							
C6-C10	35	<35	<35	N/A	<35	<35	N/A
>C10-C16	50	<50	<50	N/A	<50	<50	N/A
>C16-C34	100	<100	<100	N/A	<100	<100	N/A
>C34-C40	100	<100	<100	N/A	<100	<100	N/A
BTEX							
Benzene	0.5	<0.5	<0.5	N/A	<0.5	<0.5	N/A
Toluene	0.5	<0.5	<0.5	N/A	<0.5	<0.5	N/A
Ethylbenzene	1	<1	<1	N/A	<1	<1	N/A
m, p- Xylene(s)	2	<2	<2	N/A	<2	<2	N/A
o-Xylene	1	<1	<1	N/A	<1	<1	N/A
Heavy Metals							
Arsenic	5	14	24	-55%	<5.0	<5.0	N/A
Cadmium	0.3	<0.30	<0.30	N/A	<0.30	<0.30	N/A
Chromium	2	42	33	24%	6	7.4	23%
Copper	5	<5.0	<5.0	N/A	45	55	20%
Lead	5	18	18	-3%	<10.0	<10.0	N/A
Mercury	0.1	<0.20	<0.20	N/A	<0.20	<0.20	N/A
Nickel	2	<10.0	<10.0	N/A	<10.0	<10.0	N/A
Zinc	5	<5.0	<5.0	N/A	<5.0	<5.0	N/A
Total valid result	135	V - valid result		67	V - valid result		68
Total not valid result	1	N - not valid result		1	N - not valid result		0

QA/QC Table 2: Soil inter-laboratory duplicate sample compared with primary sample.

	LOR SLS (mg/kg)	BH19 1.7	SR1	RPD, %	BH10 0.5	SR2	RPD, %
PAH							
Total PAH	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Acenaphthene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Acenaphthylene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Anthracene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Benz(a)anthracene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Benzo(a) pyrene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Benzo(g,h,i)perylene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Benzo(k)fluoranthene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Chrysene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Dibenz(a,h)anthracene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Fluoranthene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Fluorene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Indeno(1,2,3-c,d)pyrene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Naphthalene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Phenanthrene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
Pyrene	0.3	<0.3	<0.3	N/A	<0.3	<0.3	N/A
OCP							
4,4-DDE	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
a-BHC	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Aldrin	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
b-BHC	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Chlordane (cis)	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Chlordane (trans)	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
d-BHC	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
DDD	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
DDT	0.1	<0.1	<0.1	N/A	<0.1	<0.1	N/A
Dieldrin	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Endosulfan I	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Endosulfan II	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Endosulfan sulphate	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Endrin	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Endrin aldehyde	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Endrin ketone	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
g-BHC (Lindane)	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Heptachlor	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Heptachlor epoxide	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Methoxychlor	0.1	<0.1	<0.1	N/A	<0.1	<0.1	N/A
OPP							
Chlorpyrifos	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Chlorpyrifos-methyl	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Diazinon	0.05	<0.05	<0.05	N/A	<0.05	<0.05	N/A
Methyl parathion	0.1	<0.1	<0.1	N/A	<0.1	<0.1	N/A
TRH							
C6-C10	35	<35	<10	N/A	<35	<35	N/A
>C10-C16	50	<50	<50	N/A	<50	<50	N/A
>C16-C34	100	<100	<100	N/A	<100	<100	N/A
>C34-C40	100	<100	<100	N/A	<100	<100	N/A
BTEX							
Benzene	0.5	<0.5	<0.5	N/A	<0.5	<0.5	N/A
Toluene	0.5	<0.5	<0.5	N/A	<0.5	<0.5	N/A
Ethylbenzene	1	<1	<1	N/A	<1	<1	N/A
m, p- Xylene(s)	2	<2	<2	N/A	<2	<2	N/A
o-Xylene	1	<1	<1	N/A	<1	<1	N/A
Heavy Metals							
Arsenic	5	14	7	-65%	<5.0	<5	N/A
Cadmium	0.3	<0.30	<1	N/A	<0.30	<1	N/A
Chromium	2	42	42	0%	6	5	-17%
Copper	5	<5.0	<5	N/A	45	35	-25%
Lead	5	18	23	26%	<10.0	10	N/A
Mercury	0.1	<0.20	<0.1	N/A	<0.20	<0.1	N/A
Nickel	2	<10.0	<2	N/A	<10.0	<2	N/A
Zinc	5	<5.0	<5	N/A	<5.0	<5	N/A
Total valid result	113	V - valid result		56	V - valid result		57
Total not valid result	1	N - not valid result		1	N - not valid result		0

QA/QC Table 3: Water intra-laboratory duplicate sample compared with primary sample.

	LOR SLS (mg/kg)	TPE-2.0-2.1	BR1	RPD, %
PAH				
Total PAH	0.5 ug/L	<0.3	<0.3	N/A
Acenaphthene	1 ug/L	<0.3	<0.3	N/A
Acenaphthylene	1 ug/L	<0.3	<0.3	N/A
Anthracene	1 ug/L	<0.3	<0.3	N/A
Benzo[a]anthracene	1 ug/L	<0.3	<0.3	N/A
Benzo[a]pyrene	0.5 ug/L	<0.3	<0.3	N/A
Benzo[b]fluoranthene	1 ug/L	<0.3	<0.3	N/A
Benzo[e,h,i]perylene	1 ug/L	<0.3	<0.3	N/A
Benzo[k]fluoranthene	1 ug/L	<0.3	<0.3	N/A
Chrysene	1 ug/L	<0.3	<0.3	N/A
Dibenzo[a,h]anthracene	1 ug/L	<0.3	<0.3	N/A
Fluoranthene	1 ug/L	<0.3	<0.3	N/A
Fluorene	1 ug/L	<0.3	<0.3	N/A
Indeno[1,2,3-cd]pyrene	1 ug/L	<0.3	<0.3	N/A
Naphthalene	1 ug/L	<0.3	<0.3	N/A
Phenanthrene	1 ug/L	<0.3	<0.3	N/A
Pyrene	1 ug/L	<0.3	<0.3	N/A
Phenols				
3&4-Methylphenol (m&p-cresol)	2 ug/L	<2.0	<2.0	N/A
2,4,5-Trichlorophenol	1 ug/L	<1.0	<1.0	N/A
2,4,6-Trichlorophenol	1 ug/L	<1.0	<1.0	N/A
2,4-Dichlorophenol	1 ug/L	<1.0	<1.0	N/A
2,4-Dimethylphenol	1 ug/L	<1.0	<1.0	N/A
2,6-Dichlorophenol	1 ug/L	<1.0	<1.0	N/A
2-Chlorophenol	1 ug/L	<1.0	<1.0	N/A
2-Methylphenol	1 ug/L	<1.0	<1.0	N/A
2-Nitrophenol	1 ug/L	<1.0	<1.0	N/A
4-chloro-3-methylphenol	1 ug/L	<1.0	<1.0	N/A
Pentachlorophenol	2 ug/L	<2.0	<2.0	N/A
Phenol	1 ug/L	<1.0	<1.0	N/A
Chlorinated Hydrocarbons				
1,1,1,2-tetrachloroethane	5 ug/L	<5	<5	N/A
1,1,1-trichloroethane	5 ug/L	<5	<5	N/A
1,1,2,2-tetrachloroethane	5 ug/L	<5	<5	N/A
1,1,2-trichloroethene	5 ug/L	<5	<5	N/A
1,1-dichloroethane	5 ug/L	<5	<5	N/A
1,1-dichloroethene	5 ug/L	<5	<5	N/A
1,1-dichloropropene	5 ug/L	<5	<5	N/A
1,2,3-trichloropropane	5 ug/L	<5	<5	N/A
1,2-dibromo-3-chloropropane	5 ug/L	<5	<5	N/A
1,2-dichloroethane	5 ug/L	<5	<5	N/A
1,2-dichloropropane	5 ug/L	<5	<5	N/A
1,3-dichloropropane	5 ug/L	<5	<5	N/A
2,2-dichloropropane	5 ug/L	<5	<5	N/A
Bromodichloromethane	5 ug/L	<5	<5	N/A
Bromoform	5 ug/L	<5	<5	N/A
Carbon tetrachloride	5 ug/L	<5	<5	N/A
Chlorodibromomethane	5 ug/L	<5	<5	N/A
Chloroethane	50 ug/L	<50	<50	N/A
Chloroform	5 ug/L	<5	<5	N/A
Chloromethane	50 ug/L	<50	<50	N/A
cis-1,2-dichloroethene	5 ug/L	<5	<5	N/A
cis-1,3-dichloropropene	5 ug/L	<5	<5	N/A
Dibromomethane	5 ug/L	<5	<5	N/A
Hexachlorobutadiene	5 ug/L	<5	<5	N/A
Trichloroethene	5 ug/L	<5	<5	N/A
Tetrachloroethene	5 ug/L	<5	<5	N/A
trans-1,2-dichloroethene	5 ug/L	<5	<5	N/A
trans-1,3-dichloropropene	5 ug/L	<5	<5	N/A
Vinyl chloride	50 ug/L	<50	<50	N/A
Halogenated Hydrocarbons				
1,2-dibromoethane	5 ug/L	<5	<5	N/A
Bromomethane	50 ug/L	<50	<50	N/A
Dichlorodifluoromethane	50 ug/L	<50	<50	N/A
Iodomethane	5 ug/L	<5	<5	N/A
Trichlorofluoromethane	50 ug/L	<50	<50	N/A
Halogenated Benzenes				
1,2,3-trichlorobenzene	5 ug/L	<5	<5	N/A
1,2,4-trichlorobenzene	5 ug/L	<5	<5	N/A
1,2-dichlorobenzene	5 ug/L	<5	<5	N/A
1,3-dichlorobenzene	5 ug/L	<5	<5	N/A
1,4-dichlorobenzene	5 ug/L	<5	<5	N/A
2-chlorotoluene	5 ug/L	<5	<5	N/A
4-chlorotoluene	5 ug/L	<5	<5	N/A
Bromobenzene	5 ug/L	<5	<5	N/A
Chlorobenzene	5 ug/L	<5	<5	N/A
Hexachlorobenzene	0.5 ug/L	<0.5	<0.5	N/A
PFAS				
Perfluorobutanoic acid (PFBA)	0.1 ug/L	<0.1	<0.1	N/A
Perfluorohexanoic acid (PFHxA)	0.02 ug/L	<0.02	<0.02	N/A
Perfluoropentanoic acid (PFPeA)	0.02 ug/L	<0.02	<0.02	N/A
Perfluoroheptanoic acid (PFHpA)	0.02 ug/L	<0.02	<0.02	N/A
Perfluorooctanoic acid (PFOA)	0.01 ug/L	<0.01	<0.01	N/A
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	0.05 ug/L	<0.05	<0.05	N/A
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0.05 ug/L	0.45	0.34	-28%
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	0.05 ug/L	<0.05	<0.05	N/A
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	0.05 ug/L	<0.05	<0.05	N/A
Perfluorobutane sulfonic acid (PFBS)	0.02 ug/L	<0.02	<0.02	N/A
Perfluorohexane sulfonic acid (PFHxS)	0.02 ug/L	<0.02	<0.02	N/A
Perfluorooctane sulfonic acid (PFOS)	0.01 ug/L	<0.01	<0.01	N/A
Sum of PFHxS and PFOS	0.01 ug/L	<0.01	<0.01	N/A
Sum of PFAS (WA DER List)	0.01 ug/L	0.45	0.34	-28%
MAH				
1,2,4-trimethylbenzene	5 ug/L	<5	<5	N/A
1,3,5-trimethylbenzene	5 ug/L	<5	<5	N/A
Isopropylbenzene	5 ug/L	<5	<5	N/A
n-butylbenzene	5 ug/L	<5	<5	N/A
n-propylbenzene	5 ug/L	<5	<5	N/A
p-isopropyltoluene	5 ug/L	<5	<5	N/A
sec-butylbenzene	5 ug/L	<5	<5	N/A
Styrene	5 ug/L	<5	<5	N/A
tert-butylbenzene	5 ug/L	<5	<5	N/A
Organochlorine Pesticides				
4,4-DDE	0.5 ug/L	<0.5	<0.5	N/A
a-BHC	0.5 ug/L	<0.5	<0.5	N/A
Aldrin	0.5 ug/L	<0.5	<0.5	N/A
b-BHC	0.5 ug/L	<0.5	<0.5	N/A
Chlordane (cis)	0.5 ug/L	<0.5	<0.5	N/A
Chlordane (trans)	0.5 ug/L	<0.5	<0.5	N/A
d-BHC	0.5 ug/L	<0.5	<0.5	N/A
DDD	0.5 ug/L	<0.5	<0.5	N/A
DDT	0.2 ug/L	<0.2	<0.2	N/A
Dieldrin	0.5 ug/L	<0.5	<0.5	N/A
Endosulfan I	0.5 ug/L	<0.5	<0.5	N/A
Endosulfan II	0.5 ug/L	<0.5	<0.5	N/A
Endosulfan sulphate	0.5 ug/L	<0.5	<0.5	N/A
Endrin	0.5 ug/L	<0.5	<0.5	N/A
Endrin aldehyde	0.5 ug/L	<0.5	<0.5	N/A
Endrin ketone	0.5 ug/L	<0.5	<0.5	N/A
g-BHC (Lindane)	0.5 ug/L	<0.5	<0.5	N/A
Heptachlor	0.5 ug/L	<0.5	<0.5	N/A
Heptachlor epoxide	0.5 ug/L	<0.5	<0.5	N/A
Methoxychlor	0.2 ug/L	<0.2	<0.2	N/A
Organophosphorous Pesticides				
Azinophos methyl	0.5 ug/L	<0.5	<0.5	N/A
Bromophos-ethyl	0.5 ug/L	<0.5	<0.5	N/A
Carbophenothion	0.5 ug/L	<0.5	<0.5	N/A
Chlorfenvinphos	0.5 ug/L	<0.5	<0.5	N/A
Chlorpyrifos	0.5 ug/L	<0.5	<0.5	N/A
Chlorpyrifos-methyl	0.0005 ug/L	<0.0005	<0.0005	N/A
Diazinon	0.5 ug/L	<0.5	<0.5	N/A
Dichlorvos	0.5 ug/L	<0.5	<0.5	N/A
Dimethoate	0.5 ug/L	<0.5	<0.5	N/A
Ethion	0.5 ug/L	<0.5	<0.5	N/A
Fenthion	0.5 ug/L	<0.5	<0.5	N/A
Malathion	0.5 ug/L	<0.5	<0.5	N/A
Methyl parathion	2 ug/L	<2.0	<2.0	N/A
Monocrotophos	2 ug/L	<2.0	<2.0	N/A
Prothiofos	0.5 ug/L	<0.5	<0.5	N/A
PCB				
Total PCB	1 ug/L	<1	<1	N/A
Pesticides				
Demeton-S-methyl	0.5 ug/L	<0.5	<0.5	N/A
Fenamiphos	0.5 ug/L	<0.5	<0.5	N/A
Parathion	2 ug/L	<2.0	<2.0	N/A
Pirimphos-ethyl	0.5 ug/L	<0.5	<0.5	N/A
Solvents				
Methyl Ethyl Ketone	50 ug/L	<50	<50	N/A
2-hexanone (MBK)	50 ug/L	<50	<50	N/A
4-Methyl-2-pentanone	50 ug/L	<50	<50	N/A
Carbon disulfide	5 ug/L	<5	<5	N/A
Vinyl acetate	50 ug/L	<50	<50	N/A
VOCs				
cis-1,4-Dichloro-2-butene	5 ug/L	<5	<5	N/A
trans-1,4-Dichloro-2-butene	5 ug/L	<5	<5	N/A
Pentachloroethane	5 ug/L	<5	<5	N/A
TRH				
>C6-C10	20 ug/L	<20	<20	NA
>C10-C16	100 ug/L	110	<100	-10%
>C16-C34	100 ug/L	160	100	-45%
>C34-C40	100 ug/L	270	100	-92%
BTEX				
Benzene	1 ug/L	<1	<1	NA
Toluene	2 ug/L	<2	<2	NA
Ethylbenzene	2 ug/L	<2	<2	NA
m, p- Xylene(s)	2 ug/L	<2	<2	NA
o-Xylene	2 ug/L	<2	<2	NA
Heavy Metals				
Arsenic	0.001 mg/L	<0.001	<0.001	NA
Cadmium	0.0001 mg/L	<0.0001	<0.0001	NA
Chromium	0.001 mg/L	<0.001	<0.001	NA
Copper	0.001 mg/L	0.007	0.003	-80%
Nickel	0.001 mg/L	<0.001	<0.001	NA
Lead	0.001 mg/L	<0.0001	<0.0001	NA
Zinc	0.005 me/L	0.002	<0.001	-67%
Mercury	0.0001 mg/L	0.027	0.033	20%
		V - valid result		157
		N - not valid result		4

QA/QC Table 4: Analysis results for trip blank samples.

Analyte	PQL (ug/L)	TB1	TB2	TB3
Benzene	1	<1	<1	<1
Toluene	1	<1	<1	<1
Ethyl Benzene	1	<1	<1	<1
m, p- Xylene(s)	2	<2	<2	<2
o-Xylene	1	<1	<1	<1
	Valid result	5	5	5
	Not valid result	0	0	0

QA/QC Table 5: Analysis results for trip spike samples.

Analyte	Acceptable range, %	Trip Spike concentrations (ug/L)	TS1	TS2	TS3
Benzene	60 - 140	40	100%	105%	94%
Toluene	60 - 140	40	89%	95%	94%
Ethyl Benzene	60 - 140	40	85%	91%	93%
m, p- Xylene(s)	60 - 140	40	84%	90%	93%
o-Xylene	60 - 140	40	84%	91%	94%
		Valid result	5	5	5
		Not valid result	0	0	0

QA/QC Table 6: Analysis results for Soil Rinsate sample.

Analyte	LOR	RS1	Valid (V) / Not Valid (N)	RS2	Valid (V) / Not Valid (N)
PAH					
Total PAH	0.5 µg/L	<0.5	V	<0.5	V
Acenaphthene	1 µg/L	<1	V	<1	V
Acenaphthylene	1 µg/L	<1	V	<1	V
Anthracene	1 µg/L	<1	V	<1	V
Benzo[a]anthracene	1 µg/L	<1	V	<1	V
Benzo[a]pyrene	0.5 µg/L	<0.5	V	<0.5	V
Benzo[b]fluoranthene	1 µg/L	<1	V	<1	V
Benzo[g,h,i]perylene	1 µg/L	<1	V	<1	V
Benzo[k]fluoranthene	1 µg/L	<1	V	<1	V
Chrysene	1 µg/L	<1	V	<1	V
Dibenzo[a,h]anthracene	1 µg/L	<1	V	<1	V
Fluoranthene	1 µg/L	<1	V	<1	V
Fluorene	1 µg/L	<1	V	<1	V
Indeno(1,2,3-cd)pyrene	1 µg/L	<1	V	<1	V
Naphthalene	1 µg/L	<1	V	<1	V
Phenanthrene	1 µg/L	<1	V	<1	V
Pyrene	1 µg/L	<1	V	<1	V
OCP					
4,4-DDE	0.5 µg/L	<0.5	V	<0.5	V
a-BHC	0.5 µg/L	<0.5	V	<0.5	V
Aldrin	0.5 µg/L	<0.5	V	<0.5	V
b-BHC	0.5 µg/L	<0.5	V	<0.5	V
Chlordane (cis)	0.5 µg/L	<0.5	V	<0.5	V
Chlordane (trans)	0.5 µg/L	<0.5	V	<0.5	V
d-BHC	0.5 µg/L	<0.5	V	<0.5	V
DDD	0.5 µg/L	<0.5	V	<0.5	V
DDT	0.2 µg/L	<0.2	V	<0.2	V
Dieldrin	0.5 µg/L	<0.5	V	<0.5	V
Endosulfan I	0.5 µg/L	<0.5	V	<0.5	V
Endosulfan II	0.5 µg/L	<0.5	V	<0.5	V
Endosulfan sulphate	0.5 µg/L	<0.5	V	<0.5	V
Endrin	0.5 µg/L	<0.5	V	<0.5	V
Endrin aldehyde	0.5 µg/L	<0.5	V	<0.5	V
Endrin ketone	0.5 µg/L	<0.5	V	<0.5	V
g-BHC (Lindane)	0.5 µg/L	<0.5	V	<0.5	V
Heptachlor	0.5 µg/L	<0.5	V	<0.5	V
Heptachlor epoxide	0.5 µg/L	<0.5	V	<0.5	V
Methoxychlor	0.2 µg/L	<0.2	V	<0.2	V
PCB					
Total PCB	1 µg/L	<1	V	<1	V
TRH					
>C6-C10	20 µg/L				
>C10-C16	100 µg/L	<0.05	V	<0.05	V
>C16-C34	100 µg/L	<0.02	V	<0.02	V
>C34-C40	100 µg/L	<0.02	V	<0.02	V
BTEX					
Benzene	1 µg/L	<1	V	<1	V
Toluene	2 µg/L	<2	V	<2	V
Ethylbenzene	2 µg/L	<2	V	<2	V
m, p- Xylene(s)	2 µg/L	<2	V	<2	V
o-Xylene	2 µg/L	<2	V	<2	V
Heavy Metals					
Arsenic	0.001 mg/L	<0.001	V	<0.001	V
Cadmium	0.0001 mg/L	<0.0001	V	<0.0001	V
Chromium	0.001 mg/L	<0.001	V	<0.001	V
Copper	0.001 mg/L	<0.001	V	<0.001	V
Nickel	0.001 mg/L	<0.001	V	<0.001	V
Lead	0.001 mg/L	<0.001	V	<0.001	V
Zinc	0.005 mg/L	<0.005	V	<0.005	V
Mercury	0.0001 mg/L	<0.0001	V	<0.0001	V
Total valid result	108	Valid result	54	Valid result	54
Total not valid result	0	Not valid result	0	Not valid result	0

QA/QC Table 7: Analysis results for Water Rinsate sample.

Analyte	LOR	RS2	Valid (V) / Not Valid (N)
PAH			
Total PAH	0.5 µg/L	<0.5	V
Acenaphthene	1 µg/L	<1	V
Acenaphthylene	1 µg/L	<1	V
Anthracene	1 µg/L	<1	V
Benz(a)anthracene	1 µg/L	<1	V
Benzo(a)pyrene	0.5 µg/L	<0.5	V
Benzo(b)fluoranthene	1 µg/L	<1	V
Benzo(g,h,i)perylene	1 µg/L	<1	V
Benzo(k)fluoranthene	1 µg/L	<1	V
Chrysene	1 µg/L	<1	V
Dibenz(a,h)anthracene	1 µg/L	<1	V
Fluoranthene	1 µg/L	<1	V
Fluorene	1 µg/L	<1	V
Indeno(1,2,3-cd)pyrene	1 µg/L	<1	V
Naphthalene	1 µg/L	<1	V
Phenanthrene	1 µg/L	<1	V
Pyrene	1 µg/L	<1	V
Phenols			
3&4-Methylphenol (m&p-cresol)	2 µg/L	<2.0	V
2,4,5-Trichlorophenol	1 µg/L	<1.0	V
2,4,6-Trichlorophenol	1 µg/L	<1.0	V
2,4-Dichlorophenol	1 µg/L	<1.0	V
2,4-Dimethylphenol	1 µg/L	<1.0	V
2,6-Dichlorophenol	1 µg/L	<1.0	V
2-Chlorophenol	1 µg/L	<1.0	V
2-Methylphenol	1 µg/L	<1.0	V
2-Nitrophenol	1 µg/L	<1.0	V
4-chloro-3-methylphenol	1 µg/L	<1.0	V
Pentachlorophenol	2 µg/L	<2.0	V
Phenol	1 µg/L	<1.0	V
Chlorinated Hydrocarbons			
1,1,1,2-tetrachloroethane	5 µg/L	<5	V
1,1,1-trichloroethane	5 µg/L	<5	V
1,1,2,2-tetrachloroethane	5 µg/L	<5	V
1,1,2-trichloroethane	5 µg/L	<5	V
1,1-dichloroethane	5 µg/L	<5	V
1,1-dichloroethene	5 µg/L	<5	V
1,1-dichloropropene	5 µg/L	<5	V
1,2,3-trichloropropane	5 µg/L	<5	V
1,2-dibromo-3-chloropropane	5 µg/L	<5	V
1,2-dichloroethane	5 µg/L	<5	V
1,2-dichloropropane	5 µg/L	<5	V
1,3-dichloropropane	5 µg/L	<5	V
2,2-dichloropropane	5 µg/L	<5	V
Bromodichloromethane	5 µg/L	<5	V
Bromoform	5 µg/L	<5	V
Carbon tetrachloride	5 µg/L	<5	V
Chlorodibromomethane	5 µg/L	<5	V
Chloroethane	50 µg/L	<50	V
Chloroform	5 µg/L	<5	V
Chloromethane	50 µg/L	<50	V
cis-1,2-dichloroethene	5 µg/L	<5	V
cis-1,3-dichloropropene	5 µg/L	<5	V
Dibromomethane	5 µg/L	<5	V
Hexachlorobutadiene	5 µg/L	<5	V
Trichloroethene	5 µg/L	<5	V
Tetrachloroethene	5 µg/L	<5	V
trans-1,2-dichloroethene	5 µg/L	<5	V
trans-1,3-dichloropropene	5 µg/L	<5	V
Vinyl chloride	50 µg/L	<50	V
Halogenated Hydrocarbons			
1,2-dibromoethane	5 µg/L	<5	V
Bromomethane	50 µg/L	<50	V
Dichlorodifluoromethane	50 µg/L	<50	V
Iodomethane	5 µg/L	<5	V
Trichlorofluoromethane	50 µg/L	<50	V
Halogenated Benzenes			
1,2,3-trichlorobenzene	5 µg/L	<5	V
1,2,4-trichlorobenzene	5 µg/L	<5	V
1,2-dichlorobenzene	5 µg/L	<5	V
1,3-dichlorobenzene	5 µg/L	<5	V
1,4-dichlorobenzene	5 µg/L	<5	V
2-chlorotoluene	5 µg/L	<5	V
4-chlorotoluene	5 µg/L	<5	V
Bromobenzene	5 µg/L	<5	V
Chlorobenzene	5 µg/L	<5	V
Hexachlorobenzene	0.5 µg/L	<0.5	V
PFAS			
Perfluorobutanoic acid (PFBA)	0.1 µg/L	<0.1	V
Perfluoroheaanoic acid (PFHxA)	0.02 µg/L	<0.02	V
Perfluoroheptanoic acid (PFHpA)	0.02 µg/L	<0.02	V
Perfluorohexanoic acid (PFHxA)	0.02 µg/L	<0.02	V
Perfluorooctanoic acid (PFOA)	0.01 µg/L	<0.01	V
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	0.05 µg/L	<0.05	V
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0.05 µg/L	<0.05	V
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	0.05 µg/L	<0.05	V
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	0.05 µg/L	<0.05	V
Perfluorobutane sulfonic acid (PFBS)	0.02 µg/L	<0.02	V
Perfluorohexane sulfonic acid (PFHxS)	0.02 µg/L	<0.02	V
Perfluorooctane sulfonic acid (PFOS)	0.01 µg/L	<0.01	V
Sum of PFHxS and PFOS	0.01 µg/L	<0.01	V
Sum of PFAS (WA DER List)	0.01 µg/L	<0.01	V
MAH			
1,2,4-trimethylbenzene	5 µg/L	<5	V
1,3,5-trimethylbenzene	5 µg/L	<5	V
Isopropylbenzene	5 µg/L	<5	V
n-butylbenzene	5 µg/L	<5	V
n-propylbenzene	5 µg/L	<5	V
p-isopropyltoluene	5 µg/L	<5	V
sec-butylBenzene	5 µg/L	<5	V
Styrene	5 µg/L	<5	V
tert-butylbenzene	5 µg/L	<5	V
Organochlorine Pesticides			
4,4-DDE	0.5 µg/L	<0.5	V
a-BHC	0.5 µg/L	<0.5	V
Aldrin	0.5 µg/L	<0.5	V
b-BHC	0.5 µg/L	<0.5	V
Chlordane (cis)	0.5 µg/L	<0.5	V
Chlordane (trans)	0.5 µg/L	<0.5	V
d-BHC	0.5 µg/L	<0.5	V
DDD	0.5 µg/L	<0.5	V
DDT	0.2 µg/L	<0.2	V
Dieldrin	0.5 µg/L	<0.5	V
Endosulfan I	0.5 µg/L	<0.5	V
Endosulfan II	0.5 µg/L	<0.5	V
Endosulfan sulphate	0.5 µg/L	<0.5	V
Endrin	0.5 µg/L	<0.5	V
Endrin aldehyde	0.5 µg/L	<0.5	V
Endrin ketone	0.5 µg/L	<0.5	V
g-BHC (Lindane)	0.5 µg/L	<0.5	V
Heptachlor	0.5 µg/L	<0.5	V
Heptachlor epoxide	0.5 µg/L	<0.5	V
Methoxychlor	0.2 µg/L	<0.2	V
Organophosphorus Pesticides			
Azinophos methyl	0.5 µg/L	<0.5	V
Bromophos-ethyl	0.5 µg/L	<0.5	V
Carbophenothion	0.5 µg/L	<0.5	V
Chlorfenvinphos	0.5 µg/L	<0.5	V
Chlorpyrifos	0.5 µg/L	<0.5	V
Chlorpyrifos-methyl	0.0005 µg/L	<0.0005	V
Diazinon	0.5 µg/L	<0.5	V
Dichlorvos	0.5 µg/L	<0.5	V
Dimethoate	0.5 µg/L	<0.5	V
Ethion	0.5 µg/L	<0.5	V
Fenthion	0.5 µg/L	<0.5	V
Malathion	0.5 µg/L	<0.5	V
Methyl parathion	2 µg/L	<2.0	V
Monocrotophos	2 µg/L	<2.0	V
Prothiofos	0.5 µg/L	<0.5	V
PCB			
Total PCB	1 µg/L	<1	V
Pesticides			
Dimeton-S-methyl	0.5 µg/L	<0.5	V
Fenamiphos	0.5 µg/L	<0.5	V
Parathion	2 µg/L	<2.0	V
Pirimiphos-ethyl	0.5 µg/L	<0.5	V
Solvents			
Methyl Ethyl Ketone	50 µg/L	<50	V
2-hexanone (MBK)	50 µg/L	<50	V
4-Methyl-2-pentanone	50 µg/L	<50	V
Carbon disulfide	5 µg/L	<5	V
Vinyl acetate	50 µg/L	<50	V
VOCs			
cis-1,4-Dichloro-2-butene	5 µg/L	<5	V
trans-1,4-Dichloro-2-butene	5 µg/L	<5	V
Pentachloroethane	5 µg/L	<5	V
TRH			
>C6-C10	20 µg/L	<20	V
>C10-C16	100 µg/L	<100	V
>C16-C34	100 µg/L	<100	V
>C34-C40	100 µg/L	<100	V
BTEX			
Benzene	1 µg/L	<1	V
Toluene	2 µg/L	<2	V
Ethylbenzene	2 µg/L	<2	V
m- p- Xylene(s)	2 µg/L	<2	V
o-Xylene	2 µg/L	<2	V
Heavy Metals			
Arsenic	0.001 mg/L	<0.001	V
Cadmium	0.0001 mg/L	<0.0001	V
Chromium	0.001 mg/L	<0.001	V
Copper	0.001 mg/L	<0.001	V
Nickel	0.001 mg/L	<0.001	V
Lead	0.001 mg/L	<0.001	V
Zinc	0.005 mg/L	<0.005	V
Mercury	0.0001 mg/L	<0.0001	V
		Valid result	161
		Not valid result	0

QA/QC Item	DQO Criteria	Valid Data	Not Valid Data	Completeness	Conclusion
Laboratory duplicate samples	95%	772	3	99.61%	Acceptable
Laboratory blank samples	100%	770	0	100.00%	Acceptable
Laboratory spike/surrogate recoveries	95%	741	34	95.61%	Acceptable
Laboratory Control Samples	95%	589	9	98.49%	Acceptable
Intra-laboratory Duplicate Samples	75%	292	5	98.32%	Acceptable
Inter-laboratory Duplicate Samples	75%	113	1	99.12%	Acceptable
Trip blank sample	95%	15	0	100.00%	Acceptable
Spike BTEX	75%	15	0	100.00%	Acceptable
Rinsate samples	<PQL	267	0	100.00%	Acceptable
Overall Completeness:	**95%**	3574	52	98.57%	**Acceptable**

Chain of Custody

Australian Standard AS 4482.1 defines the CoC documentation as the link in the transfer of samples between the time of collection and arrival at the laboratory. The CoC utilised by ADE included the following items recommended by the Standard:

a) Name of person transferred the samples;
b) Name of person who received the samples;
c) Date the samples were collected;
d) Date the samples were received at the laboratory; and
e) Name and contact details of client.

The Sample Receipt Advice documentation was supplied by the laboratories where time of samples received was specified.

Record of Holding Times

The objective was to ascertain the validity of the laboratory results based on the holding time of the samples from the time of collection to the time of analysis. The holding time criteria for soil samples are summarised in the table below.

Table 19. Recommended Preservation and Holding Time for Soil and Water Samples.

Analyte	Recommended Preservation	Recommended Holding Time	Time taken to from field works to laboratory submission
Metals (excluding Hg & Cr VI)	No preservative required	6 months	< 2 days
Mercury or Chromium VI	4^0C	28 days	< 2 days
SVOCs (including OCP/OPPs, PAHs, PCBs)	4^0C	14 days	< 2 days
TPH (C6-C9) plus BTEX	4^0C, zero headspace	14 days	< 2 days
TPH/TRH (C10-C40)	4^0C	14 days	< 2 days
CEC	4^0C	14 days	< 2 days
pH	4^0C	24 hours (allowed up to 7 days)	< 24 hours

Holding times from collection of the soil samples to submission to SLS and ALS, meet the recommended criteria, with all soil samples submitted to the laboratory within two days and analysed within seven (7) days from the time of collection (refer to Appendix VIII – Analytical Reports).

Analytical Methods

Refer to *Appendix VIII – Analytical reports and Chain of Custody* for the specification of analytical methods used by the laboratories.

Laboratory Accreditation

Refer to *Appendix VIII – Analytical reports and Chain of Custody* for the details of laboratory accreditations for analytical methods used.

Detection Limits/Practical Quantification Limits

The lowest concentration of a substance that can be detected by SLS Laboratory and within a stated confidence level is the detection limit. Current practice identifies several detection limits. These are the instrument detection limit (IDL), the lower level detection (LLD), the method detection limit (MDL) and the practical quantification limit (PQL).

The relationship among these levels is approximately IDL : LLD : MDL : PQL = 1 : 2 : 4 : 10. When dilution of a sample is involved in the sample preparation, the method detection limit is adjusted by the dilution factor.

Precision

Precision is a measure of agreement among replicate measurements of the same sample for the same analytes, made under prescribed similar conditions.

Representativeness

Representativeness is a measure of the degree to which the data accurately and precisely represent a characteristic of a population parameter at a sample point or for a process condition or environmental condition.

The Site Investigation revealed that soil samples collected were representative of the stratigraphy at the Site. Statistical analysis of the population of interest indicated that the results data appropriately reflects the environment investigated.

Comparability

Comparability is a qualitative measure used to compare sample test results taken from the same Site at different times and relies on the professional judgement of the field personnel. ADE's field personnel assigned to the project had considerable experience in environmental investigations. Their training records are kept in the Quality Assurance Manual ADE-QAM-III. Sampling and measurements in the field were performed by the same personnel during the field stage of the investigation. Standard ADE environmental investigation procedures were used by the personnel in the field.

No deviations from the sampling procedures were observed by the Project Site Manager during the fieldwork. Therefore, none or negligent bias in the data collection was expected. The spatial and temporal changes on the Site during this period did not have significant influence in order to bias the data due to the environmental dynamics.

Units in which the data was measured in the field and the laboratory analysis had the same metrics.

Document Completeness

In the author's opinion, the documentation used in the course of the investigation was completed to satisfactory standards, including field observation logs, CoC documents, orders, laboratory accreditation, and laboratory reports.

QA/QC Data Evaluation

The principles DQIs are precision, accuracy, representativeness, comparability, and completeness referred to by the acronym PARCC. Precision and accuracy are the quantitative measures, representativeness and comparability are qualitative, and completeness is a combination of both quantitative and qualitative measures.

Appendix VII – Sampling Methodology

Documentation

A field observation log was completed by sampling personnel. Details recorded in the log included:

- Borehole sample number;
- Soil profile descriptions;
- Sampling method;
- Sample identification;
- Sample description; and
- Sample point measurements.

A comprehensive master sample register was maintained. As samples were received, they were given a unique sequential number from the sample register into which details from the labels were entered.

Before packing and dispatch of samples for analysis, a CoC form was completed. This form recorded details of the individual samples being dispatched and the type of analysis required for each sample.

Sampling Integrity

ADE's standard decontamination procedures were undertaken prior to drilling at each sample location. The soil samples were collected from the push tubes to avoid any possibility of cross-contamination.

A dedicated pair of disposable nitrile gloves was changed between each sample to minimise cross-contamination. As such, additional decontamination procedures were not deemed necessary. All disposable sampling equipment and rubbish were collected and removed prior to leaving Site

Sample Management

Samples were collected using fresh gloves and placed in sterile glass jars with Teflon lined lids before being placed into a pre-cooled Esky.

Replicate soil samples (Blinds and Splits) were collected by first placing the sample into a zip lock bag, followed by taking a PID reading. Replicate soil samples were then thoroughly mixed and placed in sterile glass jars with Teflon lined lids. The jars were filled to capacity to ensure minimal headspace was present prior to tightly securing the lid and then placed into a pre-cooled Esky.

Appendix VIII – Analytical Reports and Chain of Custody

ADECONSULTINGGROUP
SOLUTIONS THROUGH INNOVATION

ESA-F-02
Chain of Custody (Internal)

*02

Date Printed: 15/10/2020

Document Revision Date: 30.06.2020

ESA-F-02 COC - Chain Of Custody (Internal: Sydney Laboratory Services)

ADECONSULTINGGROUP
SOLUTIONS THROUGH INNOVATION

PROJECT:	Shayer Group
PROJECT NUMBER - INVOICE NUMBER	STC-1858-18526
SAMPLES DELIVERED BY:	ADE Consulting Group 6/7 Millennium Ct, Silverwater NSW 2128
SAMPLERS:	Haneen Safadi / Thomas Cocks
TURNAROUND:	24h: ☐ 48h: ☐ 72h: ☐ 5 WORKING DAYS: X
SAMPLING DATE:	13 & 14.10.2020
AFTER TEST STORAGE:	ROOM TEMP: ☐ FRIDGE: X FREEZER: ☐ > >4 WEEKS: ☐ OTHER: ☐
REPORT FORMAT:	HARD COPY: ☐ E-MAIL: X
CONSULTANTS SIGNATURE:	CONSULTANT E-MAIL: Haneen.safadi@ade.group, thomas.cocks@ade.group
PROJECT MANAGERS SIGNATURE:	PROJECT MANAGERS E-MAIL: Syed.shah@ade.group

LABORATORY REFERENCE NO. (Lab use ONLY):	18526 ASB 1		
RECEIVED BY: KJ	SIGNATURE:		
SAMPLES: 21 CHILLED: ☐	PRESERVED: ☒	PRESERVATION METHOD: ICE	CUSTODY SEAL INTACT: ☒
MINIMAL HEADSPACE: ☐	WITHIN HOLDING TIME: ☐		
DATE: 15.10.20	TIME: 2:30	TEMPERATURE UPON RECEIPT:	°C
LIMS LOT NO. 2003287	LIMS/EXCEL SIGNATURE:	COMMENTS:	

SAMPLE DATA				CONTAINER DATA		ANALYSES REQUIRED: Chem Lab												Asbestos						Mould	NOTES
LIMS Sample ID (Lab Use)	Sample ID (ADE)	MATRIX	SAMPLE DATE	TYPE & PRESERVATIVE	NO.	6 Metal Suite	8 Metal Suite	BTEX	PAH	OCP/OPP	PCB	vTRH (C6-C10)	TRH (C10-C40)	pH/EC	pH/pH fox	PFAS	Bulk	Dust	Dust Swab	Soil 65g	Soil 500g NEPM	Airborne Asbesos Monitoring	Mould	POTENTIAL HAZARDOUS CONTAMINANTS:
2020020																									☑ ASBESTOS ☐ HYDROCARBONS ☐ LEAD/ARSENIC ☐ NO KNOWN CONTAMINATION ☐ OTHER:_____
S85	BH1 0.4	Soil	14.10.2020	G & B	1		X	X	X	X	X	X	X							X				LAB PLEASE *EMAIL COC RECEIPT: ☐
S86	BH2 0.3	Soil	14.10.2020	G & PFAS Jar	2		X	X	X	X	X	X	X											Sample Comments
S87	BH3 0.4	Soil	14.10.2020	G, B & PFAS jar	3		X	X	X	X	X	X	X			X				X				
S88	BH4 0.4	Soil	14.10.2020	G, B & PFAS jar	4		X	X	X	X	X	X	X			X				X				
S89	BH5 0.4	Soil	14.10.2020	G	5		X	X	X			X	X											
S90	BH6 0.4	Soil	14.10.2020	G & PFAS Jar	6		X	X	X			X	X			X								
S91	BH7 0.2	Soil	14.10.2020	G & B	7		X	X	X			X	X							X				
S93	BH8 0.3	Soil	14.10.2020	G	8		X	X	X			X	X											
S93	BH10 0.5	Soil	14.10.2020	G, B & PFAS jar	9		X	X	X	X	X	X	X			X				X				
S94	BH11 2.0	Soil	13.10.2020	G	10		X	X	X	X	X	X	X											
S95	BH12 1.0	Soil	13.10.2020	G	11		X	X	X			X	X											
S96	BH13 1.5	Soil	13.10.2020	G	12		X	X	X			X	X											
S97	BH14 2.0	Soil	13.10.2020	G & B	13		X	X	X			X	X							X				
S98	BH15 0.3	Soil	14.10.2020	G & B	14		X	X	X			X	X							X				
S99	BH16 0.2	Soil	14.10.2020	G	15		X	X	X			X	X											
600	BH18 2.0	Soil	13.10.2020	G & B	16		X	X	X	X	X	X	X							X				
601	BH19 1.7	Soil	13.10.2020	G & B	17		X	X	X	X	X	X	X							X				
602	BH20 4.0	Soil	13.10.2020	G & B	18		X	X	X			X	X											
603	BH20 5.0	Soil	13.10.2020	G & PFAS Jar	19		X	X	X			X	X			X								
604	BR1	Soil	13.10.2020	G	20		X	X	X	X	X	X	X											
605	BR2	Soil	14.10.2020	G	21		X	X	X	X	X	X	X											

Comments:

Container Type and Preservative: P = Unpreserved Plastic; PN = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; PNA = Sodium Hydroxide Preserved Plastic; PC = HCl preserved Plastic; VC = Vial HCl Preserved; SP = Sulfuric Preserved Plastic; VB = Vial Sodium Bisulphate Preserved; VS = Vial Sulfuric Preserved; V = Unpreserved Vial; G = Amber Glass Unpreserved; SG = Sulfuric Preserved Amber Glass; F = Formaldehyde Preserved Glass; HS = HCl preserved Speciation bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; J = Unpreserved Glass Jar; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag.

*PFAS method added

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Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This certificate of analysis contains General Comments and Analytical Results. Quality Control Report and Laboratory Quality Acceptance Criteria have been issued separately.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By



Jasmine Franco

General Comments

Samples are analysed on as received basis. Sampling is not covered by NATA accreditation.

Where moisture determination has been performed, results are reported on dry weight basis.

Where the PQL of reported result differs from standard PQL, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Samples were analysed within holding time described by laboratory internal procedures if not stated otherwise. If samples delivered do not meet required analytical criteria, results will be marked with ^.

However surrogate standards are added to samples, results are not corrected for standards recoveries.

Analysis of VOC in water samples are performed on unfiltered waters (as received) spiked with surrogates and injection standards only.

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer; ADE Consulting Group.

Information provided by ADE Consulting Group can affect the validity of the results.

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
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Certificate of Analysis

Contact:	Syed Shah	**Date Reported:**	12/11/2020
Customer:	ADE Consulting Group	**No. of Samples:**	21
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	15/10/2020
		Date of Analysis:	11/11/2020
Cust Ref:	STC-1858-18526		

Reason for Amendment: Sample 596 (BH13 1.5) has been re-tested for Mercury.

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

Sydney Laboratory Services
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Silverwater 2128
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Certificate of Analysis

	Sample ID:	2020020585	2020020586	2020020587	2020020588	2020020589	2020020590	2020020591	2020020592	2020020593	2020020594	2020020595
	Sample Name	BH1 0.4	BH2 0.3	BH3 0.4	BH4 0.4	BH5 0.4	BH6 0.4	BH7 0.2	BH8 0.3	BH10 0.5	BH11 2.0	BH12 1.0
Parameter	Units	PQL										
ESA-P-ORG7 & ORG8												
Benzene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of BTEX	mg/kg		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Xylenes	mg/kg		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fluorobenzene (Surr.)	%		60	69	67	76	67	69	67	68	69	70	67
C6-C10	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C10 minus BTEX	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C9	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
ESA-MP-01,ICP-01												
Arsenic	mg/kg	5	<5.0	10.7	16.9	<5.0	<5.0	<5.0	<5.0	<5.0	33.3	<5.0
Cadmium	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Chromium	mg/kg	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.9	40.2	16.8
Copper	mg/kg	5	14.6	11.2	22.9	21.5	18.6	14.6	7.9	7.4	44.8	<5.0	<5.0
Lead	mg/kg	10	<10.0	18.9	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	23.3	<10.0
Mercury	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	mg/kg	10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Zinc	mg/kg	5	<5.0	<5.0	27.2	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
ESA-P-12												
% Moisture Content	%		17.2	14.6	7.3	10.3	13.8	9.5	13.6	11.2	12.3	17.1	17.1
ESA-P-ORG(11 - 15)												
Acenaphthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Benzo[b]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[k]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Chrysene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluorene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Sum of Positive PAHs	mg/kg		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzo(a)pyrene TEQ (Zero)	mg/kg		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzo(a)pyrene TEQ (Half PQL)	mg/kg		0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Benzo(a)pyrene TEQ (PQL)	mg/kg		0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
p-Terphenyl-d14 (Surr.)	%		104	124	131	130	102	126	102	106	108	104	101
aldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
a-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
b-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
d-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
cis-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
trans-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
4,4'-DDD	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
4,4'-DDE	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
4,4'-DDT	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
dieldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
endosulfan I	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20					<0.20	<0.20	
endosulfan II	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20					<0.20	<0.20	
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
endrin	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20					<0.20	<0.20	
endrin aldehyde	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
endrin ketone	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

heptachlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
methoxychlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
TCMX (Surr.)	%		97	117	124	122					101	98	
chlorpyrifos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
diazinon	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
fenchlorphos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
methyl parathion	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
prophos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10					<0.10	<0.10	
Aroclor 1016	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50					<0.50	<0.50	
Aroclor 1221	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50					<0.50	<0.50	
Aroclor 1232	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50					<0.50	<0.50	
Aroclor 1242	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50					<0.50	<0.50	
Aroclor 1248	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50					<0.50	<0.50	
Aroclor 1254	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50					<0.50	<0.50	
Aroclor 1260	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50					<0.50	<0.50	
2-fluorobiphenyl (Surr.)	%		106	127	135	133					109	106	
ESA-P-ORG16													
PFBA	ug/kg	5			<5	<5					<5		
PFPeA	ug/kg	5			<5	<5					<5		
PFBS	ug/kg	5			<5	<5					<5		
PFHxA	ug/kg	5			<5	<5					<5		
PFPeS	ug/kg	5			<5	<5					<5		
PFHpA	ug/kg	5			<5	<5					<5		
PFOA	ug/kg	5			<5	<5					<5		
PFHpS	ug/kg	5			<5	<5					<5		
PFOS	ug/kg	5			<5	<5					<5		
PFDA	ug/kg	5			<5	<5					<5		
PFUdA	ug/kg	5			<5	<5					<5		
PFDoA	ug/kg	5			<5	<5					<5		

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

PFTrDA	ug/kg	5			<5	<5					<5		
PFTeDA	ug/kg	5			<5	<5					<5		
PFNA	ug/kg	5			<5	<5					<5		
PFHxS	ug/kg	5			<5	<5					<5		
MPFBA (Surr.)	%				72	75					76		
M3PFBS (Surr.)	%				110	123					124		
MPFOS (Surr.)	%				120	126					105		
MPFHxA (Surr.)	%				108	120					118		
MPFOA (Surr.)	%				106	110					113		
MPFUdA (Surr.)	%				111	126					119		
ESA-P-ORG(3,5,6,8)													
>C10-C16	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C34-C40	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of total)	mg/kg		0	0	0	0	0	0	0	0	0	0	0
C10-C14	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of total)	mg/kg		0	0	0	0	0	0	0	0	0	0	0

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Certificate of Analysis

	Sample ID:	2020020596	2020020597	2020020598	2020020599	2020020600	2020020601	2020020602	2020020603	2020020604	2020020605
	Sample Name	BH13 1.5	BH14 2.0	BH15 0.3	BH16 0.2	BH18 2.0	BH19 1.7	BH20 4.0	BH20 5.0	BR1	BR2
Parameter	Units	PQL									
ESA-P-ORG7 & ORG8											
Benzene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of BTEX	mg/kg		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Xylenes	mg/kg		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fluorobenzene (Surr.)	%		69	69	71	73	70	68	72	68	68	75
C6-C10	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C10 minus BTEX	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C9	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
ESA-MP-01,ICP-01											
Arsenic	mg/kg	5	21.9	12.7	<5.0	<5.0	6.8	13.7	8.3	<5.0	24.2	<5.0
Cadmium	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Chromium	mg/kg	5	33.3	<5.0	<5.0	<5.0	30.4	42.1	17.3	<5.0	33.1	7.4
Copper	mg/kg	5	<5.0	7.9	47.1	27.8	<5.0	<5.0	<5.0	<5.0	<5.0	55.0
Lead	mg/kg	10	32.5	<10.0	14.5	<10.0	11.8	17.7	<10.0	<10.0	18.2	<10.0
Mercury	mg/kg	0.2	0.23	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	mg/kg	10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Zinc	mg/kg	5	34.8	<5.0	37.8	5.7	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
ESA-P-12											
% Moisture Content	%		22.2	11.2	15.8	15.9	22.0	18.2	14.1	12.9	14.2	10.8
ESA-P-ORG(11 - 15)											
Acenaphthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Benzo[b]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[k]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Chrysene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluorene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Sum of Positive PAHs	mg/kg		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzo(a)pyrene TEQ (Zero)	mg/kg		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzo(a)pyrene TEQ (Half PQL)	mg/kg		0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Benzo(a)pyrene TEQ (PQL)	mg/kg		0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
p-Terphenyl-d14 (Surr.)	%		105	109	105	102	103	102	133	118	111	85
aldrin	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
a-BHC	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
b-BHC	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
d-BHC	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
g-BHC (lindane)	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
cis-chlordane	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
trans-chlordane	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
4,4'-DDD	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
4,4'-DDE	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
4,4'-DDT	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
dieldrin	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
endosulfan I	mg/kg	0.2					<0.20	<0.20			<0.20	<0.20
endosulfan II	mg/kg	0.2					<0.20	<0.20			<0.20	<0.20
endosulfan sulfate	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
endrin	mg/kg	0.2					<0.20	<0.20			<0.20	<0.20
endrin aldehyde	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
endrin ketone	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

heptachlor	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
heptachlor epoxide	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
hexachlorobenzene	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
methoxychlor	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
TCMX (Surr.)	%						98	96			104	78
chlorpyrifos	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
chlorpyrifos methyl	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
diazinon	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
fenchlorphos	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
methyl parathion	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
prophos	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
tributylphosphorotrithioite	mg/kg	0.1					<0.10	<0.10			<0.10	<0.10
Aroclor 1016	mg/kg	0.5					<0.50	<0.50			<0.50	<0.50
Aroclor 1221	mg/kg	0.5					<0.50	<0.50			<0.50	<0.50
Aroclor 1232	mg/kg	0.5					<0.50	<0.50			<0.50	<0.50
Aroclor 1242	mg/kg	0.5					<0.50	<0.50			<0.50	<0.50
Aroclor 1248	mg/kg	0.5					<0.50	<0.50			<0.50	<0.50
Aroclor 1254	mg/kg	0.5					<0.50	<0.50			<0.50	<0.50
Aroclor 1260	mg/kg	0.5					<0.50	<0.50			<0.50	<0.50
2-fluorobiphenyl (Surr.)	%						107	105			113	81
ESA-P-ORG16												
PFBA	ug/kg	5								<5		
PFPeA	ug/kg	5								<5		
PFBS	ug/kg	5								<5		
PFHxA	ug/kg	5								<5		
PFPeS	ug/kg	5								<5		
PFHpA	ug/kg	5								<5		
PFOA	ug/kg	5								<5		
PFHpS	ug/kg	5								<5		
PFOS	ug/kg	5								<5		
PFDA	ug/kg	5								<5		
PFUdA	ug/kg	5								<5		
PFDoA	ug/kg	5								<5		

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PFTrDA	ug/kg	5								<5		
PFTeDA	ug/kg	5								<5		
PFNA	ug/kg	5								<5		
PFHxS	ug/kg	5								<5		
MPFBA (Surr.)	%									116		
M3PFBS (Surr.)	%									124		
MPFOS (Surr.)	%									114		
MPFHxA (Surr.)	%									124		
MPFOA (Surr.)	%									112		
MPFUdA (Surr.)	%									118		
ESA-P-ORG(3,5,6,8)												
>C10-C16	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C34-C40	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of total)	mg/kg		0	0	0	0	0	0	0	0	0	0
C10-C14	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of total)	mg/kg		0	0	0	0	0	0	0	0	0	0

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A.B.N. 52 093 452 950

Analysis report: STC-1858-18526 ASB 1

Date Received:	15.10.2020
Date Analysed:	22.10.2020
Report Date:	22.10.2020
Client:	ADE Consulting Group
Job Location:	Shayer Group
Analytical method:	AS 4964-2004 "Method for the qualitative identification of asbestos in bulk samples" in conjunction with AD Envirotech's ABI Methods for Polarised Light Microscopy with dispersion staining

Analysis performed by:

Jiaqi Zhou
Approved asbestos identifier

Results Authorised By:

Jiaqi Zhou
Approved Signatory

Accreditation No.14664.
Accredited for compliance with ISO/IEC 17025 - Testing.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Tests not covered by NATA are denoted with *.

General Comments:

Sydney Laboratory Services is responsible for all the information in the report, except that provided by the customer. All sampling information included in the report has been provided by customer; ADE Consulting Group.
Information provided by ADE Consulting Group can affect the validity of the results.
Sample analysed as received.
Samples are stored for minimum period of 1 month if longer time is not advised by client.
Due to the difficulty of estimating the load on the swab the test is carried out for presence or absence of asbestos only.
[1] Independent confirming technique such as infrared spectroscopy, X-ray diffraction, scanning or transmission electron microscopy is advised.
[2] Due to the sample size not meeting the Australian Standard 4964-2004 requirements, the result might be compromised.

Accreditation No.14664.
Accredited for compliance with ISO/IEC 17025 - Testing.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Tests not covered by NATA are denoted with *.

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dimensions (cm) unless stated otherwise	Result	Comments
BH1 0.4	2020020585	Soil	75 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH3 0.4	2020020587	Soil	69 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH4 0.4	2020020588	Soil	107 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH7 0.2	2020020591	Soil	62 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH10 0.5	2020020593	Soil	72 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH14 2.0	2020020597	Soil	88 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH15 0.3	2020020598	Soil	59 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dimensions (cm) unless stated otherwise	Result	Comments
BH18 2.0	2020020600	Soil	94 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH19 1.7	2020020601	Soil	82 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil

ADE CONSULTING GROUP
SOLUTIONS THROUGH INNOVATION

ESA-F-02
Chain of Custody (Internal)

Date Printed: 15/10/2020

Document Revision Date: 30.06.2020

ESA-F-02 COC - Chain Of Custody (Internal: Sydney Laboratory Services)

ADE CONSULTING GROUP SOLUTIONS THROUGH INNOVATION

PROJECT:	Shayer Group	LABORATORY REFERENCE NO. (Lab use ONLY):	18526 ASB 2
PROJECT NUMBER - INVOICE NUMBER	STC-1858-18526		
SAMPLES DELIVERED BY:	ADE Consulting Group 6/7 Millennium Ct, Silverwater NSW 2128	RECEIVED BY: KJ	SIGNATURE:
SAMPLERS:	Haneen Safadi / Thomas Cocks	SAMPLES: 22 CHILLED: ☐ PRESERVED: ☒	PRESERVATION METHOD: X / CUSTODY SEAL INTACT: X ☒
TURNAROUND:	24h: ☐ 48h: ☐ 72h: ☐ 5 WORKING DAYS: X	MINIMAL HEADSPACE : ☐	WITHIN HOLDING TIME: ☐
SAMPLING DATE:	13 & 14.10.2020	DATE: 15-10-20	TIME: 2:30 / TEMPERATURE UPON RECEIPT: °C
AFTER TEST STORAGE:	ROOM TEMP: ☐ FRIDGE: X FREEZER: ☐ > >4 WEEKS: ☐ OTHER: ☐	LIMS LOT NO. 2003287	LIMS/EXCEL SIGNATURE: / COMMENTS:
REPORT FORMAT:	HARD COPY: ☐ E-MAIL: X		
CONSULTANTS SIGNATURE:	CONSULTANT E-MAIL: Haneen.safadi@ade.group, thomas.cocks@ade.group		
PROJECT MANAGERS SIGNATURE:	PROJECT MANAGERS E-MAIL: Syed.shah@ade.group		

SAMPLE DATA				CONTAINER DATA		ANALYSES REQUIRED: Chem Lab											Asbestos						Mould	NOTES
LIMS Sample ID (Lab Use)	Sample ID (ADE)	MATRIX	SAMPLE DATE	TYPE & PRESERVATIVE	NO.	6 Metal Suite	8 Metal Suite	BTEX	PAH	OCP/OPP	PCB	vTRH (C6-C10)	TRH (C10-C40)	pH/EC	pH/pH fox	PFAS	Bulk	Dust	Dust Swab	Soil 65g	Soil 500g NEPM	Airborne Asbesos Monitoring	Mould	POTENTIAL HAZARDOUS CONTAMINANTS:
2003020																								☑ ASBESTOS ☐ HYDROCARBONS ☐ LEAD/ARSENIC ☐ NO KNOWN CONTAMINATION ☐ OTHER:_____
606	BH3 0.2	SOIL	14.10.2020	G & B	2		X	X	X	X	X	X	X							X				LAB PLEASE *EMAIL COC RECEIPT: ☐
607	BH4 0.2	SOIL	14.10.2020	G & B	3		X	X	X	X	X	X	X							X				Sample Comments
608	BH5 0.2	SOIL	15.10.2020	G & B			X	X	X	X	X	X	X							X				
609	BH11 0.2	SOIL	13.10.2020	G & B	4		X	X	X	X	X	X	X							X				
610	BH11 0.5	SOIL	13.10.2020	G & B	5		X	X	X	X	X	X	X							X				
611	BH11 1.0	SOIL	13.10.2020	G & B			X	X	X	X	X	X	X							X				
612	BH12 0.2	SOIL	13.10.2020	G & B	6		X	X	X	X	X	X	X							X				
613	BH12 0.5	SOIL	13.10.2020	G & B	7		X	X	X	X	X	X	X							X				
614	BH13 0.2	SOIL	13.10.2020	G & B	8		X	X	X	X	X	X	X							X				
615	BH13 0.5	SOIL	13.10.2020	G, B and PFAS Jar	9		X	X	X	X	X	X	X			X				X				
616	BH13 1.0	SOIL	13.10.2020	G & B	10		X	X	X	X	X	X	X							X				
617	BH14 0.3	SOIL	13.10.2020	G & B	11		X	X	X	X	X	X	X							X				
618	BH14 1.0	SOIL	13.10.2020	G & B	12		X	X	X	X	X	X	X							X				
619	BH18 0.2	SOIL	13.10.2020	G & B	13		X	X	X	X	X	X	X							X				
620	BH18 1.0	SOIL	13.10.2020	G & B	14		X	X	X	X	X	X	X							X				
621	BH19 0.2	SOIL	13.10.2020	G & B	15		X	X	X	X	X	X	X							X				
622	BH19 1.0	SOIL	13.10.2020	G & B	17		X	X	X	X	X	X	X							X				
623	BH20 0.5	SOIL	13.10.2020	G & B	18		X	X	X	X	X	X	X							X				
624	BH20 1.0	SOIL	13.10.2020	G & B	19		X	X	X	X	X	X	X							X				
627	BH20 FC1	Fibre cement	13.10.2020	B	20												X							2003289
625	BH20 2.0	SOIL	13.10.2020	G & B	21		X	X	X	X	X	X	X							X				
626	BH20 3.0	SOIL	13.10.2020	G & B	22		X	X	X	X	X	X	X							X				

Comments:

Container Type and Preservative: P = Unpreserved Plastic; PN = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; PNA = Sodium Hydroxide Preserved Plastic; PC = HCl preserved Plastic; VC = Vial HCl Preserved; SP = Sulfuric Preserved Plastic; VB = Vial Sodium Bisulphate Preserved; VS = Vial Sulfuric Preserved; V = Unpreserved Vial; G = Amber Glass Unpreserved; SG = Sulfuric Preserved Amber Glass; F = Formaldehyde Preserved Glass; HS = HCl preserved Speciation bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; J = Unpreserved Glass Jar; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag.

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Sydney Laboratory Services

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Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This certificate of analysis contains General Comments and Analytical Results. Quality Control Report and Laboratory Quality Acceptance Criteria have been issued separately.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By



Jasmine Franco

General Comments

Samples are analysed on as received basis. Sampling is not covered by NATA accreditation.

Where moisture determination has been performed, results are reported on dry weight basis.

Where the PQL of reported result differs from standard PQL, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Samples were analysed within holding time described by laboratory internal procedures if not stated otherwise. If samples delivered do not meet required analytical criteria, results will be marked with ^.

However surrogate standards are added to samples, results are not corrected for standards recoveries.

Analysis of VOC in water samples are performed on unfiltered waters (as received) spiked with surrogates and injection standards only.

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer; ADE Consulting Group.

Information provided by ADE Consulting Group can affect the validity of the results.

Certificate of Analysis

Contact:	Syed Shah	**Date Reported:**	22/10/2020
Customer:	ADE Consulting Group	**No. of Samples:**	21
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	15/10/2020
		Date of Analysis:	16/10/2020
Cust Ref:	STC-1858-18526		

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

Certificate of Analysis

	Sample ID:	2020020606	2020020607	2020020608	2020020609	2020020610	2020020611	2020020612	2020020613	2020020614	2020020615	2020020616
	Sample Name	BH3 0.2	BH4 0.2	BH5 0.2	BH11 0.2	BH11 0.5	BH11 1.0	BH12 0.2	BH12 0.5	BH13 0.2	BH13 0.5	BH13 1.0
Parameter	Units	PQL										
ESA-P-ORG7 & ORG8												
Benzene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of BTEX	mg/kg		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Xylenes	mg/kg		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fluorobenzene (Surr.)	%		70	71	73	74	73	74	72	69	72	72	70
C6-C10	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C10 minus BTEX	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C9	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
ESA-MP-01,ICP-01												
Arsenic	mg/kg	5	<5.0	<5.0	<5.0	<5.0	<5.0	10.8	6.0	9.1	6.5	<5.0	9.1
Cadmium	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Chromium	mg/kg	5	<5.0	<5.0	<5.0	46.3	<5.0	34.8	34.0	37.7	20.5	8.3	37.8
Copper	mg/kg	5	<5.0	14.4	<5.0	14.2	<5.0	<5.0	8.0	<5.0	13.8	<5.0	<5.0
Lead	mg/kg	10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	114.3	<10.0	127.1	17.3	<10.0
Mercury	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.78	<0.20	<0.20
Nickel	mg/kg	10	<10.0	<10.0	<10.0	45.5	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Zinc	mg/kg	5	<5.0	<5.0	<5.0	35.4	5.8	<5.0	21.4	<5.0	45.7	<5.0	<5.0
ESA-P-12												
% Moisture Content	%		3.1	6.4	5.8	5.5	19.1	19.3	9.5	24.4	13.3	19.2	21.9
ESA-P-ORG(11 - 15)												
Acenaphthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30

Certificate of Analysis

	Sample ID:	2020020606	2020020607	2020020608	2020020609	2020020610	2020020611	2020020612	2020020613	2020020614	2020020615	2020020616
	Sample Name	BH3 0.2	BH4 0.2	BH5 0.2	BH11 0.2	BH11 0.5	BH11 1.0	BH12 0.2	BH12 0.5	BH13 0.2	BH13 0.5	BH13 1.0
Parameter	Units	PQL										
Anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.34	<0.30	<0.30
Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.49	<0.30	<0.30
Benzo[b]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.54	<0.30	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.33	<0.30	<0.30
Benzo[k]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Chrysene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.42	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.72	<0.30	<0.30
Fluorene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.73	<0.30	<0.30
Sum of Positive PAHs	mg/kg		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.57	0.00	0.00
Benzo(a)pyrene TEQ (Zero)	mg/kg		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.00	0.00
Benzo(a)pyrene TEQ (Half PQL)	mg/kg		0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.77	0.36	0.36
Benzo(a)pyrene TEQ (PQL)	mg/kg		0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.95	0.73	0.73
p-Terphenyl-d14 (Surr.)	%		103	108	107	103	90	105	103	107	106	108	104
aldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
a-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
b-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
d-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
cis-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
trans-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

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Silverwater 2128
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Certificate of Analysis

	Sample ID:	2020020606	2020020607	2020020608	2020020609	2020020610	2020020611	2020020612	2020020613	2020020614	2020020615	2020020616
	Sample Name	BH3 0.2	BH4 0.2	BH5 0.2	BH11 0.2	BH11 0.5	BH11 1.0	BH12 0.2	BH12 0.5	BH13 0.2	BH13 0.5	BH13 1.0
Parameter	Units	PQL										
4,4'-DDD	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDE	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
dieldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endosulfan I	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan II	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endrin aldehyde	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin ketone	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methoxychlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TCMX (Surr.)	%		98	101	99	98	84	98	96	100	97	99	98
chlorpyrifos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
diazinon	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
fenchlorphos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methyl parathion	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
prophos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Aroclor 1016	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1221	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1232	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1242	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

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Certificate of Analysis

	Sample ID:	2020020606	2020020607	2020020608	2020020609	2020020610	2020020611	2020020612	2020020613	2020020614	2020020615	2020020616
	Sample Name	BH3 0.2	BH4 0.2	BH5 0.2	BH11 0.2	BH11 0.5	BH11 1.0	BH12 0.2	BH12 0.5	BH13 0.2	BH13 0.5	BH13 1.0
Parameter	Units	PQL										
Aroclor 1248	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1254	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1260	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-fluorobiphenyl (Surr.)	%		106	109	107	106	90	106	103	109	106	108	107

Certificate of Analysis

	Sample ID:	2020020606	2020020607	2020020608	2020020609	2020020610	2020020611	2020020612	2020020613	2020020614	2020020615	2020020616
	Sample Name	BH3 0.2	BH4 0.2	BH5 0.2	BH11 0.2	BH11 0.5	BH11 1.0	BH12 0.2	BH12 0.5	BH13 0.2	BH13 0.5	BH13 1.0
Parameter	Units	PQL										
ESA-P-ORG16												
PFBA	ug/kg	5									<5	
PFPeA	ug/kg	5									<5	
PFBS	ug/kg	5									<5	
PFHxA	ug/kg	5									<5	
PFPeS	ug/kg	5									<5	
PFHpA	ug/kg	5									<5	
PFOA	ug/kg	5									<5	
PFHpS	ug/kg	5									<5	
PFOS	ug/kg	5									<5	
PFDA	ug/kg	5									<5	
PFUdA	ug/kg	5									<5	
PFDoA	ug/kg	5									<5	
PFTrDA	ug/kg	5									<5	
PFTeDA	ug/kg	5									<5	
PFNA	ug/kg	5									<5	
PFHxS	ug/kg	5									<5	
MPFBA (Surr.)	%										79	
M3PFBS (Surr.)	%										94	
MPFOS (Surr.)	%										121	
MPFHxA (Surr.)	%										116	
MPFOA (Surr.)	%										110	
MPFUdA (Surr.)	%										126	

Certificate of Analysis

	Sample ID:	2020020606	2020020607	2020020608	2020020609	2020020610	2020020611	2020020612	2020020613	2020020614	2020020615	2020020616
	Sample Name	BH3 0.2	BH4 0.2	BH5 0.2	BH11 0.2	BH11 0.5	BH11 1.0	BH12 0.2	BH12 0.5	BH13 0.2	BH13 0.5	BH13 1.0
Parameter	*Units*	*PQL*										
ESA-P-ORG(3,5,6,8)												
>C10-C16	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C34-C40	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of total)	mg/kg		0	0	0	0	0	0	0	0	0	0	0
C10-C14	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of total)	mg/kg		0	0	0	0	0	0	0	0	0	0	0

Certificate of Analysis

	Sample ID:	2020020617	2020020618	2020020619	2020020620	2020020621	2020020622	2020020623	2020020624	2020020625	2020020626
	Sample Name	BH14 0.3	BH14 1.0	BH18 0.2	BH18 1.0	BH19 0.2	BH19 1.0	BH20 0.5	BH20 1.0	BH20 2.0	BH20 3.0
Parameter	Units	PQL									
ESA-P-ORG7 & ORG8											
Benzene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of BTEX	mg/kg		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Xylenes	mg/kg		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fluorobenzene (Surr.)	%		68	72	72	68	71	72	73	79	69	70
C6-C10	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C10 minus BTEX	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C9	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
ESA-MP-01,ICP-01											
Arsenic	mg/kg	5	<5.0	<5.0	5.2	11.7	10.1	11.9	39.5	17.1	43.8	<5.0
Cadmium	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Chromium	mg/kg	5	<5.0	<5.0	18.6	40.9	14.6	62.4	11.4	6.9	21.7	6.6
Copper	mg/kg	5	14.8	<5.0	5.4	<5.0	17.0	<5.0	10.8	5.5	112.4	<5.0
Lead	mg/kg	10	<10.0	<10.0	21.5	<10.0	151.9	55.1	83.0	43.7	93.2	35.0
Mercury	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	mg/kg	10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Zinc	mg/kg	5	<5.0	<5.0	9.0	<5.0	171.3	28.2	95.5	48.2	127.5	32.9
ESA-P-12											
% Moisture Content	%		9.0	9.6	16.0	25.5	14.9	21.6	1.5	6.1	17.6	6.9
ESA-P-ORG(11 - 15)											
Acenaphthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30

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Certificate of Analysis

	Sample ID:	2020020617	2020020618	2020020619	2020020620	2020020621	2020020622	2020020623	2020020624	2020020625	2020020626
	Sample Name	BH14 0.3	BH14 1.0	BH18 0.2	BH18 1.0	BH19 0.2	BH19 1.0	BH20 0.5	BH20 1.0	BH20 2.0	BH20 3.0
Parameter	Units	PQL									
Anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	0.44	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	0.48	<0.30	<0.30	<0.30	<0.30	0.30
Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	0.60	<0.30	<0.30	<0.30	<0.30	0.30
Benzo[b]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	0.57	<0.30	<0.30	<0.30	<0.30	0.36
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	0.36	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[k]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.50
Chrysene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	0.56	<0.30	<0.30	<0.30	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	1.28	<0.30	<0.30	<0.30	<0.30	0.65
Fluorene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	1.61	<0.30	<0.30	<0.30	<0.30	0.36
Pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	1.18	<0.30	<0.30	<0.30	<0.30	0.65
Sum of Positive PAHs	mg/kg		0.00	0.00	0.00	0.00	7.08	0.00	0.00	0.00	0.00	3.12
Benzo(a)pyrene TEQ (Zero)	mg/kg		0.00	0.00	0.00	0.00	0.71	0.00	0.00	0.00	0.00	0.42
Benzo(a)pyrene TEQ (Half PQL)	mg/kg		0.36	0.36	0.36	0.36	0.89	0.36	0.36	0.36	0.36	0.58
Benzo(a)pyrene TEQ (PQL)	mg/kg		0.73	0.73	0.73	0.73	1.07	0.73	0.73	0.73	0.73	0.75
p-Terphenyl-d14 (Surr.)	%		89	111	108	108	103	104	106	107	94	100
aldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
a-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
b-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
d-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
cis-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
trans-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Sydney Laboratory Services
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Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Certificate of Analysis

	Sample ID:	2020020617	2020020618	2020020619	2020020620	2020020621	2020020622	2020020623	2020020624	2020020625	2020020626
	Sample Name	BH14 0.3	BH14 1.0	BH18 0.2	BH18 1.0	BH19 0.2	BH19 1.0	BH20 0.5	BH20 1.0	BH20 2.0	BH20 3.0
Parameter	Units	PQL									
4,4'-DDD	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDE	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
dieldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endosulfan I	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan II	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endrin aldehyde	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin ketone	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methoxychlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TCMX (Surr.)	%		84	103	100	101	96	97	98	100	85	89
chlorpyrifos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
diazinon	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
fenchlorphos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methyl parathion	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
prophos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Aroclor 1016	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1221	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1232	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1242	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Certificate of Analysis

	Sample ID:	2020020617	2020020618	2020020619	2020020620	2020020621	2020020622	2020020623	2020020624	2020020625	2020020626
	Sample Name	BH14 0.3	BH14 1.0	BH18 0.2	BH18 1.0	BH19 0.2	BH19 1.0	BH20 0.5	BH20 1.0	BH20 2.0	BH20 3.0
Parameter	Units	PQL									
Aroclor 1248	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1254	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1260	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-fluorobiphenyl (Surr.)	%		90	114	108	109	103	106	108	108	87	92
ESA-P-ORG(3,5,6,8)												
>C10-C16	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C34-C40	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of total)	mg/kg		0	0	0	0	0	0	0	0	0	0
C10-C14	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15-C28	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29-C36	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10-C36 (Sum of total)	mg/kg		0	0	0	0	0	0	0	0	0	0

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A.B.N. 52 093 452 950

Analysis report: STC-1858-18526 ASB 2

Date Received:	15.10.2020
Date Analysed:	22.10.2020
Report Date:	22.10.2020
Client:	ADE Consulting Group
Job Location:	Shayer Group
Analytical method:	AS 4964-2004 "Method for the qualitative identification of asbestos in bulk samples" in conjunction with AD Envirotech's ABI Methods for Polarised Light Microscopy with dispersion staining

Analysis performed by:

Jiaqi Zhou
Approved asbestos identifier

Results Authorised By:

Jiaqi Zhou
Approved Signatory

Accreditation No.14664.
Accredited for compliance with ISO/IEC 17025 - Testing.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Tests not covered by NATA are denoted with *.

General Comments:

Sydney Laboratory Services is responsible for all the information in the report, except that provided by the customer. All sampling information included in the report has been provided by customer; ADE Consulting Group.
Information provided by ADE Consulting Group can affect the validity of the results.
Sample analysed as received.
Samples are stored for minimum period of 1 month if longer time is not advised by client.
Due to the difficulty of estimating the load on the swab the test is carried out for presence or absence of asbestos only.
[1] Independent confirming technique such as infrared spectroscopy, X-ray diffraction, scanning or transmission electron microscopy is advised.
[2] Due to the sample size not meeting the Australian Standard 4964-2004 requirements, the result might be compromised.

Accreditation No.14664.
Accredited for compliance with ISO/IEC 17025 - Testing.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Tests not covered by NATA are denoted with *.

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dimensions (cm) unless stated otherwise	Result	Comments
BH3 0.2	2020020606	Soil	87 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH4 0.2	2020020607	Soil	105 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH5 0.2	2020020608	Soil	78 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH11 0.2	2020020609	Soil	76 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH11 0.5	2020020610	Soil	56 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH11 1.0	2020020611	Soil	59 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH12 0.2	2020020612	Soil	62 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dimensions (cm) unless stated otherwise	Result	Comments
BH12 0.5	2020020613	Soil	77 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH13 0.2	2020020614	Soil	65 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH13 0.5	2020020615	Soil	60 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH13 1.0	2020020616	Soil	78 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH14 0.3	2020020617	Soil	74 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH14 1.0	2020020618	Soil	108 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH18 0.2	2020020619	Soil	65 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dimensions (cm) unless stated otherwise	Result	Comments
BH18 1.0	2020020620	Soil	59 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH19 0.2	2020020621	Soil	72 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH19 1.0	2020020622	Soil	72 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH20 0.5	2020020623	Soil	77 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH20 1.0	2020020624	Soil	87 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH20 FC1	2020020627	Fibre Cement	6.4 x 4.5 x 1.0	Chrysotile asbestos found	Nil
				No Amosite asbestos found	Nil
				No Crocidolite asbestos found	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil
BH20 2.0	2020020625	Soil	46 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dimensions (cm) unless stated otherwise	Result	Comments
BH20 3.0	2020020626	Soil	92 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
				No Synthetic Mineral Fibres found	Nil
				Organic fibres found	Nil

#11

Document Revision Date: 30.06.2020

ESA-F-02 COC - Chain Of Custody (Internal: Sydney Laboratory Services)

PROJECT:	Shayer Group	LABORATORY REFERENCE NO. (Lab use ONLY):	18526
PROJECT NUMBER - INVOICE NUMBER	STC-1858-18526		
SAMPLES DELIVERED BY:	ADE Consulting Group 6/7 Millennium Ct, Silverwater NSW 2128	RECEIVED BY: KJ	SIGNATURE:
SAMPLERS:	Haneen Safadi / Thomas Cocks	SAMPLES: 2 CHILLED: ☑	PRESERVED: ☒ PRESERVATION METHOD: x CUSTODY SEAL INTACT: x
TURNAROUND:	24h: ☐ 48h: ☐ 72h: ☐ 5 WORKING DAYS: X	MINIMAL HEADSPACE : ☐	WITHIN HOLDING TIME: ☐
SAMPLING DATE:	13 & 14.10.2020	DATE: 15.10.20	TIME: 2:30 TEMPERATURE UPON RECEIPT: °C
AFTER TEST STORAGE:	ROOM TEMP: ☐ FRIDGE: X FREEZER: ☐ > >4 WEEKS: ☐ OTHER: ☐	LIMS LOT NO. ~~20200~~ 2003290	LIMS/EXCEL SIGNATURE:	COMMENTS:
REPORT FORMAT:	HARD COPY: ☐ E-MAIL: X	ANALYSES REQUIRED	NOTES
CONSULTANTS SIGNATURE:	CONSULTANT E-MAIL: Haneen.safadi@ade.group, thomas.cocks@ade.group	Chem Lab / Asbestos / Mould	POTENTIAL HAZARDOUS CONTAMINANTS:
PROJECT MANAGERS SIGNATURE:	PROJECT MANAGERS E-MAIL: Syed.shah@ade.group		☐ ASBESTOS ☐ HYDROCARBONS ☐ LEAD/ARSENIC ☐ NO KNOWN CONTAMINATION ☐ OTHER:_____
			LAB PLEASE *EMAIL COC RECEIPT: ☐
			Sample Comments

SAMPLE DATA				CONTAINER DATA		Chem Lab											Asbestos						Mould	
LIMS Sample ID (Lab Use)	Sample ID (ADE)	MATRIX	SAMPLE DATE	TYPE & PRESERVATIVE	NO.	6 Metal Suite	8 Metal Suite	BTEX	PAH	OCP/OPP	PCB	vTRH (C6-C10)	TRH (C10-C40)	pH/EC	pH/pH fox	PFAS	Bulk	Dust	Dust Swab	Soil 65g	Soil 500g NEPM	Airborne Asbesos Monitoring	Mould	
2020020																								
628	TB1	water	13.10.2020	Glass Vial	1			X																
629	TS1	water	13.10.2020	Glass Vial	2			X																
630	TB2	water	14.10.2020	Glass Vial	3			X																
631	TB2	water	14.10.2020	Glass Vial	4			X																

Comments:

Container Type and Preservative: P = Unpreserved Plastic; PN = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; PNA = Sodium Hydroxide Preserved Plastic; PC = HCl preserved Plastic; VC = Vial HCl Preserved; SP = Sulfuric Preserved Plastic; VB = Vial Sodium Bisulphate Preserved; VS = Vial Sulfuric Preserved; V = Unpreserved Vial; G = Amber Glass Unpreserved; SG = Sulfuric Preserved Amber Glass; F = Formaldehyde Preserved Glass; HS = HCl preserved Speciation bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; J = Unpreserved Glass Jar; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag.

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Batch Number : 2003290

Report Number : STC-1858-18526 (628-631)

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This certificate of analysis contains General Comments and Analytical Results. Quality Control Report and Laboratory Quality Acceptance Criteria have been issued separately.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By



Jasmine Franco

General Comments

Samples are analysed on as received basis. Sampling is not covered by NATA accreditation.

Where moisture determination has been performed, results are reported on dry weight basis.

Where the PQL of reported result differs from standard PQL, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Samples were analysed within holding time described by laboratory internal procedures if not stated otherwise. If samples delivered do not meet required analytical criteria, results will be marked with ^.

However surrogate standards are added to samples, results are not corrected for standards recoveries.

Analysis of VOC in water samples are performed on unfiltered waters (as received) spiked with surrogates and injection standards only.

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer; ADE Consulting Group.

Information provided by ADE Consulting Group can affect the validity of the results.

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Certificate of Analysis

Contact:	Syed Shah	**Date Reported:**	22/10/2020
Customer:	ADE Consulting Group	**No. of Samples:**	4
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	16/10/2020
		Date of Analysis:	16/10/2020
Cust Ref:	STC-1858-18526		

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

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Silverwater 2128
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Certificate of Analysis

	Sample ID:	2020020628	2020020629	2020020630	2020020631
	Sample Name	TB1	TS1	TB2	TS2
Parameter	Units	PQL			
ESA-P-ORG08 & ORG10					
Benzene	ug/L	1	<1	100%	<1	105%
Toluene	ug/L	1	<1	89%	<1	95%
Ethylbenzene	ug/L	1	<1	85%	<1	91%
m,p Xylene	ug/L	2	<2	84%	<2	90%
o Xylene	ug/L	1	<1	84%	<1	91%
Fluorobenzene (Surr.)	%		83	87	80	91

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Silverwater 2128
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ADECONSULTINGGROUP
SOLUTIONS THROUGH INNOVATION

ESA-F-02
Chain of Custody (Internal)

Date Printed: 23/10/2020

#42

Document Revision Date: 30.06.2020

ESA-F-02 COC - Chain Of Custody (Internal: Sydney Laboratory Services)

ADECONSULTINGGROUP
SOLUTIONS THROUGH INNOVATION

PROJECT:	Shayer Group	LABORATORY REFERENCE NO. (Lab use ONLY):	18526
PROJECT NUMBER - INVOICE NUMBER	STC-1858-18526		
SAMPLES DELIVERED BY:	ADE Consulting Group 6/7 Millennium Ct, Silverwater NSW 2128	RECEIVED BY: KJ	SIGNATURE:
SAMPLERS:	Haneen Safadi / Thomas Cocks	SAMPLES: 2 CHILLED: ☐ PRESERVED: ☒	PRESERVATION METHOD: ICE / CUSTODY SEAL INTACT: X ☐
TURNAROUND:	24h: ☐ 48h: ☐ 72h: ☐ 5 WORKING DAYS: X	MINIMAL HEADSPACE : ☐	WITHIN HOLDING TIME: ☐
SAMPLING DATE:	23.10.2020	DATE: 23·10·20 TIME: 2:26	TEMPERATURE UPON RECEIPT: °C
AFTER TEST STORAGE:	ROOM TEMP: ☐ FRIDGE: X FREEZER: ☐ > >4 WEEKS: ☐ OTHER: ☐	LIMS LOT NO. 2003466	LIMS/EXCEL SIGNATURE: / COMMENTS:
REPORT FORMAT:	HARD COPY: ☐ E-MAIL: X	ANALYSES REQUIRED	NOTES
CONSULTANTS SIGNATURE:	CONSULTANT E-MAIL: Haneen.safadi@ade.group, thomas.cocks@ade.group		
PROJECT MANAGERS SIGNATURE:	PROJECT MANAGERS E-MAIL: Syed.shah@ade.group		

SAMPLE DATA				CONTAINER DATA		Chem Lab											Asbestos						Mould	NOTES
LIMS Sample ID (Lab Use)	Sample ID (ADE)	MATRIX	SAMPLE DATE	TYPE & PRESERVATIVE	NO.	6 Metal Suite	8 Metal Suite	BTEX	PAH	OCP/OPP	PCB	vTRH (C6-C10)	TRH (C10-C40)	pH/EC	pH/pH fox	PFAS	Bulk	Dust	Dust Swab	Soil 65g	Soil 500g NEPM	Airborne Asbesos Monitoring	Mould	POTENTIAL HAZARDOUS CONTAMINANTS: ☐ ASBESTOS ☐ HYDROCARBONS ☐ LEAD/ARSENIC ☐ NO KNOWN CONTAMINATION ☐ OTHER:_____
2020021																								LAB PLEASE *EMAIL COC RECEIPT: ☐
708	TB3	water	23.10.2020	Glass Vial	1			X																Sample Comments
709	TS3	water	23.10.2020	Glass Vial	2			X																

Comments:

Container Type and Preservative: P = Unpreserved Plastic; PN = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; PNA = Sodium Hydroxide Preserved Plastic; PC = HCl preserved Plastic; VC = Vial HCl Preserved; SP = Sulfuric Preserved Plastic; VB = Vial Sodium Bisulphate Preserved; VS = Vial Sulfuric Preserved; V = Unpreserved Vial; G = Amber Glass Unpreserved; SG = Sulfuric Preserved Amber Glass; F = Formaldehyde Preserved Glass; HS = HCl preserved Speciation bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; J = Unpreserved Glass Jar; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag.

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Batch Number : 2003466

Report Number : STC-1858-18526 (708-709)

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A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This certificate of analysis contains General Comments and Analytical Results. Quality Control Report and Laboratory Quality Acceptance Criteria have been issued separately.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By



Jasmine Franco

General Comments

Samples are analysed on as received basis. Sampling is not covered by NATA accreditation.

Where moisture determination has been performed, results are reported on dry weight basis.

Where the PQL of reported result differs from standard PQL, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Samples were analysed within holding time described by laboratory internal procedures if not stated otherwise. If samples delivered do not meet required analytical criteria, results will be marked with ^.

However surrogate standards are added to samples, results are not corrected for standards recoveries.

Analysis of VOC in water samples are performed on unfiltered waters (as received) spiked with surrogates and injection standards only.

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer; ADE Consulting Group.

Information provided by ADE Consulting Group can affect the validity of the results.

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Certificate of Analysis

Contact:	Syed Shah	**Date Reported:**	30/10/2020
Customer:	ADE Consulting Group	**No. of Samples:**	2
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	23/10/2020
		Date of Analysis:	23/10/2020
Cust Ref:	STC-1858-18526		

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

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Silverwater 2128
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Certificate of Analysis

	Sample ID:	2020021708	2020021709
	Sample Name	TB3	TS3
Parameter	Units	PQL		
ESA-P-ORG08 & ORG10				
Benzene	ug/L	1	<1	94%
Toluene	ug/L	1	<1	94%
Ethylbenzene	ug/L	1	<1	93%
m,p Xylene	ug/L	2	<2	93%
o Xylene	ug/L	1	<1	94%
Fluorobenzene (Surr.)	%		71	85

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Job Number: **STC-1858-18526**

Environmental Division Sydney
Work Order Reference
ES2036287

Telephone : + 61-2-8784 8555

From:
Unit 6/7 Millennium Court,
Silverwater NSW 2128
Phone: (02) 8541 7214
Email: info@ade.group

To: ALS Global
Sydney
277-289 Woodpark Road
Smithfield NSW 2164
Attention:

Sampler: Haneen Safadi *print name* — *Signature* — Date: 15.10.2020

Project Manager: Syed Shah *print name* — *signature* — Date: 15.10.2020

Received for Laboratory: JUSTIN *print name* — *signature* — Date: 15/10/20 5.40pm

QUOTE NUMBER: EN/097/20
ALS ACCOUNT ID: ADENVT

SAMPLE DETAILS

Laboratory Sample ID	ADE Sample ID	Sample Date	Sample Type	Container	Analysis Required: Phenols (EP075A)	EP074 A to H (Full VOC Scan (A to H))	P-22	S16 Suite	EK026	W-8
1	BH1 0.4	14.10.2020	Soil	Amber Jar	X	X			X	
2	BH4 0.4	14.10.2020	Soil		X	X			X	
3	BH8 0.3	14.10.2020	Soil		X	X			X	
4	BH12 0.2	13.10.2020	Soil		X	X				
5	BH13 0.5	13.10.2020	Soil		X	X			X	
6	BH15 0.3	14.10.2020	Soil		X	X				
7	BH18 0.2	13.10.2020	Soil		X	X			X	
8	BH19 0.2	13.10.2020	Soil		X	X				
9	BH11 2.0	13.10.2020	Soil	Amber Jar, Zip bag			X			
10	BH14 2.0	13.10.2020	Soil				X			
11	SR1	13.10.2020	Soil	Amber Jar				X		
12	SR2	14.10.2020	Soil					X		
13	RS1	13.10.2020	Water	2 x vials, 1 Plastic Bottle, 1 Amber Bottle						X
16	RS2	14.10.2020	Water	2 x vials, 1 Plastic Bottle, 1 Amber Bottle						X

Subcon / Forward Lab / Split WO
Lab / Analysis: Newcastle / Clay %
~~Organised By / Date:~~
Relinquished By / Date:
Connote / Courier:
WO No:
Attached By PO / Internal Sheet:

Further instructions:

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Job Number: **STC-1858-18526**

1. Invoices are required to be sent to accounts@ade.group instead of sending them to your contact person. ADE Consulting Group Pty Ltd will not be processing any invoices going forward unless they are emailed to this address.
2. Please send back COC/ORDER and SRA.
3. Please analyse all samples on a 5 day TAT (22.10.2020) and report results to syed.shah@ade.group and haneen.safadi@ade.group

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ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2036287**	Page	: 1 of 18
Client	: **ADE Consulting Group Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: Syed Shah	Contact	: Shane Ellis
Address	: 6/7 MILLENIUM COURT SILVERWATER NSW 2128	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: STC-1858-18526	Date Samples Received	: 15-Oct-2020 17:40
Order number	: ----	Date Analysis Commenced	: 19-Oct-2020
C-O-C number	: PM-F-07b1	Issue Date	: 27-Oct-2020 16:10
Sampler	: HANEEN SAFADI		
Site	: ----		
Quote number	: EN/097/20		
No. of samples received	: 14		
No. of samples analysed	: 14		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Aleksandar Vujkovic	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Dian Dao	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichlorothene, trans-1,2-dichlorothene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005: Poor precision was obtained for Nickel and Chromium on sample ES2036745-2. Results have been confirmed by re-extraction and re-analysis.
- ED007 and ED008: When Exchangeable Al is reported from these methods, it should be noted that Rayment & Lyons (2011) suggests Exchange Acidity by 1M KCl - Method 15G1 (ED005) is a more suitable method for the determination of exchange acidity (H+ + Al3+).

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH1 0.1	BH4 0.4	BH8 0.3	BH12 0.2	BH13 0.5
			Client sampling date / time	14-Oct-2020 00:00	14-Oct-2020 00:00	14-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00
Compound	CAS Number	LOR	Unit	ES2036287-001	ES2036287-002	ES2036287-003	ES2036287-004	ES2036287-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**14.0**	**10.5**	**8.5**	**15.1**	**17.8**
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	<1	----	<1
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	<5	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	<5	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	<5	<5	<5
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	<5	<5	<5
Chloromethane	74-87-3	5	mg/kg	<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH1 0.1	BH4 0.4	BH8 0.3	BH12 0.2	BH13 0.5
				Client sampling date / time	14-Oct-2020 00:00	14-Oct-2020 00:00	14-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00
Compound	CAS Number	LOR	Unit		ES2036287-001	ES2036287-002	ES2036287-003	ES2036287-004	ES2036287-005
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
Vinyl chloride	75-01-4	5	mg/kg		<5	<5	<5	<5	<5
Bromomethane	74-83-9	5	mg/kg		<5	<5	<5	<5	<5
Chloroethane	75-00-3	5	mg/kg		<5	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	<5	<5	<5	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH1 0.1	BH4 0.4	BH8 0.3	BH12 0.2	BH13 0.5
				Client sampling date / time	14-Oct-2020 00:00	14-Oct-2020 00:00	14-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00
Compound	CAS Number	LOR	Unit		ES2036287-001	ES2036287-002	ES2036287-003	ES2036287-004	ES2036287-005
					Result	Result	Result	Result	Result
EP074F: Halogenated Aromatic Compounds - Continued									
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074H: Naphthalene									
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	<2	<2
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**92.7**	**88.0**	**89.2**	**85.6**	**85.1**
Toluene-D8	2037-26-5	0.5	%		**93.3**	**92.2**	**94.0**	**92.0**	**91.4**
4-Bromofluorobenzene	460-00-4	0.5	%		**90.9**	**90.4**	**91.3**	**89.2**	**87.4**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**78.9**	**79.0**	**81.4**	**82.3**	**81.7**
2-Chlorophenol-D4	93951-73-6	0.5	%		**85.7**	**84.7**	**83.2**	**84.7**	**85.0**
2.4.6-Tribromophenol	118-79-6	0.5	%		**61.4**	**55.6**	**47.4**	**50.3**	**55.0**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**100**	**100**	**102**	**102**	**101**
Anthracene-d10	1719-06-8	0.5	%		**97.5**	**96.5**	**94.4**	**97.1**	**96.7**
4-Terphenyl-d14	1718-51-0	0.5	%		**88.9**	**89.1**	**88.2**	**89.7**	**89.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH15 0.3	BH18 0.2	BH19 0.2	BH11 2.0	BH14 2.0
			Client sampling date / time	14-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00
Compound	CAS Number	LOR	Unit	ES2036287-006	ES2036287-007	ES2036287-008	ES2036287-009	ES2036287-010
				Result	Result	Result	Result	Result
EA001: pH in soil using 0.01M CaCl extract								
pH (CaCl2)	----	0.1	pH Unit	----	----	----	3.9	3.9
EA002: pH 1:5 (Soils)								
pH Value	----	0.1	pH Unit	----	----	----	5.1	5.3
EA010: Conductivity (1:5)								
Electrical Conductivity @ 25°C	----	1	µS/cm	----	----	----	71	57
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	12.8	14.1	10.8	13.1	7.8
EA150: Soil Classification based on Particle Size								
Clay (<2 µm)	----	1	%	----	----	----	55	57
EA152: Soil Particle Density								
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3	----	----	----	2.59	2.48
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	1.0	<0.1
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	2.6	2.2
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	0.2	0.2
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	0.5	0.8
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	9.8	5.6
EG005(ED093)T: Total Metals by ICP-AES								
Iron	7439-89-6	0.005	%	----	----	----	5.58	3.93
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser								
Weak Acid Dissociable Cyanide	----	1	mg/kg	----	<1	----	----	----
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	----	----	<0.5	<0.5
Total Organic Carbon	----	0.5	%	----	----	----	<0.5	<0.5
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH15 0.3	BH18 0.2	BH19 0.2	BH11 2.0	BH14 2.0
				Client sampling date / time	14-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00
Compound	CAS Number	LOR	Unit		ES2036287-006	ES2036287-007	ES2036287-008	ES2036287-009	ES2036287-010
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	<5	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	<5	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	<5	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	<5	<5	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	<5	<5	----	----
Chloromethane	74-87-3	5	mg/kg		<5	<5	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg		<5	<5	<5	----	----
Bromomethane	74-83-9	5	mg/kg		<5	<5	<5	----	----
Chloroethane	75-00-3	5	mg/kg		<5	<5	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	<5	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH15 0.3	BH18 0.2	BH19 0.2	BH11 2.0	BH14 2.0
				Client sampling date / time	14-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00
Compound	CAS Number	LOR	Unit		ES2036287-006	ES2036287-007	ES2036287-008	ES2036287-009	ES2036287-010
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
EP074H: Naphthalene									
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH15 0.3	BH18 0.2	BH19 0.2	BH11 2.0	BH14 2.0
				Client sampling date / time	14-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00	13-Oct-2020 00:00
Compound	CAS Number	LOR	Unit		ES2036287-006	ES2036287-007	ES2036287-008	ES2036287-009	ES2036287-010
					Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued									
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	<1	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	<2	----	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**88.5**	**88.6**	**90.4**	----	----
Toluene-D8	2037-26-5	0.5	%		**91.5**	**91.3**	**93.0**	----	----
4-Bromofluorobenzene	460-00-4	0.5	%		**87.4**	**87.4**	**90.0**	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**82.8**	**80.3**	**79.7**	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**84.6**	**86.3**	**85.3**	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**47.4**	**56.1**	**53.4**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**105**	**103**	**98.8**	----	----
Anthracene-d10	1719-06-8	0.5	%		**98.4**	**99.1**	**92.1**	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**90.7**	**89.9**	**85.9**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SR1	SR2	----	----	----
				Client sampling date / time	13-Oct-2020 00:00	14-Oct-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2036287-011	ES2036287-012	--------	--------	--------
					Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		**17.7**	**11.7**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		**7**	<5	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg		**42**	**5**	----	----	----
Copper	7440-50-8	5	mg/kg		<5	**35**	----	----	----
Lead	7439-92-1	5	mg/kg		**23**	**10**	----	----	----
Nickel	7440-02-0	2	mg/kg		<2	<2	----	----	----
Zinc	7440-66-6	5	mg/kg		<5	<5	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SR1	SR2	----	----	----
				Client sampling date / time	13-Oct-2020 00:00	14-Oct-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2036287-011	ES2036287-012	--------	--------	--------
					Result	Result	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	----	----	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	----	----	----
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	----	----	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	----	----	----
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	----	----	----
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SR1	SR2	----	----	----
				Client sampling date / time	13-Oct-2020 00:00	14-Oct-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2036287-011	ES2036287-012	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SR1	SR2	----	----	----
				Client sampling date / time	13-Oct-2020 00:00	14-Oct-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2036287-011	ES2036287-012	--------	--------	--------
					Result	Result	----	----	----
EP080: BTEXN - Continued									
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	----	----	----
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**85.0**	**127**	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**118**	**132**	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**72.2**	**62.9**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**91.5**	**93.1**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**91.6**	**93.0**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**66.7**	**64.8**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**106**	**107**	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**100**	**100.0**	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**97.8**	**96.6**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**85.5**	**88.8**	----	----	----
Toluene-D8	2037-26-5	0.2	%		**97.5**	**98.5**	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**92.9**	**97.1**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RS1	RS2	----	----	----
			Client sampling date / time	16-Oct-2020 00:00	14-Oct-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2036287-013	ES2036287-014	--------	--------	--------
				Result	Result	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
^ **Total Polychlorinated biphenyls**	----	1	µg/L	<1	<1	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	----	----	----
beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	----	----	----
gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	----	----	----
delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	----	----	----
Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	----	----	----
Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	----	----	----
Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	----	----	----
Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L	<2.0	<2.0	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	----	----	----
Methoxychlor	72-43-5	2.0	µg/L	<2.0	<2.0	----	----	----
^ **Total Chlordane (sum)**	----	0.5	µg/L	<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RS1	RS2	----	----	----
				Client sampling date / time	16-Oct-2020 00:00	14-Oct-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2036287-013	ES2036287-014	--------	--------	--------
					Result	Result	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.5	µg/L		<0.5	<0.5	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.5	µg/L		<0.5	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	<0.5	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RS1	RS2	----	----	----
				Client sampling date / time	16-Oct-2020 00:00	14-Oct-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2036287-013	ES2036287-014	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	<100	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	<2	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	1	%		**73.2**	**75.1**	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**76.6**	**70.6**	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**84.3**	**87.2**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**17.2**	**25.8**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**37.2**	**52.8**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**66.8**	**40.7**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**54.8**	**58.8**	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**62.4**	**72.7**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**82.5**	**80.1**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**94.7**	**95.1**	----	----	----
Toluene-D8	2037-26-5	2	%		**100**	**100**	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**101**	**98.6**	----	----	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	45	134
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	67	111
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	67	111
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)T: PAH Surrogates - Continued			
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

ADE Consulting Group Pty Ltd	PM-F-07b1 Chain of Custody and Order (External)	Page: 1 of 1 Date: 23/04/2018

Job Number: **STC-1858-18526**

From:
Unit 6/7 Millennium Court,
Silverwater NSW 2128
Phone: (02) 8541 7214
Email: info@ade.group

To: ALS Global
Sydney
277-289 Woodpark Road
Smithfield NSW 2164
Attention:

ADE CONSULTING GROUP

Sampler: Haneen Safadi — *print name* — *Signature* — Date: 23.10.2020

Project Manager: Syed Shah — *print name* — *signature* — Date: 23.10.2020

Received for Laboratory: *print name* *signature* Date: 23/10/20 4:59

QUOTE NUMBER: EN/097/20
ALS ACCOUNT ID: ADENVT

SAMPLE DETAILS

Laboratory Sample ID	ADE Sample ID	Sample Date	Sample Type	Container	Analysis Required					
					W-19	PFAS (EP231)	EP074 A to H			
1	MW1	23.10.2020	Water	2 x vials, 1 x plastic bottle, 1 x amber bottle, 2 x PFAS bottle	X	X	X			
2	MW2	23.10.2020	Water		X	X	X			
3	BR1	23.10.2020	Water		X	X	X			
4	RS3	23.10.2020	Water		X	X	X			

Further instructions:

1. Invoices are required to be sent to **accounts@ade.group** instead of sending them to your contact person. ADE Consulting Group Pty Ltd will not be processing any invoices going forward unless they are emailed to this address.
2. Please send back COC/ORDER and SRA.
3. Please analyse all samples on a **5 day TAT (29.10.2020)** and report results to syed.shah@ade.group and haneen.safadi@ade.group

Environmental Division
Sydney
Work Order Reference
ES2037392

Telephone : + 61-2-8784 8555

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ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2037392**	Page	: 1 of 10
Client	: **ADE Consulting Group Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: Syed Shah	Contact	: Shane Ellis
Address	: P.O BOX Q489,QVB P.O SYDNEY NSW, AUSTRALIA 2096	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: STC-1858-18526	Date Samples Received	: 23-Oct-2020 16:50
Order number	: ----	Date Analysis Commenced	: 27-Oct-2020
C-O-C number	: PM-F-07b1	Issue Date	: 29-Oct-2020 16:46
Sampler	: HANEEN SAFADI		
Site	: ----		
Quote number	: EN/097/20		
No. of samples received	: 4		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW1	MW2	BR1	RS3	----
				Client sampling date / time	23-Oct-2020 00:00	23-Oct-2020 00:00	23-Oct-2020 00:00	23-Oct-2020 00:00	----
Compound	CAS Number	LOR	Unit		ES2037392-001	ES2037392-002	ES2037392-003	ES2037392-004	--------
					Result	Result	Result	Result	----
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		**0.001**	<0.001	<0.001	<0.001	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	----
Copper	7440-50-8	0.001	mg/L		**0.008**	**0.007**	**0.003**	<0.001	----
Nickel	7440-02-0	0.001	mg/L		**0.007**	**0.002**	<0.001	<0.001	----
Lead	7439-92-1	0.001	mg/L		**0.002**	<0.001	<0.001	<0.001	----
Zinc	7440-66-6	0.005	mg/L		**0.021**	**0.027**	**0.033**	<0.005	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	----
EP066: Polychlorinated Biphenyls (PCB)									
^ **Total Polychlorinated biphenyls**	----	1	µg/L		<1	<1	<1	<1	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
delta-BHC	319-86-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Aldrin	309-00-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Endrin	72-20-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	----
^ **Total Chlordane (sum)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW1	MW2	BR1	RS3	----
				Client sampling date / time	23-Oct-2020 00:00	23-Oct-2020 00:00	23-Oct-2020 00:00	23-Oct-2020 00:00	----
Compound	CAS Number	LOR	Unit		ES2037392-001	ES2037392-002	ES2037392-003	ES2037392-004	--------
					Result	Result	Result	Result	----
EP068A: Organochlorine Pesticides (OC) - Continued									
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Diazinon	333-41-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	----
Malathion	121-75-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Fenthion	55-38-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Parathion	56-38-2	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Prothiofos	34643-46-4	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Ethion	563-12-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Carbophenothion	786-19-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
EP074A: Monocyclic Aromatic Hydrocarbons									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	----
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	----
Styrene	100-42-5	5	µg/L		<5	<5	<5	<5	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	----
Isopropylbenzene	98-82-8	5	µg/L		<5	<5	<5	<5	----
n-Propylbenzene	103-65-1	5	µg/L		<5	<5	<5	<5	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L		<5	<5	<5	<5	----
sec-Butylbenzene	135-98-8	5	µg/L		<5	<5	<5	<5	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L		<5	<5	<5	<5	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW1	MW2	BR1	RS3	----
				Client sampling date / time	23-Oct-2020 00:00	23-Oct-2020 00:00	23-Oct-2020 00:00	23-Oct-2020 00:00	----
Compound	CAS Number	LOR	Unit		ES2037392-001	ES2037392-002	ES2037392-003	ES2037392-004	--------
					Result	Result	Result	Result	----
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
tert-Butylbenzene	98-06-6	5	µg/L		<5	<5	<5	<5	----
p-Isopropyltoluene	99-87-6	5	µg/L		<5	<5	<5	<5	----
n-Butylbenzene	104-51-8	5	µg/L		<5	<5	<5	<5	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	50	µg/L		<50	<50	<50	<50	----
2-Butanone (MEK)	78-93-3	50	µg/L		<50	<50	<50	<50	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L		<50	<50	<50	<50	----
2-Hexanone (MBK)	591-78-6	50	µg/L		<50	<50	<50	<50	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	5	µg/L		<5	<5	<5	<5	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	5	µg/L		<5	<5	<5	<5	----
1.2-Dichloropropane	78-87-5	5	µg/L		<5	<5	<5	<5	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		<5	<5	<5	<5	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		<5	<5	<5	<5	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		<5	<5	<5	<5	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		<50	<50	<50	<50	----
Chloromethane	74-87-3	50	µg/L		<50	<50	<50	<50	----
Vinyl chloride	75-01-4	50	µg/L		<50	<50	<50	<50	----
Bromomethane	74-83-9	50	µg/L		<50	<50	<50	<50	----
Chloroethane	75-00-3	50	µg/L		<50	<50	<50	<50	----
Trichlorofluoromethane	75-69-4	50	µg/L		<50	<50	<50	<50	----
1.1-Dichloroethene	75-35-4	5	µg/L		<5	<5	<5	<5	----
Iodomethane	74-88-4	5	µg/L		<5	<5	<5	<5	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L		<5	<5	<5	<5	----
1.1-Dichloroethane	75-34-3	5	µg/L		<5	<5	<5	<5	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L		<5	<5	<5	<5	----
1.1.1-Trichloroethane	71-55-6	5	µg/L		<5	<5	<5	<5	----
1.1-Dichloropropylene	563-58-6	5	µg/L		<5	<5	<5	<5	----
Carbon Tetrachloride	56-23-5	5	µg/L		<5	<5	<5	<5	----
1.2-Dichloroethane	107-06-2	5	µg/L		<5	<5	<5	<5	----
Trichloroethene	79-01-6	5	µg/L		<5	<5	<5	<5	----
Dibromomethane	74-95-3	5	µg/L		<5	<5	<5	<5	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW1	MW2	BR1	RS3	----
				Client sampling date / time	23-Oct-2020 00:00	23-Oct-2020 00:00	23-Oct-2020 00:00	23-Oct-2020 00:00	----
Compound	CAS Number	LOR	Unit		ES2037392-001	ES2037392-002	ES2037392-003	ES2037392-004	--------
					Result	Result	Result	Result	----
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1.2-Trichloroethane	79-00-5	5	µg/L		<5	<5	<5	<5	----
1.3-Dichloropropane	142-28-9	5	µg/L		<5	<5	<5	<5	----
Tetrachloroethene	127-18-4	5	µg/L		<5	<5	<5	<5	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		<5	<5	<5	<5	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		<5	<5	<5	<5	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		<5	<5	<5	<5	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L		<5	<5	<5	<5	----
1.2.3-Trichloropropane	96-18-4	5	µg/L		<5	<5	<5	<5	----
Pentachloroethane	76-01-7	5	µg/L		<5	<5	<5	<5	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L		<5	<5	<5	<5	----
Hexachlorobutadiene	87-68-3	5	µg/L		<5	<5	<5	<5	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	5	µg/L		<5	<5	<5	<5	----
Bromobenzene	108-86-1	5	µg/L		<5	<5	<5	<5	----
2-Chlorotoluene	95-49-8	5	µg/L		<5	<5	<5	<5	----
4-Chlorotoluene	106-43-4	5	µg/L		<5	<5	<5	<5	----
1.3-Dichlorobenzene	541-73-1	5	µg/L		<5	<5	<5	<5	----
1.4-Dichlorobenzene	106-46-7	5	µg/L		<5	<5	<5	<5	----
1.2-Dichlorobenzene	95-50-1	5	µg/L		<5	<5	<5	<5	----
1.2.4-Trichlorobenzene	120-82-1	5	µg/L		<5	<5	<5	<5	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		<5	<5	<5	<5	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	5	µg/L		<5	<5	<5	<5	----
Bromodichloromethane	75-27-4	5	µg/L		<5	<5	<5	<5	----
Dibromochloromethane	124-48-1	5	µg/L		<5	<5	<5	<5	----
Bromoform	75-25-2	5	µg/L		<5	<5	<5	<5	----
EP074H: Naphthalene									
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
2-Chlorophenol	95-57-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
2-Methylphenol	95-48-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	----
2-Nitrophenol	88-75-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW1	MW2	BR1	RS3	----
				Client sampling date / time	23-Oct-2020 00:00	23-Oct-2020 00:00	23-Oct-2020 00:00	23-Oct-2020 00:00	----
Compound	CAS Number	LOR	Unit		ES2037392-001	ES2037392-002	ES2037392-003	ES2037392-004	--------
					Result	Result	Result	Result	----
EP075(SIM)A: Phenolic Compounds - Continued									
2.4-Dimethylphenol	105-67-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Pentachlorophenol	87-86-5	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	<20	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	µg/L		**120**	**220**	**140**	<100	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		**120**	**220**	**140**	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	<20	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW1	MW2	BR1	RS3	----
				Client sampling date / time	23-Oct-2020 00:00	23-Oct-2020 00:00	23-Oct-2020 00:00	23-Oct-2020 00:00	----
Compound	CAS Number	LOR	Unit		ES2037392-001	ES2037392-002	ES2037392-003	ES2037392-004	--------
					Result	Result	Result	Result	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	<20	<20	<20	----
>C10 - C16 Fraction	----	100	µg/L		<100	**110**	<100	<100	----
>C16 - C34 Fraction	----	100	µg/L		**120**	**160**	**100**	<100	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		**120**	**270**	**100**	<100	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	**110**	<100	<100	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	----
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	----
^ **Total Xylenes**	----	2	µg/L		<2	<2	<2	<2	----
^ **Sum of BTEX**	----	1	µg/L		<1	<1	<1	<1	----
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		**0.10**	**0.45**	**0.34**	<0.05	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW1	MW2	BR1	RS3	----
				Client sampling date / time	23-Oct-2020 00:00	23-Oct-2020 00:00	23-Oct-2020 00:00	23-Oct-2020 00:00	----
Compound	CAS Number	LOR	Unit		ES2037392-001	ES2037392-002	ES2037392-003	ES2037392-004	--------
					Result	Result	Result	Result	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	----
EP231P: PFAS Sums									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.10**	**0.45**	**0.34**	<0.01	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	1	%		**73.4**	**72.7**	**71.5**	**77.3**	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**90.9**	**88.1**	**78.2**	**81.3**	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**73.8**	**70.4**	**63.8**	**61.4**	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	5	%		**131**	**130**	**127**	**118**	----
Toluene-D8	2037-26-5	5	%		**123**	**122**	**127**	**114**	----
4-Bromofluorobenzene	460-00-4	5	%		**106**	**108**	**107**	**100**	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**26.8**	**25.9**	**26.6**	**23.9**	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**63.0**	**58.8**	**55.4**	**49.0**	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**81.2**	**81.0**	**69.0**	**50.2**	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**78.0**	**75.1**	**69.8**	**59.9**	----
Anthracene-d10	1719-06-8	1.0	%		**94.2**	**89.0**	**77.9**	**73.2**	----
4-Terphenyl-d14	1718-51-0	1.0	%		**94.4**	**89.7**	**76.7**	**78.1**	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**121**	**120**	**116**	**108**	----
Toluene-D8	2037-26-5	2	%		**118**	**117**	**121**	**110**	----
4-Bromofluorobenzene	460-00-4	2	%		**111**	**110**	**112**	**106**	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**94.3**	**90.7**	**94.3**	**96.3**	----
13C8-PFOA	----	0.02	%		**105**	**110**	**109**	**95.2**	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	45	134
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	67	111
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	67	111
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	78	133
Toluene-D8	2037-26-5	79	129
4-Bromofluorobenzene	460-00-4	81	124
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

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A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This Quality Control Report contains results of QAQC samples analysis and the Laboratory Acceptance Criteria.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By



Jasmine Franco

General Comments

Duplicate samples and matrix spike may not be prepared on smaller jobs, however are analysed at frequency. QAQC samples shown within the report as e.g. Batch Blank, Batch Matrix Spike were performed on samples not reported on that Certificate of Analysis.

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 the same manner as for samples.
Duplicate This is the interlaboratory split of a random sample from the processed batch
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.
Surr. (Surrogate Spike) Surrogates are known additions to each sample, blank and matrix spike or LCS in a batch. Surrogates are chosen as a compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Blank shall be < PQL
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals/PFAS, 60-140% for organics is acceptable. Matrix heterogeneity may result in matrix spike analyses falling outside these limits
RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:
Results <10 times the PQL : No Limit
Results between 10-20 times the PQL : RPD must lie between 0-50%
Results >20 times the PQL : RPD must lie between 0-30%
Surrogate Recoveries : Recoveries must lie between 50-150%

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer; ADE Consulting Group.

Information provided by ADE Consulting Group can affect the validity of the results.

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Silverwater 2128
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Quality Control Report

Contact:	Syed Shah	**Date Reported:**	22/10/2020
Customer:	ADE Consulting Group	**No. of Samples:**	46
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	15/10/2020
		Date of Analysis:	16/10/2020

Cust Ref: STC-1858-18526

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

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Quality Control Report

	Sample ID:	Q2020006683	Q2020006699
	Sample Name		
Parameter	Units	PQL	BTEX Blank Sp-Soil	BTEX Blank Sp-Soil
ESA-P-ORG7 & ORG8				
Benzene	%		103	93
Toluene	%		94	88
Ethylbenzene	%		88	84
m.p Xylene	%		87	84
o Xylene	%		87	83
Fluorobenzene (Surr.)	%		68	63

	Sample ID:	D202002060603	D202002061503	D202002077503	D202002083702
	Sample Name	BH3 0.2	BH13 0.5	BH4 0.9-1.0	WAC2.TP1
Parameter	Units	PQL				
ESA-P-ORG(11 - 15)						
Acenaphthene			Pass	Pass	Pass	Pass
Acenaphthylene			Pass	Pass	Pass	Pass
Anthracene			Pass	Pass	Pass	Pass
Benzo[a]anthracene			Pass	Pass	Pass	Pass
Benzo[a]pyrene			Pass	Pass	Pass	Pass
Benzo[b]fluoranthene			Pass	Pass	Pass	Pass
Benzo[g,h,i]perylene			Pass	Pass	Pass	Pass
Benzo[k]fluoranthene			Pass	Pass	Pass	Pass
Chrysene			Pass	Pass	Pass	Pass
Dibenzo[a,h]anthracene			Pass	Pass	Pass	Pass
Fluoranthene			Pass	Pass	Pass	Pass
Fluorene			Pass	Pass	Pass	Pass
Indeno(1,2,3-cd)pyrene			Pass	Pass	Pass	Pass
Naphthalene			Pass	Pass	Pass	Pass
Phenanthrene			Pass	Pass	Pass	Pass
Pyrene			Pass	Pass	Pass	Pass
p-Terphenyl-d14	%		104	102	99	100

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aldrin			Pass	Pass	Pass	Pass
a-BHC			Pass	Pass	Pass	Pass
b-BHC			Pass	Pass	Pass	Pass
d-BHC			Pass	Pass	Pass	Pass
g-BHC (lindane)			Pass	Pass	Pass	Pass
cis-chlordane			Pass	Pass	Pass	Pass
trans-chlordane			Pass	Pass	Pass	Pass
4,4'-DDD			Pass	Pass	Pass	Pass
4,4'-DDE			Pass	Pass	Pass	Pass
4,4'-DDT			Pass	Pass	Pass	Pass
dieldrin			Pass	Pass	Pass	Pass
endosulfan I			Pass	Pass	Pass	Pass
endosulfan II			Pass	Pass	Pass	Pass
endosulfan sulfate			Pass	Pass	Pass	Pass
endrin			Pass	Pass	Pass	Pass
endrin aldehyde			Pass	Pass	Pass	Pass
endrin ketone			Pass	Pass	Pass	Pass
heptachlor			Pass	Pass	Pass	Pass
heptachlor epoxide			Pass	Pass	Pass	Pass
hexachlorobenzene			Pass	Pass	Pass	Pass
methoxychlor			Pass	Pass	Pass	Pass
TCMX	%		96	94	88	88
chlorpyrifos			Pass	Pass	Pass	Pass
chlorpyrifos methyl			Pass	Pass	Pass	Pass
diazinon			Pass	Pass	Pass	Pass
fenchlorphos			Pass	Pass	Pass	Pass
methyl parathion			Pass	Pass	Pass	Pass
prophos			Pass	Pass	Pass	Pass
tributylphosphorotrithioite			Pass	Pass	Pass	Pass
Aroclor 1016			Pass	Pass	Pass	Pass
Aroclor 1221			Pass	Pass	Pass	Pass
Aroclor 1232			Pass	Pass	Pass	Pass
Aroclor 1242			Pass	Pass	Pass	Pass

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Aroclor 1248			Pass	Pass	Pass	Pass
Aroclor 1254			Pass	Pass	Pass	Pass
Aroclor 1260			Pass	Pass	Pass	Pass
2-fluorobiphenyl (Surr.)	%		105	102	91	93

Sample ID: **Q2020006640**

Sample Name

Parameter	***Units***	***PQL***	PFAS Blank - Soil
ESA-P-ORG16			
PFBA	ug/kg	5	<5
PFPeA	ug/kg	5	<5
PFBS	ug/kg	5	<5
PFHxA	ug/kg	5	<5
PFPeS	ug/kg	5	<5
PFHpA	ug/kg	5	<5
PFOA	ug/kg	5	<5
PFHpS	ug/kg	5	<5
PFOS	ug/kg	5	<5
PFDA	ug/kg	5	<5
PFUdA	ug/kg	5	<5
PFDoA	ug/kg	5	<5
PFTrDA	ug/kg	5	<5
PFTeDA	ug/kg	5	<5
PFNA	ug/kg	5	<5
PFHxS	ug/kg	5	<5
MPFBA (Surr.)	%		118
M3PFBS (Surr.)	%		125
MPFOS (Surr.)	%		98
MPFHxA (Surr.)	%		120
MPFOA (Surr.)	%		114
MPFUdA (Surr.)	%		113

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	Sample ID:	D202002060604	D202002061504	D202002077504	D202002083701
	Sample Name	BH3 0.2	BH13 0.5	BH4 0.3-0.4	WAC2.TP1
Parameter	Units	PQL			
ESA-P-ORG(3,5,6,8)					
>C10-C16			Pass	Pass	Pass	Pass
>C16-C34			Pass	Pass	Pass	Pass
>C34-C40			Pass	Pass	Pass	Pass
C10-C14			Pass	Pass	Pass	Pass
C15-C28			Pass	Pass	Pass	Pass
C29-C36			Pass	Pass	Pass	Pass

	Sample ID:	Q2020006684	Q2020006700
	Sample Name		
Parameter	Units	PQL	PCB Blank - Soil	PCB Blank - Soil
ESA-P-ORG(11 - 15)				
Acenaphthene	mg/kg	0.3	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30
Anthracene	mg/kg	0.3	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30
Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30
Benzo[b]fluoranthene	mg/kg	0.3	<0.30	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30
Benzo[k]fluoranthene	mg/kg	0.3	<0.30	<0.30
Chrysene	mg/kg	0.3	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30
Fluorene	mg/kg	0.3	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30
Pyrene	mg/kg	0.3	<0.30	<0.30
aldrin	mg/kg	0.1	<0.10	<0.10
a-BHC	mg/kg	0.1	<0.10	<0.10

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b-BHC	mg/kg	0.1	<0.10	<0.10
d-BHC	mg/kg	0.1	<0.10	<0.10
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10
cis-chlordane	mg/kg	0.1	<0.10	<0.10
trans-chlordane	mg/kg	0.1	<0.10	<0.10
4,4'-DDD	mg/kg	0.1	<0.10	<0.10
4,4'-DDE	mg/kg	0.1	<0.10	<0.10
4,4'-DDT	mg/kg	0.1	<0.10	<0.10
dieldrin	mg/kg	0.1	<0.10	<0.10
endosulfan I	mg/kg	0.2	<0.20	<0.20
endosulfan II	mg/kg	0.2	<0.20	<0.20
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10
endrin	mg/kg	0.2	<0.20	<0.20
endrin aldehyde	mg/kg	0.1	<0.10	<0.10
endrin ketone	mg/kg	0.1	<0.10	<0.10
heptachlor	mg/kg	0.1	<0.10	<0.10
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10
methoxychlor	mg/kg	0.1	<0.10	<0.10
chlorpyrifos	mg/kg	0.1	<0.10	<0.10
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10
diazinon	mg/kg	0.1	<0.10	<0.10
fenchlorphos	mg/kg	0.1	<0.10	<0.10
methyl parathion	mg/kg	0.1	<0.10	<0.10
prophos	mg/kg	0.1	<0.10	<0.10
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10
Aroclor 1016	mg/kg	0.5	<0.50	<0.50
Aroclor 1221	mg/kg	0.5	<0.50	<0.50
Aroclor 1232	mg/kg	0.5	<0.50	<0.50
Aroclor 1242	mg/kg	0.5	<0.50	<0.50
Aroclor 1248	mg/kg	0.5	<0.50	<0.50
Aroclor 1254	mg/kg	0.5	<0.50	<0.50
Aroclor 1260	mg/kg	0.5	<0.50	<0.50

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		Sample ID:	**S202002048401**
		Sample Name	**WAC1-TP1**
Parameter	***Units***	***PQL***	
ESA-P-ORG16			
PFBA	%		121
PFPeA	%		115
PFBS	%		83
PFHxA	%		82
PFPeS	%		77
PFHpA	%		72
PFOA	%		78
PFHpS	%		78
PFOS	%		78
PFDA	%		71
PFUdA	%		87
PFDoA	%		90
PFTrDA	%		80
PFTeDA	%		77
PFNA	%		83
PFHxS	%		80
MPFBA (Surr.)	%		88
M3PFBS (Surr.)	%		114
MPFOS (Surr.)	%		123
MPFHxA (Surr.)	%		119
MPFOA (Surr.)	%		112
MPFUdA (Surr.)	%		123

		Sample ID:	**Q2020006675**	**Q2020006691**
		Sample Name		
Parameter	***Units***	***PQL***	Metals Blank Sp-Soil	Metals Blank Sp-Soil
ESA-MP-01,ICP-01				
Arsenic	%		93	93
Cadmium	%		92	89

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Chromium	%		94	91
Copper	%		93	91
Lead	%		98	95
Mercury	%		99	97
Nickel	%		95	91
Zinc	%		100	96

		Sample ID:	**D202002048501**	**D202002072001**
		Sample Name	**WAC1-TP2**	**TP4 1.0-1.1**
Parameter	***Units***	***PQL***		
ESA-P-ORG16				
PFBA			Pass	Pass
PFPeA			Pass	Pass
PFBS			Pass	Pass
PFHxA			Pass	Pass
PFPeS			Pass	Pass
PFHpA			Pass	Pass
PFOA			Pass	Pass
PFHpS			Pass	Pass
PFOS			Pass	Pass
PFDA			Pass	Pass
PFUdA			Pass	Pass
PFDoA			Pass	Pass
PFTrDA			Pass	Pass
PFTeDA			Pass	Pass
PFNA			Pass	Pass
PFHxS			Pass	Pass
MPFBA	%		80	113
M3PFBS	%		106	116
MPFOS	%		112	112
MPFHxA	%		107	119
MPFOA	%		120	104
MPFUdA	%		121	124

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Silverwater 2128
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	Sample ID:	Q2020006685	Q2020006701
	Sample Name		

Parameter	Units	PQL	PCB Blank Sp - Soil	PCB Blank Sp - Soil
ESA-P-ORG(11 - 15)				
Acenaphthene	%		88	64
Anthracene	%		87	64
Fluoranthene	%		78	60
Naphthalene	%		84	62
Phenanthrene	%		83	61
Pyrene	%		82	64
p-Terphenyl-d14 (Surr.)	%		115	98
aldrin	%		94	79
endrin	%		79	68
hexachlorobenzene	%		96	77
TCMX (Surr.)	%		106	85
chlorpyrifos	%		87	76
diazinon	%		96	79
2-fluorobiphenyl (Surr.)	%		114	89
Aroclor 1016	%		87	86

	Sample ID:	D202002060601	D202002061501	D202002077501	D202002083704
	Sample Name	BH3 0.2	BH13 0.5	BH4 0.9-1.0	WAC2.TP1

Parameter	Units	PQL				
ESA-MP-01,ICP-01						
Arsenic			Pass	Pass	Pass	Pass
Cadmium			Pass	Pass	Pass	Pass
Chromium			Pass	Pass	Pass	Pass
Copper			Pass	Pass	Pass	Pass
Lead			Pass	Pass	Pass	Pass
Mercury			Pass	Pass	Pass	Pass
Nickel			Pass	Pass	Pass	Pass
Zinc			Pass	Pass	Pass	Pass

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	Sample ID:	Q2020006641
	Sample Name	

Parameter	Units	PQL	PFAS Blank Sp - Soil
ESA-P-ORG16			
PFBA	%		122
PFPeA	%		120
PFBS	%		120
PFHxA	%		125
PFPeS	%		124
PFHpA	%		120
PFOA	%		110
PFHpS	%		120
PFOS	%		115
PFDA	%		95
PFUdA	%		102
PFDoA	%		109
PFTrDA	%		111
PFTeDA	%		115
PFNA	%		116
PFHxS	%		99
MPFBA (Surr.)	%		98
M3PFBS (Surr.)	%		113
MPFOS (Surr.)	%		125
MPFHxA (Surr.)	%		108
MPFOA (Surr.)	%		101
MPFUdA (Surr.)	%		108

	Sample ID:	D202002060602	D202002061502	D202002077502	D202002083703
	Sample Name	BH3 0.2	BH13 0.5	BH4 0.9-1.0	WAC2.TP1

Parameter	Units	PQL				
ESA-P-ORG7 & ORG8						
Benzene			Pass	Pass	Pass	Pass
Toluene			Pass	Pass	Pass	Pass

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Ethylbenzene			Pass	Pass	Pass	Pass
m.p Xylene			Pass	Pass	Pass	Pass
o Xylene			Pass	Pass	Pass	Pass
Fluorobenzene	%		70	73	73	65
C6-C10			Pass	Pass	Pass	Pass
C6-C9			Pass	Pass	Pass	Pass

		Sample ID:	**S202002060501**	**S202002077401**
		Sample Name	**BR2**	**BH4 0.3-0.4**
Parameter	***Units***	***PQL***		
ESA-MP-01,ICP-01				
Arsenic	%		93	98
Cadmium	%		104	
Chromium	%		100	88
Copper	%		98	97
Lead	%		104	92
Mercury	%		100	90
Nickel	%		108	95
Zinc	%		102	94

		Sample ID:	**Q2020006686**	**Q2020006702**
		Sample Name		
Parameter	***Units***	***PQL***	TRH Blank-Soil	TRH Blank-Soil
ESA-P-ORG(3,5,6,8)				
>C10-C16	mg/kg	50	<50	<50
>C16-C34	mg/kg	100	<100	<100
>C34-C40	mg/kg	100	<100	<100
C10-C14	mg/kg	50	<50	<50
C15-C28	mg/kg	100	<100	<100
C29-C36	mg/kg	100	<100	<100

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	Sample ID:	S202002060503	S202002077403
	Sample Name	BR2	BH4 0.3-0.4

Parameter	Units	PQL		
ESA-P-ORG(11 - 15)				
Acenaphthene	%		87	67
Anthracene	%		86	66
Fluoranthene	%		77	60
Naphthalene	%		83	63
Phenanthrene	%		83	63
Pyrene	%		80	65
p-Terphenyl-d14 (Surr.)	%		109	96
aldrin	%		94	82
endrin	%		82	76
hexachlorobenzene Recovery	%		100	80
TCMX (Surr.)	%		102	86
chlorpyrifos	%		89	79
diazinon	%		98	84
Aroclor 1016	%		102	89
2-fluorobiphenyl (Surr.)	%		111	90

	Sample ID:	S202002060502	S202002077402
	Sample Name	BR2	BH4 0.3-0.4

Parameter	Units	PQL		
ESA-P-ORG-07 & 08				
Benzene	%		104	93
Toluene	%		96	88
Ethylbenzene	%		89	84
m.p Xylene	%		89	84
o Xylene	%		88	83
Fluorobenzene Conc.	%		69	61

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		Sample ID:	**Q2020006674**	**Q2020006690**
		Sample Name		
Parameter	***Units***	***PQL***	Metals Blank - Soil	Metals Blank - Soil
ESA-MP-01,ICP-01				
Arsenic	mg/kg	5	<5.0	<5.0
Cadmium	mg/kg	0.3	<0.30	<0.30
Chromium	mg/kg	5	<5.0	<5.0
Copper	mg/kg	5	<5.0	<5.0
Lead	mg/kg	10	<10.0	<10.0
Mercury	mg/kg	0.2	<0.20	<0.20
Nickel	mg/kg	10	<10.0	<10.0
Zinc	mg/kg	5	<5.0	<5.0

		Sample ID:	**S202002079204**	
		Sample Name		
Parameter	***Units***	***PQL***		
ESA-MP-01,ICP-01				
Cadmium	%		91	

		Sample ID:	**Q2020006687**	**Q2020006703**
		Sample Name		
Parameter	***Units***	***PQL***	TRH Blank Spike-Soil	TRH Blank Spike-Soil
ESA-P-ORG(3,5,6,8)				
>C10-C16	%		101	77
C10-C14	%		98	76

		Sample ID:	**Q2020006682**	**Q2020006698**
		Sample Name		
Parameter	***Units***	***PQL***	BTEX Blank - Soil	BTEX Blank - Soil
ESA-P-ORG7 & ORG8				
Benzene	mg/kg	0.5	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0

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C6-C10	mg/kg	35	<35	<35
C6-C9	mg/kg	25	<25	<25

		Sample ID:	**S202002060504**	**S202002077404**
		Sample Name	**BR2**	**BH4 0.3-0.4**
Parameter	***Units***	***PQL***		
ESA-P-ORG(3,5,6,8)				
>C10-C16	%		101	73
C10-C14	%		99	73

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Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This Quality Control Report contains results of QAQC samples analysis and the Laboratory Acceptance Criteria.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By



Jasmine Franco

General Comments

Duplicate samples and matrix spike may not be prepared on smaller jobs, however are analysed at frequency. QAQC samples shown within the report as e.g. Batch Blank, Batch Matrix Spike were performed on samples not reported on that Certificate of Analysis.

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 the same manner as for samples.
Duplicate This is the interlaboratory split of a random sample from the processed batch
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.
Surr. (Surrogate Spike) Surrogates are known additions to each sample, blank and matrix spike or LCS in a batch. Surrogates are chosen as a compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Blank shall be < PQL
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals/PFAS, 60-140% for organics is acceptable. Matrix heterogeneity may result in matrix spike analyses falling outside these limits
RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:
Results <10 times the PQL : No Limit
Results between 10-20 times the PQL : RPD must lie between 0-50%
Results >20 times the PQL : RPD must lie between 0-30%
Surrogate Recoveries : Recoveries must lie between 50-150%

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer; ADE Consulting Group.

Information provided by ADE Consulting Group can affect the validity of the results.

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Quality Control Report

Contact:	Syed Shah	**Date Reported:**	22/10/2020
Customer:	ADE Consulting Group	**No. of Samples:**	45
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	15/10/2020
		Date of Analysis:	16/10/2020
Cust Ref:	STC-1858-18526		

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

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Quality Control Report

	Sample ID:	Q2020006677	Q2020006683
	Sample Name		

Parameter	Units	PQL	BTEX Blank Sp-Soil	BTEX Blank Sp-Soil
ESA-P-ORG7 & ORG8				
Benzene	%		116	103
Toluene	%		107	94
Ethylbenzene	%		100	88
m.p Xylene	%		100	87
o Xylene	%		98	87
Fluorobenzene (Surr.)	%		77	68

	Sample ID:	Q2020006640
	Sample Name	

Parameter	Units	PQL	PFAS Blank - Soil
ESA-P-ORG16			
PFBA	ug/kg	5	<5
PFPeA	ug/kg	5	<5
PFBS	ug/kg	5	<5
PFHxA	ug/kg	5	<5
PFPeS	ug/kg	5	<5
PFHpA	ug/kg	5	<5
PFOA	ug/kg	5	<5
PFHpS	ug/kg	5	<5
PFOS	ug/kg	5	<5
PFDA	ug/kg	5	<5
PFUdA	ug/kg	5	<5
PFDoA	ug/kg	5	<5
PFTrDA	ug/kg	5	<5
PFTeDA	ug/kg	5	<5
PFNA	ug/kg	5	<5
PFHxS	ug/kg	5	<5
MPFBA (Surr.)	%		118
M3PFBS (Surr.)	%		125

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MPFOS (Surr.)	%		98
MPFHxA (Surr.)	%		120
MPFOA (Surr.)	%		114
MPFUdA (Surr.)	%		113

Sample ID:	**S202002048401**
Sample Name	**WAC1-TP1**

Parameter	*Units*	*PQL*	
ESA-P-ORG16			
PFBA	%		121
PFPeA	%		115
PFBS	%		83
PFHxA	%		82
PFPeS	%		77
PFHpA	%		72
PFOA	%		78
PFHpS	%		78
PFOS	%		78
PFDA	%		71
PFUdA	%		87
PFDoA	%		90
PFTrDA	%		80
PFTeDA	%		77
PFNA	%		83
PFHxS	%		80
MPFBA (Surr.)	%		88
M3PFBS (Surr.)	%		114
MPFOS (Surr.)	%		123
MPFHxA (Surr.)	%		119
MPFOA (Surr.)	%		112
MPFUdA (Surr.)	%		123

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	Sample ID:	S202002058503	S202002060503
	Sample Name	BH1 0.4	BR2
Parameter	Units	PQL		
ESA-P-ORG(11 - 15)				
Acenaphthene	%		87	87
Anthracene	%		86	86
Fluoranthene	%		77	77
Naphthalene	%		83	83
Phenanthrene	%		83	83
Pyrene	%		80	80
p-Terphenyl-d14 (Surr.)	%		109	109
aldrin	%		94	94
endrin	%		82	82
hexachlorobenzene Recovery	%		100	100
TCMX (Surr.)	%		102	102
chlorpyrifos	%		89	89
diazinon	%		98	98
Aroclor 1016	%		102	102
2-fluorobiphenyl (Surr.)	%		111	111

	Sample ID:	Q2020006673	Q2020006675
	Sample Name		
Parameter	Units	PQL	Metals Blank Sp-Soil	Metals Blank Sp-Soil
ESA-MP-01,ICP-01				
Arsenic	%		95	93
Cadmium	%		93	92
Chromium	%		95	94
Copper	%		95	93
Lead	%		95	98
Mercury	%		101	99
Nickel	%		94	95
Zinc	%		98	100

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	Sample ID:	D202002048501	D202002072001
	Sample Name	WAC1-TP2	TP4 1.0-1.1
Parameter	Units	PQL		
ESA-P-ORG16				
PFBA			Pass	Pass
PFPeA			Pass	Pass
PFBS			Pass	Pass
PFHxA			Pass	Pass
PFPeS			Pass	Pass
PFHpA			Pass	Pass
PFOA			Pass	Pass
PFHpS			Pass	Pass
PFOS			Pass	Pass
PFDA			Pass	Pass
PFUdA			Pass	Pass
PFDoA			Pass	Pass
PFTrDA			Pass	Pass
PFTeDA			Pass	Pass
PFNA			Pass	Pass
PFHxS			Pass	Pass
MPFBA	%		80	113
M3PFBS	%		106	116
MPFOS	%		112	112
MPFHxA	%		107	119
MPFOA	%		120	104
MPFUdA	%		121	124

	Sample ID:	Q2020006679	Q2020006685
	Sample Name		
Parameter	Units	PQL	PCB Blank Sp - Soil	PCB Blank Sp - Soil
ESA-P-ORG(11 - 15)				
Acenaphthene	%		90	88
Anthracene	%		90	87
Fluoranthene	%		79	78

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Naphthalene	%		87	84
Phenanthrene	%		87	83
Pyrene	%		83	82
p-Terphenyl-d14 (Surr.)	%		107	115
aldrin	%		97	94
endrin	%		84	79
hexachlorobenzene	%		101	96
TCMX (Surr.)	%		102	106
chlorpyrifos	%		93	87
diazinon	%		103	96
2-fluorobiphenyl (Surr.)	%		110	114
Aroclor 1016	%		94	87

		Sample ID:	**D202002058604**	**D202002059506**	**D202002060604**	**D202002061504**
		Sample Name	**BH2 0.3**	**BH12 1.0**	**BH3 0.2**	**BH13 0.5**
Parameter	***Units***	***PQL***				
ESA-P-ORG(3,5,6,8)						
>C10-C16			Pass	Pass	Pass	Pass
>C16-C34			Pass	Pass	Pass	Pass
>C34-C40			Pass	Pass	Pass	Pass
C10-C14			Pass	Pass	Pass	Pass
C15-C28			Pass	Pass	Pass	Pass
C29-C36			Pass	Pass	Pass	Pass

		Sample ID:	**Q2020006641**
		Sample Name	
Parameter	***Units***	***PQL***	PFAS Blank Sp - Soil
ESA-P-ORG16			
PFBA	%		122
PFPeA	%		120
PFBS	%		120
PFHxA	%		125
PFPeS	%		124
PFHpA	%		120
PFOA	%		110

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PFHpS	%		120
PFOS	%		115
PFDA	%		95
PFUdA	%		102
PFDoA	%		109
PFTrDA	%		111
PFTeDA	%		115
PFNA	%		116
PFHxS	%		99
MPFBA (Surr.)	%		98
M3PFBS (Surr.)	%		113
MPFOS (Surr.)	%		125
MPFHxA (Surr.)	%		108
MPFOA (Surr.)	%		101
MPFUdA (Surr.)	%		108

		Sample ID:	**D202002058603**	**D202002059504**	**D202002060603**	**D202002061503**
		Sample Name	**BH2 0.3**	**BH12 1.0**	**BH3 0.2**	**BH13 0.5**
Parameter	***Units***	***PQL***				
ESA-P-ORG(11 - 15)						
Acenaphthene			Pass	Pass	Pass	Pass
Acenaphthylene			Pass	Pass	Pass	Pass
Anthracene			Pass	Pass	Pass	Pass
Benzo[a]anthracene			Pass	Pass	Pass	Pass
Benzo[a]pyrene			Pass	Pass	Pass	Pass
Benzo[b]fluoranthene			Pass	Pass	Pass	Pass
Benzo[g,h,i]perylene			Pass	Pass	Pass	Pass
Benzo[k]fluoranthene			Pass	Pass	Pass	Pass
Chrysene			Pass	Pass	Pass	Pass
Dibenzo[a,h]anthracene			Pass	Pass	Pass	Pass
Fluoranthene			Pass	Pass	Pass	Pass
Fluorene			Pass	Pass	Pass	Pass
Indeno(1,2,3-cd)pyrene			Pass	Pass	Pass	Pass
Naphthalene			Pass	Pass	Pass	Pass
Phenanthrene			Pass	Pass	Pass	Pass

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Pyrene			Pass	Pass	Pass	Pass
p-Terphenyl-d14	%		105	106	104	102
aldrin			Pass	Pass	Pass	Pass
a-BHC			Pass	Pass	Pass	Pass
b-BHC			Pass	Pass	Pass	Pass
d-BHC			Pass	Pass	Pass	Pass
g-BHC (lindane)			Pass	Pass	Pass	Pass
cis-chlordane			Pass	Pass	Pass	Pass
trans-chlordane			Pass	Pass	Pass	Pass
4,4'-DDD			Pass	Pass	Pass	Pass
4,4'-DDE			Pass	Pass	Pass	Pass
4,4'-DDT			Pass	Pass	Pass	Pass
dieldrin			Pass	Pass	Pass	Pass
endosulfan I			Pass	Pass	Pass	Pass
endosulfan II			Pass	Pass	Pass	Pass
endosulfan sulfate			Pass	Pass	Pass	Pass
endrin			Pass	Pass	Pass	Pass
endrin aldehyde			Pass	Pass	Pass	Pass
endrin ketone			Pass	Pass	Pass	Pass
heptachlor			Pass	Pass	Pass	Pass
heptachlor epoxide			Pass	Pass	Pass	Pass
hexachlorobenzene			Pass	Pass	Pass	Pass
methoxychlor			Pass	Pass	Pass	Pass
TCMX	%		99	98	96	94
chlorpyrifos			Pass	Pass	Pass	Pass
chlorpyrifos methyl			Pass	Pass	Pass	Pass
diazinon			Pass	Pass	Pass	Pass
fenchlorphos			Pass	Pass	Pass	Pass
methyl parathion			Pass	Pass	Pass	Pass
prophos			Pass	Pass	Pass	Pass
tributylphosphorotrithioite			Pass	Pass	Pass	Pass
Aroclor 1016			Pass	Pass	Pass	Pass
Aroclor 1221			Pass	Pass	Pass	Pass
Aroclor 1232			Pass	Pass	Pass	Pass

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Aroclor 1242			Pass	Pass	Pass	Pass
Aroclor 1248			Pass	Pass	Pass	Pass
Aroclor 1254			Pass	Pass	Pass	Pass
Aroclor 1260			Pass	Pass	Pass	Pass
2-fluorobiphenyl (Surr.)	%		110	106	105	102

		Sample ID:	**Q2020006678**	**Q2020006684**
		Sample Name		
Parameter	***Units***	***PQL***	PCB Blank - Soil	PCB Blank - Soil
ESA-P-ORG(11 - 15)				
Acenaphthene	mg/kg	0.3	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30
Anthracene	mg/kg	0.3	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30
Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30
Benzo[b]fluoranthene	mg/kg	0.3	<0.30	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30
Benzo[k]fluoranthene	mg/kg	0.3	<0.30	<0.30
Chrysene	mg/kg	0.3	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30
Fluorene	mg/kg	0.3	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30
Pyrene	mg/kg	0.3	<0.30	<0.30
aldrin	mg/kg	0.1	<0.10	<0.10
a-BHC	mg/kg	0.1	<0.10	<0.10
b-BHC	mg/kg	0.1	<0.10	<0.10
d-BHC	mg/kg	0.1	<0.10	<0.10
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10
cis-chlordane	mg/kg	0.1	<0.10	<0.10
trans-chlordane	mg/kg	0.1	<0.10	<0.10
4,4'-DDD	mg/kg	0.1	<0.10	<0.10

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4,4'-DDE	mg/kg	0.1	<0.10	<0.10
4,4'-DDT	mg/kg	0.1	<0.10	<0.10
dieldrin	mg/kg	0.1	<0.10	<0.10
endosulfan I	mg/kg	0.2	<0.20	<0.20
endosulfan II	mg/kg	0.2	<0.20	<0.20
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10
endrin	mg/kg	0.2	<0.20	<0.20
endrin aldehyde	mg/kg	0.1	<0.10	<0.10
endrin ketone	mg/kg	0.1	<0.10	<0.10
heptachlor	mg/kg	0.1	<0.10	<0.10
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10
methoxychlor	mg/kg	0.1	<0.10	<0.10
chlorpyrifos	mg/kg	0.1	<0.10	<0.10
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10
diazinon	mg/kg	0.1	<0.10	<0.10
fenchlorphos	mg/kg	0.1	<0.10	<0.10
methyl parathion	mg/kg	0.1	<0.10	<0.10
prophos	mg/kg	0.1	<0.10	<0.10
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10
Aroclor 1016	mg/kg	0.5	<0.50	<0.50
Aroclor 1221	mg/kg	0.5	<0.50	<0.50
Aroclor 1232	mg/kg	0.5	<0.50	<0.50
Aroclor 1242	mg/kg	0.5	<0.50	<0.50
Aroclor 1248	mg/kg	0.5	<0.50	<0.50
Aroclor 1254	mg/kg	0.5	<0.50	<0.50
Aroclor 1260	mg/kg	0.5	<0.50	<0.50

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	Sample ID:	D202002058601	D202002059501	D202002060601	D202002061501
	Sample Name	BH2 0.3	BH12 1.0	BH3 0.2	BH13 0.5
Parameter	Units	PQL			
ESA-MP-01,ICP-01					
Arsenic			Pass	Pass	Pass	Pass
Cadmium			Pass	Pass	Pass	Pass
Chromium			Pass	Pass	Pass	Pass
Copper			Pass	Pass	Pass	Pass
Lead			Pass	Pass	Pass	Pass
Mercury			Pass	Pass	Pass	Pass
Nickel			Pass	Pass	Pass	Pass
Zinc			Pass	Pass	Pass	Pass

	Sample ID:	S202002058501	S202002060501
	Sample Name	BH1 0.4	BR2
Parameter	Units	PQL		
ESA-MP-01,ICP-01				
Arsenic	%		96	93
Cadmium	%		96	104
Chromium	%		94	100
Copper	%		98	98
Lead	%		102	104
Mercury	%		100	100
Nickel	%		96	108
Zinc	%		99	102

	Sample ID:	S202002058502	S202002060502
	Sample Name	BH1 0.4	BR2
Parameter	Units	PQL		
ESA-P-ORG-07 & 08				
Benzene	%		100	104
Toluene	%		91	96
Ethylbenzene	%		87	89
m.p Xylene	%		86	89
o Xylene	%		84	88
Fluorobenzene Conc.	%		64	69

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		Sample ID:	Q2020006672	Q2020006674
		Sample Name		
Parameter	*Units*	*PQL*	Metals Blank - Soil	Metals Blank - Soil
ESA-MP-01,ICP-01				
Arsenic	mg/kg	5	<5.0	<5.0
Cadmium	mg/kg	0.3	<0.30	<0.30
Chromium	mg/kg	5	<5.0	<5.0
Copper	mg/kg	5	<5.0	<5.0
Lead	mg/kg	10	<10.0	<10.0
Mercury	mg/kg	0.2	<0.20	<0.20
Nickel	mg/kg	10	<10.0	<10.0
Zinc	mg/kg	5	<5.0	<5.0

		Sample ID:	S202002058504	S202002060504
		Sample Name	BH1 0.4	BR2
Parameter	*Units*	*PQL*		
ESA-P-ORG(3,5,6,8)				
>C10-C16	%		104	101
C10-C14	%		102	99

		Sample ID:	D202002058602	D202002059503	D202002060602	D202002061502
		Sample Name	BH2 0.3	BH12 1.0	BH3 0.2	BH13 0.5
Parameter	*Units*	*PQL*				
ESA-P-ORG7 & ORG8						
Benzene			Pass	Pass	Pass	Pass
Toluene			Pass	Pass	Pass	Pass
Ethylbenzene			Pass	Pass	Pass	Pass
m.p Xylene			Pass	Pass	Pass	Pass
o Xylene			Pass	Pass	Pass	Pass
Fluorobenzene	%		66	69	70	73
C6-C10			Pass	Pass	Pass	Pass
C6-C9			Pass	Pass	Pass	Pass

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	Sample ID:	Q2020006676	Q2020006682
	Sample Name		

Parameter	Units	PQL	BTEX Blank - Soil	BTEX Blank - Soil
ESA-P-ORG7 & ORG8				
Benzene	mg/kg	0.5	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0
C6-C10	mg/kg	35	<35	<35
C6-C9	mg/kg	25	<25	<25

	Sample ID:	Q2020006680	Q2020006686
	Sample Name		

Parameter	Units	PQL	TRH Blank-Soil	TRH Blank-Soil
ESA-P-ORG(3,5,6,8)				
>C10-C16	mg/kg	50	<50	<50
>C16-C34	mg/kg	100	<100	<100
>C34-C40	mg/kg	100	<100	<100
C10-C14	mg/kg	50	<50	<50
C15-C28	mg/kg	100	<100	<100
C29-C36	mg/kg	100	<100	<100

	Sample ID:	Q2020006681	Q2020006687
	Sample Name		

Parameter	Units	PQL	TRH Blank Spike-Soil	TRH Blank Spike-Soil
ESA-P-ORG(3,5,6,8)				
>C10-C16	%		98	101
C10-C14	%		95	98

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ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES2036287**	Page	: 1 of 24
Client	: **ADE Consulting Group Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: Syed Shah	Contact	: Shane Ellis
Address	: 6/7 MILLENIUM COURT SILVERWATER NSW 2128	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: STC-1858-18526	Date Samples Received	: 15-Oct-2020
Order number	: ----	Date Analysis Commenced	: 19-Oct-2020
C-O-C number	: PM-F-07b1	Issue Date	: 27-Oct-2020
Sampler	: HANEEN SAFADI		
Site	: ----		
Quote number	: EN/097/20		
No. of samples received	: 14		
No. of samples analysed	: 14		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Aleksandar Vujkovic	Laboratory Technician	Newcastle - Inorganics, Mayfield West, NSW
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Dian Dao	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
= Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3316553)									
ES2036465-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	7	17.9	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	7	8	14.2	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	79	82	3.41	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	10	8	23.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	29	27	7.36	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	15400	16000	3.58	0% - 20%
ES2036465-012	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	14	13.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	4	34.1	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	10	8	14.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	36	36	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	30	26	14.2	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	23	23	0.00	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	56500	52000	8.45	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3322149)									
ES2036745-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	884	# 1410	46.1	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	822	# 1060	25.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	9	10	12.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	3040	3380	10.7	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	4170	4750	12.8	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	386	402	4.20	0% - 20%
ES2036287-011	SR1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3322149) - continued									
ES2036287-011	SR1	EG005T: Chromium	7440-47-3	2	mg/kg	42	36	14.7	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	8	14.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	23	25	8.30	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	76900	72100	6.40	0% - 20%
EA001: pH in soil using 0.01M CaCl extract (QC Lot: 3315222)									
ES2036287-009	BH11 2.0	EA001: pH (CaCl2)	----	0.1	pH Unit	3.9	3.9	0.00	0% - 20%
EA002: pH 1:5 (Soils) (QC Lot: 3316549)									
ES2036465-006	Anonymous	EA002: pH Value	----	0.1	pH Unit	5.8	5.9	0.00	0% - 20%
ES2036464-002	Anonymous	EA002: pH Value	----	0.1	pH Unit	4.7	4.8	0.00	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 3316550)									
ES2036465-006	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	40	36	10.2	0% - 20%
ES2036464-002	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	34	33	5.36	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3316555)									
ES2036464-001	Anonymous	EA055: Moisture Content	----	0.1	%	9.1	9.4	3.22	No Limit
ES2036465-008	Anonymous	EA055: Moisture Content	----	0.1	%	8.8	9.1	3.41	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3322152)									
ES2036564-001	Anonymous	EA055: Moisture Content	----	0.1	%	16.2	17.2	6.35	0% - 20%
ES2036772-002	Anonymous	EA055: Moisture Content	----	0.1	%	7.7	7.6	0.00	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3324221)									
ES2036287-003	BH8 0.3	EA055: Moisture Content	----	0.1	%	8.5	8.0	5.16	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3326378)									
ES2035971-003	Anonymous	EA055: Moisture Content	----	0.1	%	2.9	2.9	0.00	0% - 20%
ES2036716-001	Anonymous	EA055: Moisture Content	----	0.1	%	2.2	2.3	4.88	0% - 20%
ED007: Exchangeable Cations (QC Lot: 3320332)									
ES2036287-009	BH11 2.0	ED007: Exchangeable Calcium	----	0.1	meq/100g	1.0	1.0	0.00	0% - 50%
		ED007: Exchangeable Magnesium	----	0.1	meq/100g	2.6	2.5	0.00	0% - 20%
		ED007: Exchangeable Potassium	----	0.1	meq/100g	0.2	0.2	0.00	No Limit
		ED007: Exchangeable Sodium	----	0.1	meq/100g	0.5	0.5	0.00	No Limit
		ED007: Cation Exchange Capacity	----	0.1	meq/100g	9.8	9.7	0.00	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3322150)									
ES2036772-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2036287-011	SR1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QC Lot: 3324220)									
ES2036287-001	BH1 0.1	EK028SF: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	<1	0.00	No Limit
EP004: Organic Matter (QC Lot: 3320268)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP004: Organic Matter (QC Lot: 3320268) - continued									
ES2035918-010	Anonymous	EP004: Organic Matter	----	0.5	%	0.6	0.6	0.00	No Limit
		EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3313248)									
ES2036032-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2036032-012	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3313247)									
ES2036032-001	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2036032-012	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3313247) - continued									
ES2036032-012	Anonymous	EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3313247)									
ES2036032-001	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2036032-012	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3313247) - continued									
ES2036032-012	Anonymous	EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 3317441)									
ES2036287-001	BH1 0.1	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074B: Oxygenated Compounds (QC Lot: 3317441)									
ES2036287-001	BH1 0.1	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.00	No Limit
EP074C: Sulfonated Compounds (QC Lot: 3317441)									
ES2036287-001	BH1 0.1	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074D: Fumigants (QC Lot: 3317441)									
ES2036287-001	BH1 0.1	EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 3317441)									
ES2036287-001	BH1 0.1	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 3317441) - continued									
ES2036287-001	BH1 0.1	EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.00	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 3317441)									
ES2036287-001	BH1 0.1	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074G: Trihalomethanes (QC Lot: 3317441)									
ES2036287-001	BH1 0.1	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074G: Trihalomethanes (QC Lot: 3317441) - continued									
ES2036287-001	BH1 0.1	EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074H: Naphthalene (QC Lot: 3317441)									
ES2036287-001	BH1 0.1	EP074: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 3313246)									
ES2036032-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
ES2036032-012	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 3315888)									
ES2036287-001	BH1 0.1	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 3315888) - continued									
ES2036287-001	BH1 0.1	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3313246)									
ES2036032-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
ES2036032-012	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3313246) - continued									
ES2036032-012	Anonymous	EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3315888)									
ES2036287-001	BH1 0.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3313249)									
ES2036032-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2036032-012	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3319763)									
ES2036287-011	SR1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2036632-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3313249)									
ES2036032-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2036032-012	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3313249) - continued									
ES2036032-012	Anonymous	EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3319763)									
ES2036287-011	SR1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES2036632-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080: BTEXN (QC Lot: 3319763)									
ES2036287-011	SR1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES2036632-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3319702)									
ES2036273-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.001	0.001	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.004	0.004	0.00	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.00	No Limit
ES2036300-002	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.004	0.004	0.00	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	0.001	0.001	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.006	0.006	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.003	0.003	0.00	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.002	0.003	0.00	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.023	0.022	0.00	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 3319703)									
ES2035949-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
ES2036300-002	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3320396)									
ES2036519-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	80	90	0.00	No Limit
ES2036652-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3320396)									
ES2036519-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	100	110	0.00	No Limit
ES2036652-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
EP080: BTEXN (QC Lot: 3320396)									
ES2036519-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	6	8	20.5	No Limit
ES2036652-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit

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

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3316553)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	102	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	113	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	94.7	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	109	89.0	111
EG005T: Iron	7439-89-6	50	mg/kg	<50	33227 mg/kg	91.1	89.0	112
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.1 mg/kg	96.3	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	95.5	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	80.5	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3322149)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	92.6	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	105	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	94.7	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	98.9	89.0	111
EG005T: Iron	7439-89-6	50	mg/kg	<50	33227 mg/kg	94.1	89.0	112
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.1 mg/kg	88.2	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	91.4	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	73.9	66.0	133
EA010: Conductivity (1:5) (QCLot: 3316550)								
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	106	92.0	108
ED007: Exchangeable Cations (QCLot: 3320332)								
ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	1 meq/100g	107	75.8	120
ED007: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	1.67 meq/100g	104	74.9	115
ED007: Exchangeable Potassium	----	0.1	meq/100g	<0.1	0.51 meq/100g	105	80.0	120
ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	0.87 meq/100g	103	80.0	120
ED007: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3322150)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.0847 mg/kg	83.0	70.0	105
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 3324220)								
EK028SF: Weak Acid Dissociable Cyanide	----	1	mg/kg	<1	40 mg/kg	105	70.0	130
EP004: Organic Matter (QCLot: 3320268)								
EP004: Organic Matter	----	0.5	%	<0.5	2.53 %	87.7	82.0	98.0
EP004: Total Organic Carbon	----	0.5	%	<0.5	1.46 %	88.4	81.0	99.0
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3313248)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3313248) - continued								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	115	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 3313247)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.5	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	83.2	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	76.1	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.1	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	81.7	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	88.0	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	82.4	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	82.7	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	81.8	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	77.6	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	84.3	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	78.8	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	102	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	80.3	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	79.5	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.7	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	84.5	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	79.3	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	104	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	87.1	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3313247)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	77.7	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	82.1	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	74.4	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	79.1	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	78.6	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	89.2	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	77.6	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	78.2	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	80.1	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	84.9	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	82.1	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.4	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	90.4	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	77.6	68.0	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3313247) - continued								
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	77.6	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	90.4	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	41.0	123
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 3317441)								
EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	92.4	71.0	121
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	90.2	65.0	131
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	85.0	72.0	114
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	87.2	70.0	116
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	83.9	67.0	113
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	88.7	75.0	115
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	85.5	65.0	117
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	84.6	66.0	122
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	84.3	68.0	118
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	86.4	69.0	119
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	84.1	69.0	117
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	86.0	69.0	115
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	83.4	66.0	118
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	85.4	59.0	125
EP074B: Oxygenated Compounds (QCLot: 3317441)								
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	83.5	29.6	156
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	87.2	58.0	136
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	85.5	62.0	132
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	84.5	54.0	136
EP074C: Sulfonated Compounds (QCLot: 3317441)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	89.2	54.0	126
EP074D: Fumigants (QCLot: 3317441)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	84.6	60.0	126
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	94.6	68.0	124
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	87.7	51.0	119
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	86.1	52.0	114
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	90.7	63.0	115
EP074E: Halogenated Aliphatic Compounds (QCLot: 3317441)								
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	72.1	30.0	148
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	91.0	41.0	141
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	91.6	43.0	147
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	94.4	47.0	141

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 3317441) - continued								
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	98.1	49.0	143
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	90.5	49.0	135
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	88.9	54.0	126
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	60.6	43.0	129
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	90.8	64.0	120
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	92.9	67.0	125
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	91.0	69.0	121
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	90.3	65.0	117
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	86.3	65.0	123
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	88.0	59.0	125
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	97.9	65.0	125
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	90.0	70.0	118
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	96.5	68.0	118
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	96.6	64.0	126
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	95.2	68.0	122
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	86.9	67.0	143
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	90.1	62.0	122
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	90.1	54.0	128
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	83.0	55.0	129
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	92.1	65.0	121
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	91.4	61.0	125
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	90.7	19.8	134
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	90.3	53.0	129
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	93.9	50.0	128
EP074F: Halogenated Aromatic Compounds (QCLot: 3317441)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	92.4	68.0	116
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	91.8	70.0	114
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	90.1	68.0	122
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	88.2	67.0	123
EP074: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	91.9	70.0	116
EP074: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	94.2	67.0	117
EP074: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	95.6	70.0	114
EP074: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	94.4	48.0	122
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	99.2	52.0	122
EP074G: Trihalomethanes (QCLot: 3317441)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	93.9	66.0	124
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	89.6	61.0	121
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	88.2	63.0	121
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	88.1	60.0	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074H: Naphthalene (QCLot: 3317441)								
EP074: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	94.2	67.0	129
EP075(SIM)A: Phenolic Compounds (QCLot: 3313246)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	100	71.0	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	102	72.0	124
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	102	71.0	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	108	67.0	127
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	77.9	54.0	114
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	89.8	68.0	126
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	97.3	66.0	120
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	99.2	70.0	120
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	90.9	70.0	116
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	95.0	54.0	114
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	102	60.0	114
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	56.7	10.0	57.0
EP075(SIM)A: Phenolic Compounds (QCLot: 3315888)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	88.5	71.0	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	91.7	72.0	124
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	89.2	71.0	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	92.2	67.0	127
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	54.4	54.0	114
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	83.0	68.0	126
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	87.2	66.0	120
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	89.9	70.0	120
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	78.9	70.0	116
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	83.4	54.0	114
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	85.0	60.0	114
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	55.0	10.0	57.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3313246)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	107	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	102	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	103	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	107	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	107	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	102	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	108	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	106	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	97.7	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	101	75.0	127

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3313246) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	95.9	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	102	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	99.2	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	102	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	100	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	98.3	63.0	121
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3315888)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	96.7	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	92.2	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	97.2	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	97.0	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	96.4	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	91.5	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	98.1	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	96.6	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	87.1	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	88.9	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	87.8	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	95.3	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	86.2	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	87.8	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	86.8	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	85.1	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3313249)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	103	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	105	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	100	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3319763)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	88.8	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3313249)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	104	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	104	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	79.2	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3319763)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	91.2	68.4	128
EP080: BTEXN (QCLot: 3319763)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEXN (QCLot: 3319763) - continued								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	90.1	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	92.2	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	92.0	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	95.1	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	95.4	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	89.0	63.0	119

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3319702)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	99.4	85.0	114
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	101	84.0	110
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	98.9	85.0	111
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	98.0	81.0	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	100.0	83.0	111
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	97.3	82.0	112
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	98.9	81.0	117
EG035F: Dissolved Mercury by FIMS (QCLot: 3319703)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	95.9	83.0	105
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3312616)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	88.4	68.9	113
EP068A: Organochlorine Pesticides (OC) (QCLot: 3312613)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	87.2	64.9	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	85.4	58.3	111
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	81.7	69.0	117
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	81.3	70.0	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	93.0	68.9	110
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	86.3	65.2	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	107	65.8	109
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	86.9	67.1	107
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	86.0	64.1	110
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	91.4	66.7	112
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	86.8	63.2	111
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	78.6	65.2	113
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	95.5	66.0	112
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	104	65.2	113
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	93.1	67.3	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3312613) - continued								
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	99.6	72.0	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	90.4	66.9	109
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	82.8	65.2	112
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	81.3	65.2	112
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	89.5	63.8	110
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	77.1	61.1	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3312615)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	65.8	50.0	94.0
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	68.5	63.6	114
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	68.6	62.2	113
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	70.4	63.9	115
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	89.7	62.6	116
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	89.4	64.3	116
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	92.9	63.6	118
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	90.6	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	77.0	64.1	117
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	82.2	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	70.0	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	83.9	63.0	115
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	78.3	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	75.1	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	75.5	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	76.8	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3312614)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	83.3	55.8	112
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	77.7	71.6	113
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	81.9	56.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3320396)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	87.1	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3312614)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	68.7	57.9	119
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	78.5	62.5	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	71.8	61.5	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3320396)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	90.2	75.0	127
EP080: BTEXN (QCLot: 3320396)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	90.9	70.0	122

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	LCS Recovery (%)	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEXN (QCLot: 3320396) - continued								
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	91.2	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	94.6	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	95.5	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	96.8	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	118	70.0	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3316553)							
ES2036465-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	97.7	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.1	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	84.4	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	103	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	95.8	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	94.7	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	98.2	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3322149)							
ES2036287-011	SR1	EG005T: Arsenic	7440-38-2	50 mg/kg	79.2	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	93.9	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	79.0	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	98.4	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	93.1	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.9	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	93.1	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3322150)							
ES2036287-011	SR1	EG035T: Mercury	7439-97-6	5 mg/kg	76.8	70.0	130
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 3324220)							
ES2036287-001	BH1 0.1	EK028SF: Weak Acid Dissociable Cyanide	----	40 mg/kg	110	70.0	130
EP004: Organic Matter (QCLot: 3320268)							
ES2035918-010	Anonymous	EP004: Organic Matter	----	1.15 %	75.9	70.0	130
		EP004: Total Organic Carbon	----	0.67 %	76.2	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3313248)							
ES2036032-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	93.6	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3313247)							
ES2036032-001	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	75.2	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	99.0	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	91.3	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	114	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	81.4	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	85.2	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3313247)							
ES2036032-001	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	78.7	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	103	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	80.5	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	103	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	103	70.0	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 3317441)							
ES2036287-001	BH1 0.1	EP074: Benzene	71-43-2	2.5 mg/kg	92.2	70.0	130
		EP074: Toluene	108-88-3	2.5 mg/kg	91.1	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 3317441)							
ES2036287-001	BH1 0.1	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	84.5	70.0	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	89.6	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 3317441)							
ES2036287-001	BH1 0.1	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	94.2	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 3313246)							
ES2036032-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	98.8	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	99.9	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	86.0	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	92.2	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	86.7	20.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 3315888)							
ES2036287-001	BH1 0.1	EP075(SIM): Phenol	108-95-2	10 mg/kg	90.9	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	93.8	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	78.5	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	86.5	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	80.4	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3313246)							
ES2036032-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	95.2	70.0	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3313246) - continued							
ES2036032-001	Anonymous	EP075(SIM): Pyrene	129-00-0	10 mg/kg	104	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3315888)							
ES2036287-001	BH1 0.1	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	91.2	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	94.5	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3313249)							
ES2036032-001	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	90.9	73.0	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	111	53.0	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	119	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3319763)							
ES2036287-011	SR1	EP080: C6 - C9 Fraction	----	32.5 mg/kg	108	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3313249)							
ES2036032-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	105	73.0	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	117	53.0	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	115	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3319763)							
ES2036287-011	SR1	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	103	70.0	130
EP080: BTEXN (QCLot: 3319763)							
ES2036287-011	SR1	EP080: Benzene	71-43-2	2.5 mg/kg	82.7	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	83.5	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	87.8	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	88.4	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	87.8	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	84.6	70.0	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3319702)							
ES2035949-001	Anonymous	EG020A-F: Arsenic	7440-38-2	1 mg/L	127	70.0	130
		EG020A-F: Cadmium	7440-43-9	0.25 mg/L	110	70.0	130
		EG020A-F: Chromium	7440-47-3	1 mg/L	122	70.0	130
		EG020A-F: Copper	7440-50-8	1 mg/L	125	70.0	130
		EG020A-F: Lead	7439-92-1	1 mg/L	124	70.0	130
		EG020A-F: Nickel	7440-02-0	1 mg/L	128	70.0	130
		EG020A-F: Zinc	7440-66-6	1 mg/L	124	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 3319703)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EG035F: Dissolved Mercury by FIMS (QCLot: 3319703) - continued							
ES2035687-001	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	97.5	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3320396)							
ES2036519-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	109	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3320396)							
ES2036519-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	109	70.0	130
EP080: BTEXN (QCLot: 3320396)							
ES2036519-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	101	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	101	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	104	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	102	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	105	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	114	70.0	130

Batch Number : 2003290

Report Number : STC-1858-18526 (628-631)

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This Quality Control Report contains results of QAQC samples analysis and the Laboratory Acceptance Criteria.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By



Jasmine Franco

General Comments

Duplicate samples and matrix spike may not be prepared on smaller jobs, however are analysed at frequency. QAQC samples shown within the report as e.g. Batch Blank, Batch Matrix Spike were performed on samples not reported on that Certificate of Analysis.

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 the same manner as for samples.
Duplicate This is the interlaboratory split of a random sample from the processed batch
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.
Surr. (Surrogate Spike) Surrogates are known additions to each sample, blank and matrix spike or LCS in a batch. Surrogates are chosen as a compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Blank shall be < PQL
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals/PFAS, 60-140% for organics is acceptable. Matrix heterogeneity may result in matrix spike analyses falling outside these limits
RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:
Results <10 times the PQL : No Limit
Results between 10-20 times the PQL : RPD must lie between 0-50%
Results >20 times the PQL : RPD must lie between 0-30%
Surrogate Recoveries : Recoveries must lie between 50-150%

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer; ADE Consulting Group.

Information provided by ADE Consulting Group can affect the validity of the results.

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
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Ph: (02) 9648-6669

Quality Control Report

Contact: Syed Shah
Customer: ADE Consulting Group
Address: Unit 6
7 Millennium Court
Silverwater NSW

Date Reported: 22/10/2020
No. of Samples: 10
Date Received: 16/10/2020
Date of Analysis: 15/10/2020

Cust Ref: STC-1858-18526

Glossary:
*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

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Quality Control Report

	Sample ID:	Q2020006658	Q2020006712
	Sample Name		

Parameter	Units	PQL	BTEX Blank - Water	BTEX Blank - Water
ESA-P-ORG7 & ORG8				
Benzene	ug/L	1	<1	<1
Toluene	ug/L	1	<1	<1
Ethylbenzene	ug/L	1	<1	<1
m.p Xylene	ug/L	2	<2	<2
o Xylene	ug/L	1	<1	<1

	Sample ID:	D202002057701	D202002057801	D202002089201	D202002089301
	Sample Name	LCM 2	LCM 3	LCM 2	LCM 3

Parameter	Units	PQL				
ESA-P-ORG7 & ORG8						
Benzene			Pass	Pass	Pass	Pass
Toluene			Pass	Pass	Pass	Pass
Ethylbenzene			Pass	Pass	Pass	Pass
m.p Xylene			Pass	Pass	Pass	Pass
o Xylene			Pass	Pass	Pass	Pass
Fluorobenzene	%		114	134	73	65

	Sample ID:	S202002057601	S202002089101
	Sample Name	LCM 1	LCM 1

Parameter	Units	PQL		
SA-P-ORG08 & ORG10				
Benzene	%		94	93
Toluene	%		85	88
Ethylbenzene	%		81	84
m.p Xylene	%		80	84
o Xylene	%		80	83
Fluorobenzene Conc.	%		64	61

Sydney Laboratory Services
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Silverwater 2128
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	Sample ID:	Q2020006659	Q2020006713
	Sample Name		
Parameter	Units	PQL	BTEX Blank Sp-Water	BTEX Blank Sp-Water
ESA-P-ORG7 & ORG8				
Benzene	%		108	93
Toluene	%		102	88
Ethylbenzene	%		94	84
m.p Xylene	%		94	84
o Xylene	%		93	83
Fluorobenzene (Surr.)	%		81	63

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Laboratory Acceptance Criteria

Blank shall be < PQL
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals/PFAS, 60-140% for organics is acceptable. Matrix heterogeneity may result in matrix spike analyses falling outside these limits
RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:
Results <10 times the PQL : No Limit
Results between 10-20 times the PQL : RPD must lie between 0-50%
Results >20 times the PQL : RPD must lie between 0-30%
Surrogate Recoveries : Recoveries must lie between 50-150%

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer; ADE Consulting Group.

Information provided by ADE Consulting Group can affect the validity of the results.

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Quality Control Report

Contact:	Syed Shah	**Date Reported:**	30/10/2020
Customer:	ADE Consulting Group	**No. of Samples:**	4
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	23/10/2020
		Date of Analysis:	23/10/2020

Cust Ref: STC-1858-18526

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Quality Control Report

Sample ID:	**Q2020007030**
Sample Name	

Parameter	*Units*	*PQL*	BTEX Blank - Water
ESA-P-ORG7 & ORG8			
Benzene	ug/L	1	<1
Toluene	ug/L	1	<1
Ethylbenzene	ug/L	1	<1
m.p Xylene	ug/L	2	<2
o Xylene	ug/L	1	<1

Sample ID:	**D202002191201**
Sample Name	**LCM 2**

Parameter	*Units*	*PQL*	
ESA-P-ORG7 & ORG8			
Benzene			Pass
Toluene			Pass
Ethylbenzene			Pass
m.p Xylene			Pass
o Xylene			Pass
Fluorobenzene	%		91

Sample ID:	**S202002191101**
Sample Name	**LCM 1**

Parameter	*Units*	*PQL*	
SA-P-ORG08 & ORG10			
Benzene	%		97
Toluene	%		96
Ethylbenzene	%		93
m.p Xylene	%		94
o Xylene	%		93
Fluorobenzene Conc.	%		87

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Sample ID: **Q2020007031**

Sample Name

Parameter	*Units*	*PQL*	BTEX Blank Sp-Water
ESA-P-ORG7 & ORG8			
Benzene	%		93
Toluene	%		91
Ethylbenzene	%		90
m.p Xylene	%		91
o Xylene	%		90
Fluorobenzene (Surr.)	%		85

Sydney Laboratory Services
A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Appendix IX – Equipment Calibration Certificate

Calibration & Service Report
Gas Monitor

Company: Active Environmental Solutions Hire
Contact: Aleks Todorovic
Address: 2 Merchant Avenue
Thomastown Vic 3074
Phone: 03 9464 2300 | **Fax**: 03 9464 3421
Email: Hire@aesolutions.com.au

Manufacturer:	RAE Systems	**Serial #:**	592-908427
Instrument:	MiniRAE 3000	**Asset #:**	-
Model:	PGM 7320	**Part #:**	-
Configuration:	VOC	**Sold:**	-
Wireless:	-	**Last Cal:**	-
Network ID:	-	**Job #:**	-
Unit ID:	-	**Cal Spec:**	Std

Item	Test	Pass/Fail	Comments
Battery	Li Ion	✓	
Charger	Charger, Power supply	✓	
	Cradle	✓	
Pump	Flow	✓	>500 mL/min
Filter	Filter, fitting, etc	✓	
Alarms	Audible, visual, vibration	✓	
Display	Operation	✓	
PCB	Operation	✓	
Connectors	Condition	✓	
Firmware	Version	✓	2.16
Datalogger	Operation	✓	
Monitor Housing	Condition	✓	
Case	Condition/Type	✓	
Sensors			
Oxygen		-	
LEL		-	
PID	10.6eV	✓	
Toxic 1		-	
Toxic 2		-	
Toxic 3		-	
Toxic 4		-	
Toxic 5		-	

Engineer's Report

Setup, service and calibration for hire

Calibration Certificate

Sensor	Type	Serial No:	Span Gas	Concentration	Traceability Lot #	CF	Reading	
							Zero	Span
Oxygen								
LEL								
PID	10.6eV	-	Isobutylene	100 PPM	3075-2-1	1	0	100 PPM
Toxic 1								
Toxic 2								
Toxic 3								
Toxic 4								
Toxic 5								

Calibrated/Repaired by: Milenko Sisic

Date: 06/10/2020

Next due: 06/04/2021

Calibration & Service Report
Water Quality Meter

Company:	Active Environmental Solutions Hire	**Manufacturer:**	YSI	**Serial #:**	18H106516
Address:	Unit 16, 191 Parramatta Road AUBURN NSW 2144	**Instrument/Model:**	WQM Professional Plus w/ Quatro Cable	**Cable Length:**	1m
Phone:	02 9716 5966 | **Fax**: 02 9716 5988	**Client Company:**		**Client Email:**	
Email:	hire@aesoultions.com.au	**Client Name:**		**Client Phone:**	

Item	Test	Pass	Comments
Battery	2 x Alkaline C-cells	✓	Voltage reading above 2.9V
	Battery Saver	✓	Automatically turns off after 60 minutes if not used
Connections	Condition	✓	Good, clean
Cable	Condition	✓	Clean, no tears
Display	Operation	✓	
Firmware	Version	✓	4.0.0
Keypad	Operational	✓	
Display	Screen	✓	
Unit	Condition, seals and O-rings	✓	
Monitor housing	Condition	✓	
pH			
Condition		✓	Good, clean
pH millivolts for pH7 calibration range 0 mV ± 50 mV		✓	
pH 4 mV range + 165 to + 180 from 7 buffer mV value		✓	
pH slope		✓	55 to 60 mV/pH; ideal 59mV
Response time < 90 seconds		✓	
Calibrated and conforms to manufacturer's specifications		✓	
ORP			
Condition		✓	Good, clean
Response time < 90 seconds		✓	
within ± 80mv of reference Zobell Reading		✓	
Calibrated and conforms to manufacturer's specifications		✓	Variance range ± 20mV
Conductivity			
Condition		✓	Good, clean
Temperature		✓	°C
Conductivity cell constant 5.0 ± 1.0 in GLP file		✓	
Clean sensor reads less than 3 uS/cm in dry air		✓	
Calibrated and conforms to manufacturer's specifications		✓	µs/cm
Dissolved Oxygen			
Condition		✓	Good, clean
DO sensor in use		✓	Polarographic
1.25 mil PE membrane (yellow membrane):		✓	
DO Sensor Value		✓	(min 4.31 uA - max 8.00 uA) Avg 6.15 uA
Calibrated and conforms to manufacturer's specifications		✓	ppm

				Instrument Readings		
Parameter	**Standards**	**Reference**	**Calibration Point**	**Before**	**After**	**Units**
Temperature	Center 370 Thermometer	Room Temp.	22.0	N/A	22.1	°C
pH	pH 4.00	349389	4.01	4.05	4.01	pH
pH	pH 7.00	349958	7.00	6.99	7.00	pH
Conductivity	2760 µs/cm at 25°C	354236	2760	2765	2760	µs/cm
ORP (Ref. check only)	Zobell A & B	340526 & 340529	235.4	233.4	235.4	mV
Zero Dissolved Oxygen	NaSO3 in distilled water	323461/V070819	0.0	-0.3	0.0	%
100% Dissolved Oxygen	100% Air Saturation	Fresh Air	100.0	100.4	100.0	%

Calibrated By: Milenko Sisic

Calibration Date: 15/10/2020 **Calibration Due:** 15/04/2021

Calibration & Service Report
Interface Probe

Company:	Active Environmental Solutions Hire	**Manufacturer:**	Solinst	**Serial #:**	312160
Address:	Unit 16, 191 Parramatta Road AUBURN NSW 2144	**Instrument/Model:**	122 Interface Probe 60m	**Tape Length:**	60m
Phone:	02 9716 5966 | **Fax**: 02 9716 5988	**Client Company:**		**Client Email:**	
Email:	hire@aesoultions.com.au	**Client Name:**		**Client Phone:**	

Equipment Check

Oil/Water Interface Meter - Solinst 122 Interface Meter

Customer:		**Manufacturer:**	Solinst Interface Meter
Contact:	Milenko	**Instrument:**	Model 122
Order:		**Serial #:**	312160
		Tape length:	60m

Item	Test	Pass	Comments
Battery	Voltage (2 x 9v battery)	✓	Voltage above 7.9v
	Fuses	✓	
	Capacity	✓	
Probe	Decontaminated	✓	
	Condition	✓	
	Operation	✓	
Connectors	Condition	✓	
Tape Check	Condition	✓	New
	Decontaminated	✓	
Instrument Test	At surface level	✓	Tap water and Citronella oil
Speaker	Operation	✓	

Comments

Unit in good condition.

This is to certify that the above instrument has been checked and is in good working order.

Checked By: Milenko Sisic

Check Date: 13/10/2020 **Due for Check:** 13/04/2021

Calibration & Service Report
Water Quality Meter

Company:	Active Environmental Solutions Hire	**Manufacturer:**	Solinst	**Serial #:**	312417
Address:	Unit 16, 191 Parramatta Road AUBURN NSW 2144	**Instrument/Model:**	122 Interface Probe 30m	**Tape Length:**	30m
Phone:	02 9716 5966 | **Fax**: 02 9716 5988	**Client Company:**		**Client Email:**	
Email:	hire@aesoultions.com.au	**Client Name:**		**Client Phone:**	

Equipment Check

Oil/Water Interface Meter - Solinst 122 Interface Meter

Customer:		**Manufacturer:**	Solinst Interface Meter
Contact:	Milenko	**Instrument:**	Model 122
Order:		**Serial #:**	312417
		Tape length:	30m

Item	Test	Pass	Comments
Battery	Voltage (2 x 9v battery)	✓	Voltage above 7.9v
	Fuses	✓	
	Capacity	✓	
Probe	Decontaminated	✓	
	Condition	✓	
	Operation	✓	
Connectors	Condition	✓	
Tape Check	Condition	✓	Good, no tears
	Decontaminated	✓	
Instrument Test	At surface level	✓	Tap water and Citronella oil
Speaker	Operation	✓	

Comments

New unit.

This is to certify that the above instrument has been checked and is in good working order.

Checked By: Milenko Sisic

Check Date: 11/10/2019 **Due for Check:** 11/04/2020

Calibration & Service Report
Water Quality Meter

Company:	Active Environmental Solutions Hire	**Manufacturer:**	YSI	**Serial #:**	18D104242
Address:	Unit 16, 191 Parramatta Road AUBURN NSW 2144	**Instrument/Model:**	WQM Professional Plus w/ Quatro Cable	**Cable Length:**	1m
Phone:	02 9716 5966 | **Fax**: 02 9716 5988	**Client Company:**		**Client Email:**	
Email:	hire@aesoultions.com.au	**Client Name:**		**Client Phone:**	

Item	Test	Pass	Comments
Battery	2 x Alkaline C-cells	✓	Voltage reading above 2.9V
	Battery Saver	✓	Automatically turns off after 60 minutes if not used
Connections	Condition	✓	Good, clean
Cable	Condition	✓	Clean, no tears
Display	Operation	✓	
Firmware	Version	✓	4.0.0
Keypad	Operational	✓	
Display	Screen	✓	
Unit	Condition, seals and O-rings	✓	
Monitor housing	Condition	✓	
pH			
Condition		✓	Good, clean
pH millivolts for pH7 calibration range 0 mV ± 50 mV		✓	
pH 4 mV range + 165 to + 180 from 7 buffer mV value		✓	
pH slope		✓	55 to 60 mV/pH; ideal 59mV
Response time < 90 seconds		✓	
Calibrated and conforms to manufacturer's specifications		✓	
ORP			
Condition		✓	Good, clean
Response time < 90 seconds		✓	
within ± 80mv of reference Zobell Reading		✓	
Calibrated and conforms to manufacturer's specifications		✓	Variance range ± 20mV
Conductivity			
Condition		✓	Good, clean
Temperature		✓	°C
Conductivity cell constant 5.0 ± 1.0 in GLP file		✓	
Clean sensor reads less than 3 uS/cm in dry air		✓	
Calibrated and conforms to manufacturer's specifications		✓	µs/cm
Dissolved Oxygen			
Condition		✓	Good, clean
DO sensor in use		✓	Polarographic
1.25 mil PE membrane (yellow membrane):		✓	
DO Sensor Value		✓	(min 4.31 uA - max 8.00 uA) Avg 6.15 uA
Calibrated and conforms to manufacturer's specifications		✓	ppm

Instrument Readings

Parameter	Standards	Room Temp.	Calibration Point	Before	After	Units
Temperature	Center 370 Thermometer	Room Temp.	20.7	N/A	20.8	°C
pH	pH 4.00	349389	4.01	3.75	4.01	pH
pH	pH 7.00	349958	7.00	6.72	7.00	pH
Conductivity	2760 µs/cm at 25°C	354236	2760	2751	2760	µs/cm
ORP (Ref. check only)	Zobell A & B	340526 & 340529	237.2	247.2	237.2	mV
Zero Dissolved Oxygen	NaSO3 in distilled water	323461/V070819	0.0	-0.2	0.0	%
100% Dissolved Oxygen	100% Air Saturation	Fresh Air	100.0	94.9	100.0	%

Calibrated By: Milenko Sisic

Calibration Date: 21/10/2020 **Calibration Due:** 21/04/2021

Appendix X – Dial Before You Dig

Job No 20369702

Phone: 1100
www.1100.com.au

Caller Details

Contact:	Mr Syed Shah	**Caller Id:**	2121829	**Phone:**	0405752313
Company:	ADE Consulting Group	**Mobile:**	0405752313	**Fax:**	Not Supplied
Address:	6 7 Millennium Court Silverwater NSW 2128	**Email:**	syed.shah@ade.group		

Dig Site and Enquiry Details

WARNING: The map below only displays the location of the proposed dig site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.



User Reference: STC-1858-18526
Working on Behalf of: Private

Enquiry Date:	**Start Date:**	**End Date:**
06/10/2020	12/10/2020	14/10/2020

Address:
2 Cavill Avenue
Ashfield NSW 2131

Job Purpose:	**Onsite Activity:**
Excavation	Vertical Boring
Location of Workplace:	**Location in Road:**
Private Property	Not Supplied

- Check the location of the dig site is correct. If not submit a new enquiry.
- If the scope of works change, or plan validity dates expire, resubmit your enquiry.
- Do NOT dig without plans. Safe excavation is your responsibility. If you do not understand the plans or how to proceed safely, please contact the relevant asset owners.

Notes/Description of Works:

Your Responsibilities and Duty of Care

- The lodgement of an enquiry does not authorise the project to commence. You must obtain all necessary information from any and all likely impacted asset owners prior to excavation.
- If plans are not received within 2 working days, contact the asset owners directly & quote their Sequence No.
- ALWAYS perform an onsite inspection for the presence of assets. Should you require an onsite location, contact the asset owners directly. Please remember, plans do not detail the exact location of assets.
- Pothole to establish the exact location of all underground assets using a hand shovel, before using heavy machinery.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.
- If you damage an underground asset you MUST advise the asset owner immediately.
- By using this service, you agree to Privacy Policy and the terms and disclaimers set out at **www.1100.com.au**
- **For more information on safe excavation practices, visit www.1100.com.au**

Asset Owner Details

The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days.
Additional time should be allowed for information issued by post. It is **your responsibility** to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Dial Before You Dig service, so it is **your responsibility** to identify and contact any asset owners not listed here directly.
** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.
Asset owners highlighted with a hash require that you call them to discuss your enquiry or to obtain plans.

Seq. No.	Authority Name	Phone	Status
102505607	Ausgrid	0249510899	NOTIFIED
102505602	Inner West Council	0293352053	NOTIFIED
102505611	Jemena Gas South	1300880906	NOTIFIED
102505614	NBN Co, NswAct	1800626329	NOTIFIED
102505610	Optus and/or Uecomm, Nsw	1800505777	NOTIFIED
102505605	RailCorp Central	0298489578 / 0413006517	NOTIFIED
102505603	Roads and Maritime Services	0288370285	NOTIFIED
102505612	Sydney Water	132092	NOTIFIED
102505609	Telstra NSW, Central	1800653935	NOTIFIED
102505606	TPG Telecom (NSW)	1800786306	NOTIFIED

END OF UTILITIES LIST

Response Cover Letter

Inner West Council

Ashfield Service Centre	Leichhardt Service Centre	Petersham Service Centre
260 Liverpool Road,	7-15 Wetherill Street,	2-14 Fisher Street,
Ashfield NSW 2131	Leichhardt NSW 2040	Petersham NSW 2049

Date: 06/10/2020

To:
Mr Syed Shah
ADE Consulting Group
6 7 Millennium Court
Silverwater NSW 2128

Please find attached our response regarding your enquiry (as detailed below). Ensure you review all other documents included with this response for additional details.

Sequence No: 102505602

Job No: 20369702

Location: 2 Cavill Avenue
Ashfield NSW 2131

Commencement Date: 12/10/2020

If you require further information, please contact the Inner West Council on 02 9335 2053 or dbyd@innerwest.nsw.gov.au

Important Notice: This enquiry response, including any associated documentation, has been assessed and compiled from the information detailed within the DBYD enquiry outlined above. Please ensure that the DBYD enquiry details and this response accurately reflect your proposed works.

This response is intended for use only by the addressee. If you have received the enquiry response in error, please let us know by telephone and delete all copies; you are advised that copying, distributing, disclosing or otherwise acting in reliance on the response is expressly prohibited.

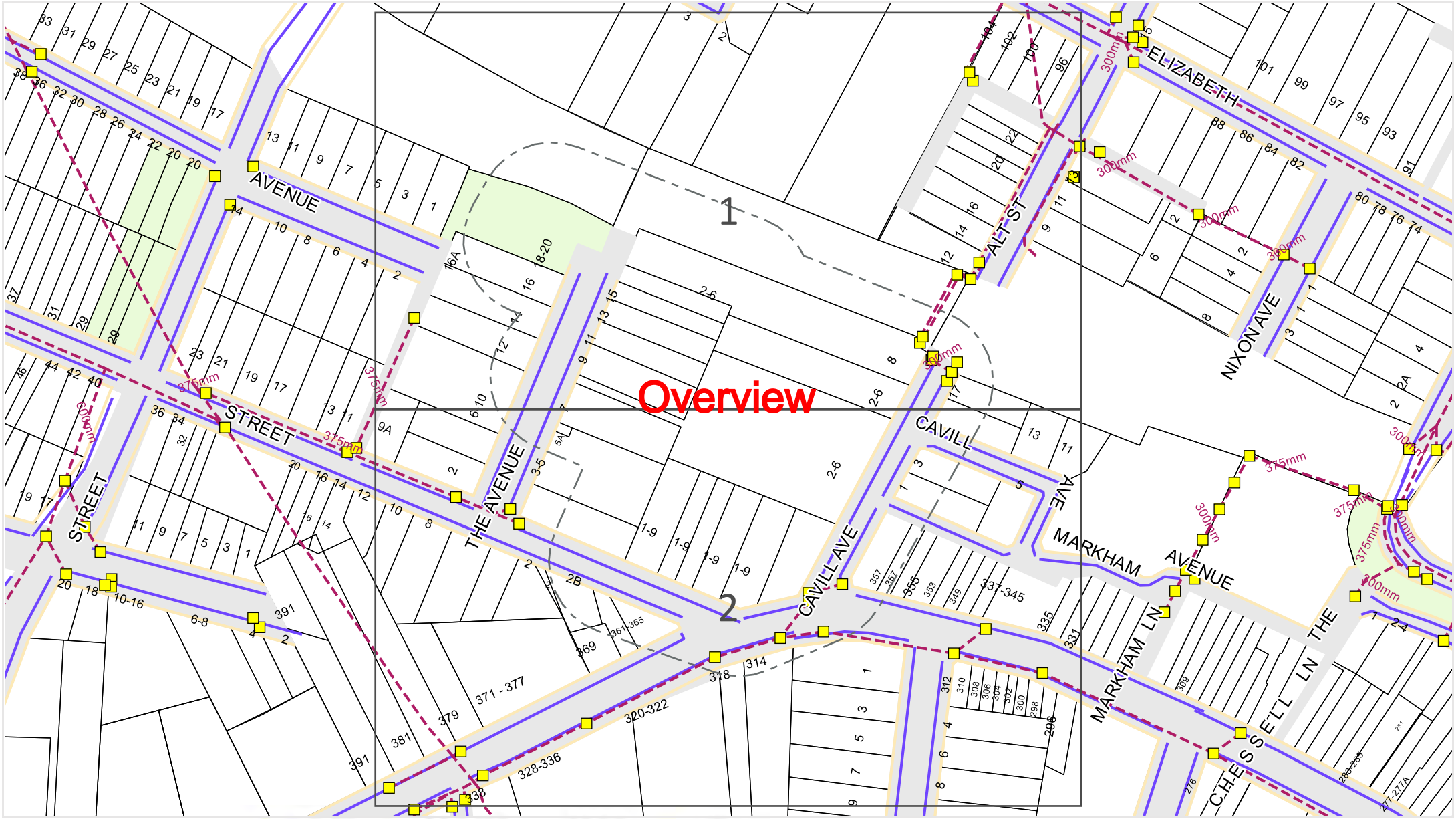
DIAL BEFORE YOU DIG www.1100.com.au The Essential First Step.

While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Inner West Council or PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

INNER WEST COUNCIL

Sequence No: 102505602
Job No: 20369702
Location: 2 Cavill Avenue, Ashfield, NSW 2131

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The Essential First Step.



Legend | Scale: 1:2050

SW Pit
SW Pipe
Footpath
Kerb
Light Rail
Roads
Property
Suburb
Park
River

N

DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Inner West Council or PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

INNER WEST COUNCIL

Sequence No: 102505602
Job No: 20369702
Location: 2 Cavill Avenue, Ashfield, NSW 2131

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The Essential First Step.



Legend | Scale: 1:1000

SW Pit
SW Pipe
Footpath
Kerb
Light Rail
Roads
Property
Suburb
Park
River

N

DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Inner West Council or PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

INNER WEST COUNCIL

Sequence No: 102505602
Job No: 20369702
Location: 2 Cavill Avenue, Ashfield, NSW 2131

DIAL BEFORE YOU DIG www.1100.com.au
The Essential First Step.



Legend | Scale: 1:1000

SW Pit
SW Pipe
Footpath
Kerb
Light Rail
Roads
Property
Suburb
Park
River

N

DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Inner West Council or PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

Jemena Gas Network Protection

Assets Affected

This information is only valid for 28 days from the date of issue

In reply to your enquiry, there are **Gas Mains** in the vicinity of your intended work, as generally illustrated on the attached map. There may also be other mains or services at the location, as discussed in the warning below. **For an explanation of the map, please see the information below and the legend attachment.**

Please note that you have a duty of care to ensure that Jemena gas mains are not compromised or damaged during any future development or construction work.

Excavation Guidelines

It is essential the location of gas pipe/s are confirmed by carefully pot-holing by hand excavation prior to proceeding with mechanical excavation in the vicinity of gas pipes. If you cannot locate the gas main, contact the local depot.

In accordance with clause 34(5) of the Gas Supply (Safety and Network Management) Regulation 2013 (NSW), you should be informed that all excavation, (including pot-holing by hand to confirm the location of pipes) should be performed in accordance with "***Work Near Underground Assets Guideline"*** *published in 2007 by the Work Cover Authority.*

A copy of this Guideline is available at: www.safework.nsw.gov.au

DBYD Administration 1300 880 906

Warning: The enclosed plans show the position of Jemena Gas Networks (NSW) Ltd's underground gas mains and installations in public gazetted roads only. **Individual customers' services and services belonging to other third parties are not included** on these plans. These plans have been prepared solely for the use of Jemena Gas Networks (NSW) Ltd and Jemena Asset Management Pty Ltd (together "**Jemena**") and any reliance placed on these plans by you is entirely at your own risk. The plans may show the position of underground mains and installations relative to fences, buildings etc., as they existed at the time the mains etc were installed. The plans may not have been updated to take account of any subsequent change in the location or style of those features since the time at which the plans were initially prepared. Jemena makes no warranty as to the accuracy or completeness of the enclosed plans and does not assume any duty of care to you nor any responsibility for the accuracy, adequacy, suitability or completeness of the plans or for any error, omission, lack of detail, transmission failure or corruption in the information provided. Jemena does not accept any responsibility for any loss that you or anyone else may suffer in connection with the provision of these plans, however that loss may arise (including whether or not arising from the negligence of Jemena, its employees, agents, officers or contractors).

The recipient of these plans must use their own care and diligence in carrying out their works and must carry out further surveys to locate services at their work site. Persons excavating or carrying out other earthworks will be held responsible for any damage caused to Jemena's underground mains and equipment. In accordance with the Work Near Underground Assets Guideline published in 2007 by Work Cover Authority, Jemena recommends that you carry out potholing by hand to accurately confirm the location of gas mains and installation prior to commencing excavations.

In case of Emergency Phone 131 909 (24 hours)

Admin 1300 880 906

Jemena Gas Networks
Dial Before You Dig Map Legend

June 2020 ver1

Network Mains

- Proposed New Main (coloured as per kPa)
- Proposed Isolate (coloured as per kPa)
- Unknown kPa
- 2kPa Low Pressure gas main
- 7kPa Low Pressure gas main
- 30kPa Medium pressure gas main
- 100kPa Medium Pressure gas main
- 210kPa Medium Pressure gas main
- 300kPa Medium Pressure gas main
- 400kPa Medium Pressure gas main
- 1050kPa High Pressure gas main
- 3500kPa High Pressure gas main
- 7000kPa High Pressure gas main
- >7000kPa Transmission pipeline
- Isolated Service - Former Med/High Pressure
- Isolated Steel Main -**Treat as High Pressure**

100 PVC — Conduit or Casing Size & Material (see conduit material codes)

Critical Main -**Treat as High Pressure** (Main coloured as per kPa)

EXPOSED — Exposed Main section

SHALLOW-SP — Shallow Main section: see Protection Code below, no code assume no protection

SP	Steel Plate	CE	Concrete Encased
PP	PE Plate	UNK	Unknown Type
CS	Concrete Slab		

Network Assets

- Siphon
- Network Valve
- High Pressure Automatic Line Break Valve (>1050kPa)
- Distribution Regulator Set (=<1050kPa)
- High Pressure Regulating Station (>1050kPa)

Annotations

Pipe and Conduit Material Codes

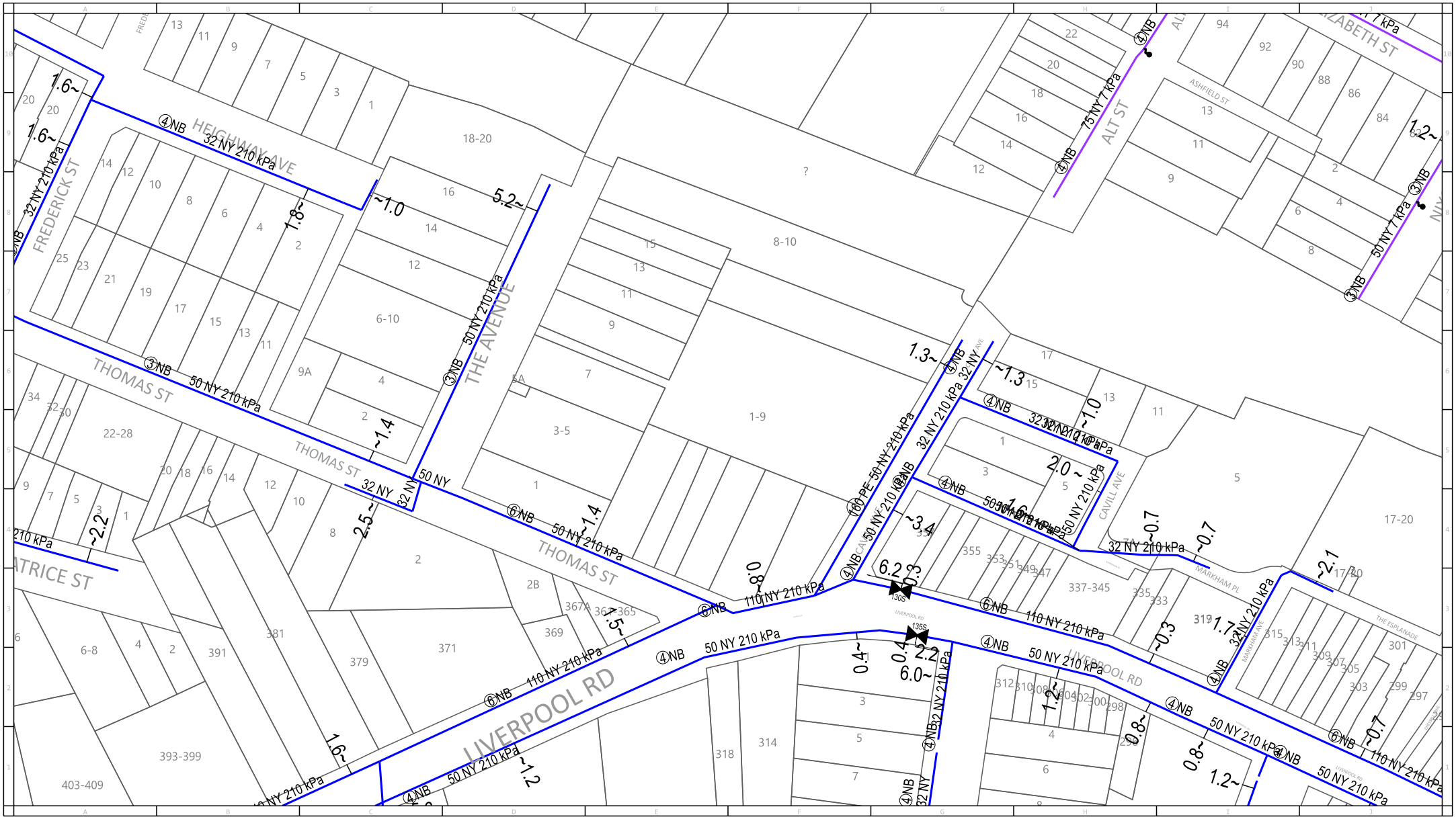
NY	Nylon	NB	Nominal Bore – Cast Iron
PE	Polyethylene	ST	Steel
P/PL	Plastic (undefined)	C/CO	Copper
PVC	Polyvinyl Chloride		

Pipe code combinations and dimension references

(6)**NB 50MM NY**	50mm Nylon main inserted into 6 inch (Nominal Bore) Cast Iron pipe
(50)**MM 32MM NY**	32mm Nylon main inserted into 50mm Steel pipe
~1.5	Distance (in metres) of main from Boundary Line (MBL)

MBK	Distance in Metres Back of Kerb
MKL	Distance in Metres from Kerb Line
MEBL	Distance in Metres from Eastern Boundary Line (North/South/West)
MCL	Distance in Metres from Centre Line of Road
MFL	Distance in Metres from Fence Line

DBYD Authority: Jemena Gas Networks (NSW) **DBYD Location:** 2 Cavill Avenue Ashfield NSW, 2131



For legend details, please refer to the Coversheet attachment provided as part of this DBYD response.

Issue Date: 06/10/2020
DBYD Seq No: 102505611
DBYD Job No: 20369702

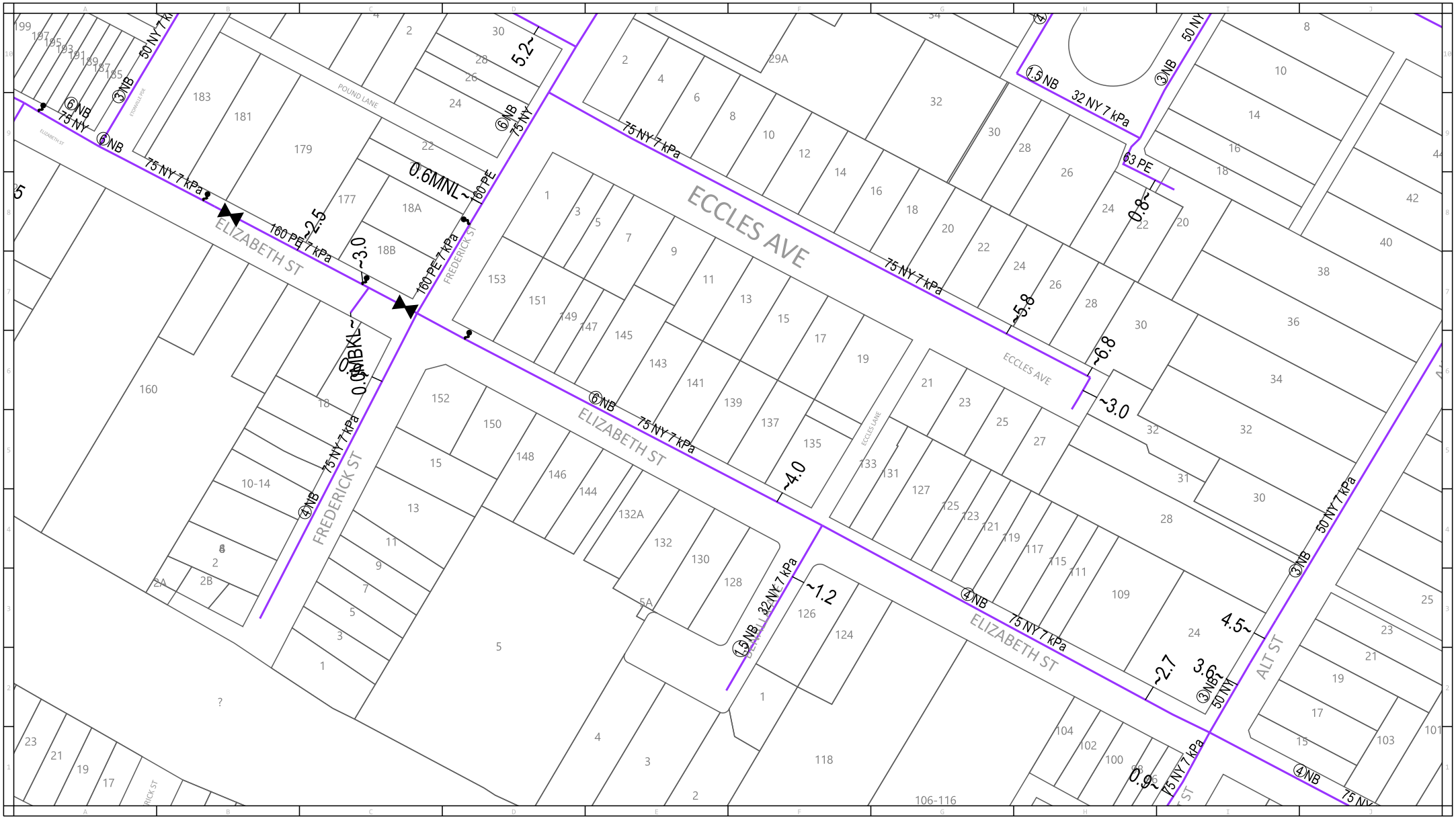
Scale: 1:2000

0m 10m 20m 30m 40m 50m 60m 70m 80m

Jemena
ABN 87 003 004 322

WARNING: This is a representation of Jemena Gas Networks underground assets only and may not indicate all assets in the area. It must not be used for the purpose of exact asset location in order to undertake any type of excavation. This plan is diagramatic only, and distances scaled from this plan may not be accurate. Please read all conditions and information on the attached information sheet. This extract is subject to those conditions. The information contained on this plan is only valid for 28 days from the date of issue.

DBYD Authority: Jemena Gas Networks (NSW) **DBYD Location:** 2 Cavill Avenue Ashfield NSW, 2131



Jemena
ABN 87 003 004 322

For legend details, please refer to the Coversheet attachment provided as part of this DBYD response.

N W E S

Issue Date: 06/10/2020
DBYD Seq No: 102505611
DBYD Job No: 20369702

0m 10m 20m 30m 40m 50m 60m 70m 80m

Scale: 1:2000

WARNING: This is a representation of Jemena Gas Networks underground assets only and may not indicate all assets in the area. It must not be used for the purpose of exact asset location in order to undertake any type of excavation. This plan is diagramatic only, and distances scaled from this plan may not be accurate. Please read all conditions and information on the attached information sheet. This extract is subject to those conditions. The information contained on this plan is only valid for 28 days from the date of issue.



Working near nbn™ cables

nbn has partnered with Dial Before You Dig to give you a single point of contact to get information about **nbn** underground services owned by **nbn** and other utility/service provider in your area including communications, electricity, gas and other services. Contact with underground power cables and gas services can result in serious injury to the worker, and damage and costly repairs. You must familiarise yourself with all of the Referral Conditions (meaning the referral conditions referred to in the DBYD Notice provided by **nbn**).

Practice safe work habits

Once the DBYD plans are reviewed, the Five P's of Excavation should be adopted in conjunction with your safe work practices (which must be compliant with the relevant state Electrical Safety Act and Safe Work Australia "Excavation Work Code of Practice", as a minimum) to ensure the risk of any contact with underground **nbn** assets are minimised.

Plan: Plan your job ensuring the plans received are current and apply to the work to be performed. Also check for any visual cues that may indicate the presence of services not covered in the DBYD plans.

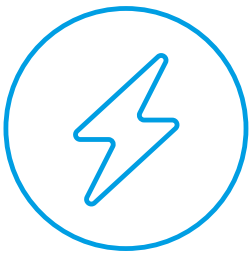
Prepare: Prepare for your job by engaging a DBYD qualified Plant Locator to help interpret plans and identify on-site assets. Contact **nbn** should you require further assistance.

Pothole: Non-destructive potholing (i.e. hand digging or hydro excavation) should be used to positively locate **nbn** underground assets with minimal risk of contact and service damage.

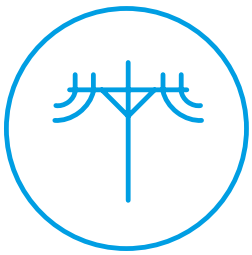
Protect: Protecting and supporting the exposed **nbn** underground asset is the responsibility of the worker. Exclusion zones for **nbn** assets are clearly stated in the plan and appropriate controls must be implemented to ensure that encroachment into the exclusion zone by machinery or activities with the potential to damage the asset is prevented.

Proceed: Proceed only when the appropriate planning, preparation, potholing and protective measures are in place.

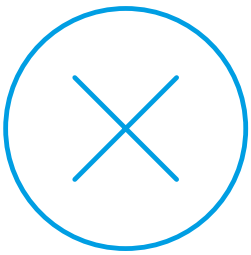
Working near **nbn**™ cables



Identify all electrical hazards, assess the risks and establish control measures.



When using excavators and other machinery, also check the location of overhead power lines.



Workers and equipment must maintain safety exclusion zones around power lines.

Once all work is completed, the excavation should be re-instated with the same type of excavated material unless specified by **nbn**. Please note:

- Construction Partners of **nbn** may require additional controls to be in place when performing excavation activities.
- The information contained within this pamphlet must be used in conjunction with other material supplied as part of this request for information to adequately control the risk of potential asset damage.

Contact

In the event of the **nbn**™ network facility damage please call 1800 626 329

Disclaimer

This brochure is a guide only. It does not address all the matters you need to consider when working near our cables. You must familiarise yourself with other material provided (including the Referral Conditions) and make your own inquiries as appropriate.

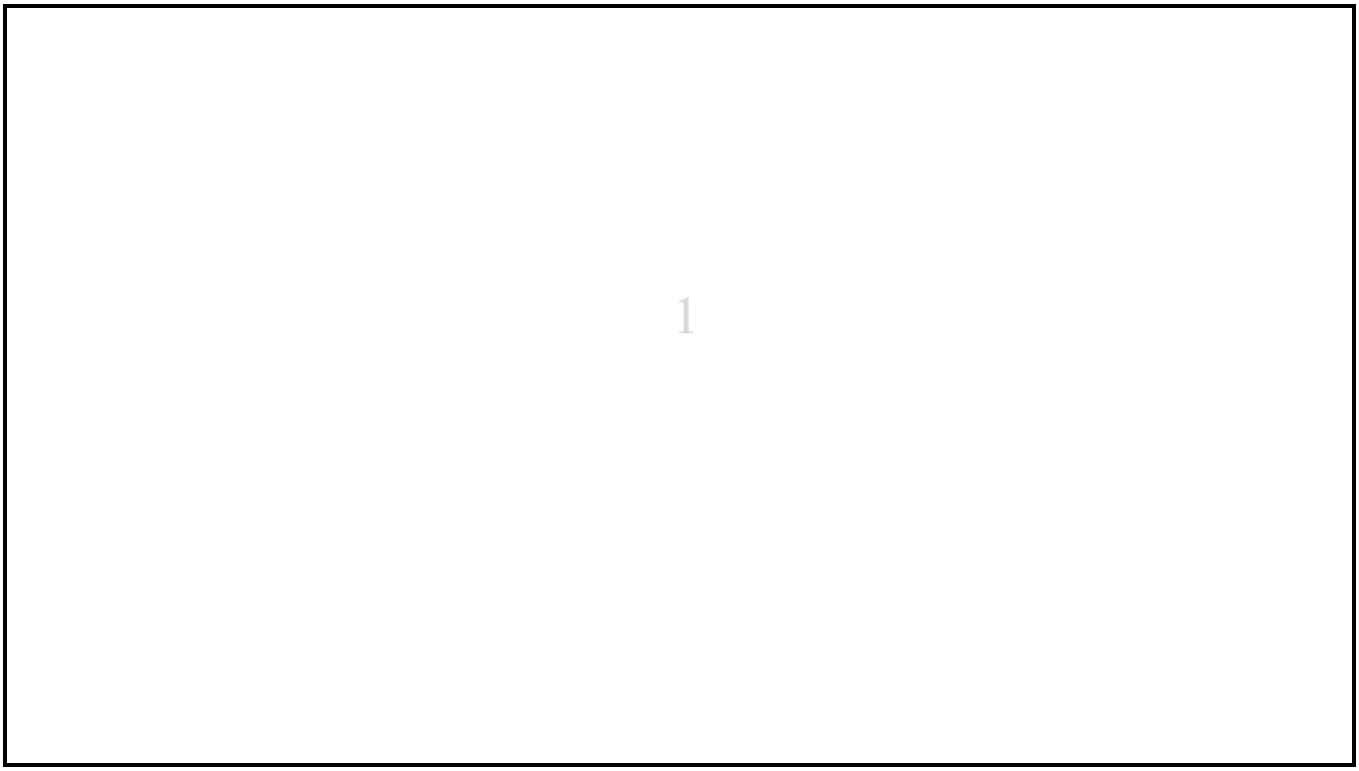
nbn will not be liable or responsible for any loss, damage or costs incurred as a result of reliance on this brochure.

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DIAL BEFORE YOU DIG
www.1100.com.au

Indicative Plans

Issue Date:	06/10/2020
Location:	2 Cavill Avenue , Ashfield , NSW , 2131

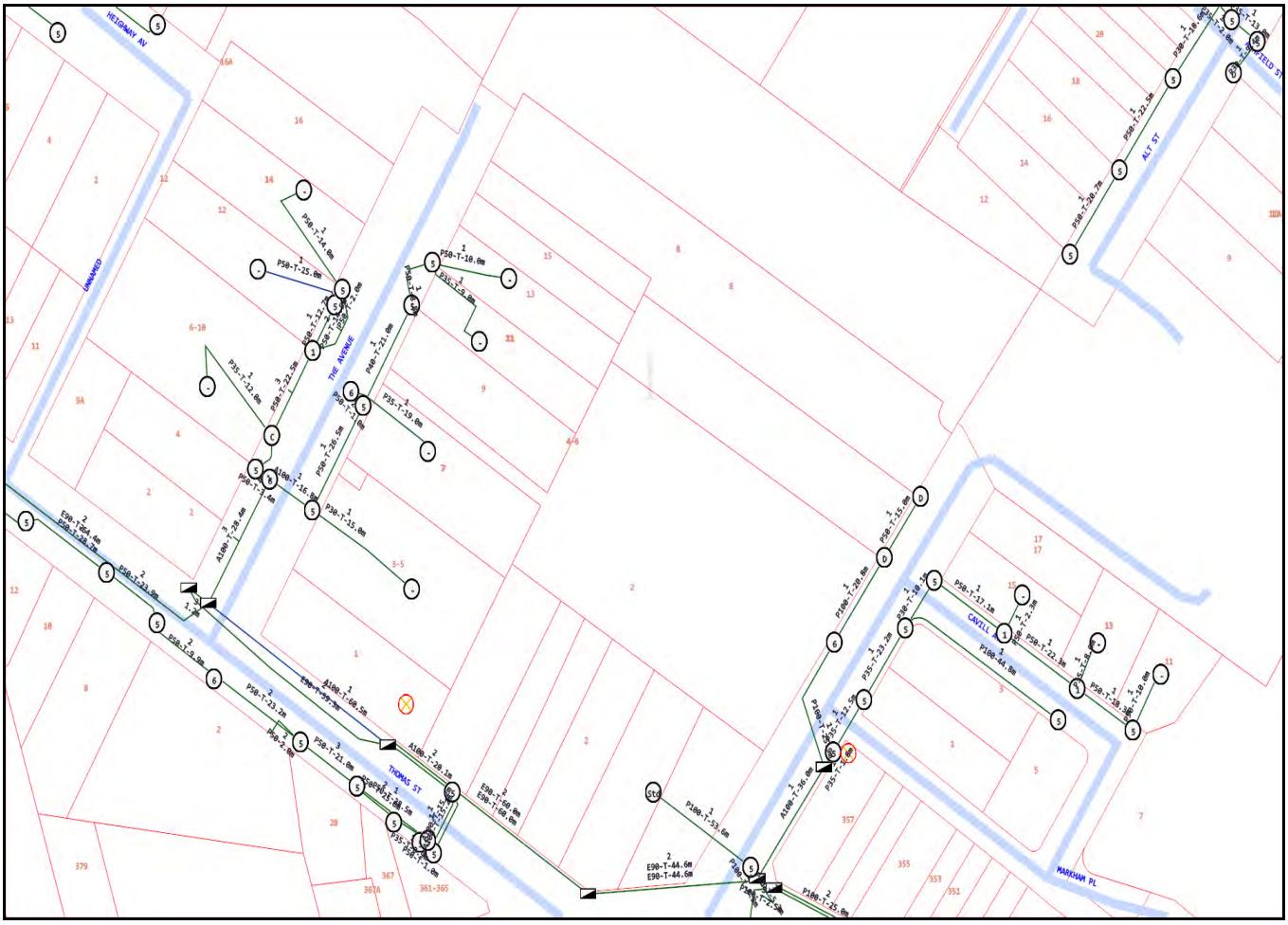


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LEGEND

11	Parcel and the location
5	Pit with size "5"
2E	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
2 PO – T- 25.0m P40 – 20.0m 5 9	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
2 10.0m 5 9	2 Direct buried cables between pits of sizes ,"5" and "9" are 10.0m apart.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.
5 9	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.
5 9	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
BROADWAY ST	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m

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Emergency Contacts

You must immediately report any damage to **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.

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To:	Mr Syed Shah
Phone:	0405752313
Fax:	Not Supplied
Email:	syed.shah@ade.group

Dial before you dig Job #:	20369702	DIAL BEFORE YOU DIG www.1100.com.au
Sequence #	102505614	
Issue Date:	06/10/2020	
Location:	2 Cavill Avenue , Ashfield , NSW , 2131	Some impact. No onsite action required.

Information

The area of interest requested by you contains one or more assets.

nbn Assets	Search Results
Communications	Asset identified
Electricity	No assets

In this notice **NBN Facilities** means *underground fibre optic, telecommunications and/or power facilities, including but not limited to cables, owned and controlled by* ***nbn***

Location of Underground Power Facilities

We thank you for your enquiry. In relation to your enquiry at the above address:

- **nbn's** records indicate that there **ARE nbn** Facilities in the vicinity of the location identified above ("Location").
- **nbn** indicative plan/s are attached with this notice ("Indicative Plans").
- The Indicative Plan/s show general depth and alignment information only and are not an exact, scale or accurate depiction of the location, depth and alignment of **nbn** Facilities shown on the Plan/s.
- In particular, the fact that the Indicative Plans show that a facility is installed in a straight line, or at uniform depth along its length cannot be relied upon as evidence that the facility is, in fact, installed in a straight line or at uniform depth.
- You should read the Indicative Plans in conjunction with this notice and in particular, the notes below.
- You should note that, at the present time, the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables. As such, consistent with the notes below, particular care must be taken by you to make your own enquiries and investigations to precisely locate any power cables and manage the risk arising from such cables accordingly.
- The information contained in the Indicative Plan/s is valid for 28 days from the date of issue set out

above.You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators at your cost to locate **nbn** Facilities during any activities you carry out on site).

We thank you for your enquiry and appreciate your continued use of the Dial Before You Dig Service. If you are planning to excavate and require further information, please contact **nbn** on 1800 626 329. For any enquiries related to moving assets or Planning and Design activities, please visit the **nbn** Commercial Works website to complete the online application form.

Notes:

1. You are now aware that there are **nbn** Facilities in the vicinity of the above property that could be damaged as a result activities carried out (or proposed to be carried out) by you in the vicinity of the Location.
2. You should have regard to section 474.6 and 474.7 of the *Criminal Code Act 1995* (CoA) which deals with the consequences of interfering or tampering with a telecommunications facility. Only persons authorised by **nbn** can interact with **nbn's** network facilities.
3. Any information provided is valid only for **28 days** from the date of issue set out above.

Referral Conditions

The following are conditions on which **nbn** provides you with the Indicative Plans. By accepting the plans,you are agreeing to these conditions. These conditions are in addition, and not in replacement of, any duties and obligations you have under applicable law.

1. **nbn** does not accept any responsibility for any inaccuracies of its plans including the Indicative Plans. You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators at your expense to locate **nbn** Facilities during any activities you carry out on site).
2. You acknowledge that **nbn** has specifically notified you above that the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables.
3. You should not assume that **nbn** Facilities follow straight lines or are installed at uniformed depths along their lengths, even if they are indicated on plans provided to you. Careful onsite investigations are essential to locate the exact position of cables.
4. In carrying out any works in the vicinity of **nbn** Facilities, you must maintain the following minimum clearances:
   - 300mm when laying assets inline, horizontally or vertically.
   - 500mm when operating vibrating equipment, for example: jackhammers or vibrating plates.
   - 1000mm when operating mechanical excavators.
   - Adherence to clearances as directed by other asset owner's instructions and take into account any uncertainty for power cables.
5. You are aware that there are inherent risks and dangers associated with carrying out work in the vicinity of underground facilities (such as **nbn** fibre optic,copper and coaxial cables,and power cable feed to **nbn** assets).Damage to underground electric cables may result in:
   - Injury from electric shock or severe burns, with the possibility of death.
   - Interruption of the electricity supply to wide areas of the city.
   - Damage to your excavating plant.
   - Responsibility for the cost of repairs.
6. You must take all reasonable precautions to avoid damaging **nbn** Facilities. These precautions may include but not limited to the following:
   - All excavation sites should be examined for underground cables by careful hand excavation. Cable cover slabs if present must not be disturbed. Hand excavation needs to be undertaken with extreme care to

minimise the likelihood of damage to the cable, for example: the blades of hand equipment should be aligned parallel to the line of the cable rather than digging across the cable.

- If any undisclosed underground cables are located, notify **nbn** immediately.
- All personnel must be properly briefed, particularly those associated with the use of earth-moving equipment, trenching, boring and pneumatic equipment.
- The safety of the public and other workers must be ensured.
- All excavations must be undertaken in accordance with all relevant legislation and regulations.

7. You will be responsible for all damage to **nbn** Facilities that are connected whether directly, or indirectly with work you carry out (or work that is carried out for you or on your behalf) at the Location. This will include, without limitation, all losses expenses incurred by **nbn** as a result of any such damage.
8. You must immediately report any damage to **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.
9. Except to the extent that liability may not be capable of lawful exclusion, **nbn** and its servants and agents and the related bodies corporate of **nbn** and their servants and agents shall be under no liability whatsoever to any person for any loss or damage (including indirect or consequential loss or damage) however caused (including, without limitation, breach of contract negligence and/or breach of statute) which may be suffered or incurred from or in connection with this information sheet or any plans(including Indicative Plans) attached hereto. Except as expressly provided to the contrary in this information sheet or the attached plans(including Indicative Plans), all terms, conditions, warranties, undertakings or representations (whether expressed or implied) are excluded to the fullest extent permitted by law.

All works undertaken shall be in accordance with all relevant legislations, acts and regulations applicable to the particular state or territory of the Location. The following table lists all relevant documents that shall be considered and adhered to.

State/Territory	Documents
National	Work Health and Safety Act 2011
	Work Health and Safety Regulations 2011
	Safe Work Australia - Working in the Vicinity of Overhead and Underground Electric Lines (Draft)
	Occupational Health and Safety Act 1991
NSW	Electricity Supply Act 1995
	Work Cover NSW - Work Near Underground Assets Guide
	Work Cover NSW - Excavation Work: Code of Practice
VIC	Electricity Safety Act 1998
	Electricity Safety (Network Asset) Regulations 1999
QLD	Electrical Safety Act 2002
	Code of Practice for Working Near Exposed Live Parts
SA	Electricity Act 1996
TAS	Tasmanian Electricity Supply Industry Act 1995
WA	Electricity Act 1945
	Electricity Regulations 1947
NT	Electricity Reform Act 2005
	Electricity Reform (Safety and Technical) Regulations 2005
ACT	Electricity Act 1971

Thank You,

Network Operations Centre - Assurance

Date: 06/10/2020

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Uecomm

Cable Uecomm Underground

Scale: #INSERT MAP SCALE#

Printed On: 06/10/2020

Sequence Number: 102505610

Location: 2 Cavill Avenue

Job Location

Line

Point

Area

Undergound Asset

Uecomm

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Optus Contract Management Team
Unit 9, 677 Springvale Road
Mulgrave, Victoria, 3178

Date: 06/10/2020
To: Mr Syed Shah
Company:
Address: 6 7 Millennium Court
Silverwater, NSW 2128

ENQUIRY DETAILS
Location: 2 Cavill Avenue, Ashfield, NSW 2131
Sequence No.: 102505610
DBYD Reference: 20369702

In relation to your enquiry concerning the above location, Optus advises as follows:

Optus records indicate that there ARE underground Optus FIBRE OPTIC TELECOMMUNICATIONS ASSETS in the vicinity of the above location as per the attached drawing(s).

This reply is valid for a period of 30 days from the date above.

IMPORTANT INFORMATION

Asset location drawings provided by Optus are reference diagrams and are provided as a guide only. The completeness of the information in these drawings cannot be guaranteed. Exact ground cover and alignments cannot be provided with any certainty as these may have altered over time. Depths of telecommunications assets vary considerably as do alignments. It is essential to identify the location of any Optus assets in the vicinity prior to engaging in any works.

All Optus assets in the vicinity of any planned works will need to be electronically located to ascertain their general location. Depending on the scope of planned works in the vicinity, the assets may also need to be physically located.

You MUST engage the services of one of the Optus Asset Accredited Locators to carry out asset location (refer to list of Accredited Locators attached to this DYBD response).

Unless otherwise agreed with Optus, where an on-site asset location is required, the requestor is responsible for all costs associated with the locating service including (where required) physically exposing the Optus asset.

DUTY OF CARE

When working in the vicinity of telecommunications assets you have a legal "Duty of Care" and non-interference that must be observed.

It is your responsibility as the requesting party (as a landowner or any other party involved in the planned works) to design for minimal impact to any existing Optus asset. Optus can assist at the design stage through consultation.

It is also your, as the requesting party (or your representative's), responsibility to:

a) Obtain location drawings (through the Dial Before You Dig process) of any existing Optus assets at a reasonable time before any planned works begin;

b) Have an Optus Accredited Asset Locator identify the general location of the Optus asset and physically locate the asset where planned works may encroach on its alignment; and

c) Contact Optus for further advice where requested to do so by this letter.

DAMAGE TO ANY OPTUS ASSET MUST BE REPORTED TO 1800 500 253 IMMEDIATELY
You, your head contractor and any relevant subcontractor are all responsible for any Optus asset damage as a result of planned activities in the vicinity of Optus assets.

This applies where works commence prior to obtaining Optus drawings, where there is failure to follow instructions or during any construction activities.

Optus reserves the right to recover compensation for loss or damage to its assets including consequential loss. Also, you, your head contractor and any relevant subcontractor may also be liable for prosecution under the Criminal Code Act 1995 (Cth).

ASSET RELOCATIONS
You are not permitted by law to relocate, alter or interfere with any Optus asset under any circumstance. Any unauthorised interference with an Optus asset may lead to prosecution under the Criminal Code Act 1995 (Cth).

Enquiries relating to the relocation of Optus assets must be referred to the relevant Optus Damages and Relocations Team (refer to "FURTHER ASSISTANCE").

APPROACH DISTANCES
On receipt of Optus asset location drawings and prior to commencing any planned works near an Optus asset, engage an Optus Accredited Locator to undertake a general location of the Optus asset.

Physical location of the Optus asset by an Optus Accredited Locator will also be required where planned works are within the following approach distances of the general location of the Optus asset:

a) In built up metropolitan areas where road and footpaths are well defined by kerbs or other features a minimum clear distance of 1 meter must be maintained from the general location of the Optus asset.

b) In non-established or unformed metropolitan areas, a minimum clear distance of 3 meters must be maintained from the general location of the Optus asset.

c) In country or rural areas where wider variations may exist between the general and actual location of an Optus asset may exist, then a minimum clear distance of 5 meters must be maintained from the general location of the Optus asset.

If planned works are parallel to the Optus asset, then the Optus asset must be physically located by an Optus Accredited Locator at a minimum of 5 meter intervals along the length of the parallel works prior to work commencing.

Under no circumstances is crossing of any Optus asset permitted without physical location of the asset being carried out by an Optus Accredited Locator. Depending on the asset involved an Optus representative may be required onsite.

The minimum clearances to the physical location of Optus assets for the following specific types of works must be maintained at all times.

Note: Where the clearances in the following table cannot be maintained or where the type of work differs from those listed then advice must be sought from the relevant Optus Damages and Relocations Team (refer to "FURTHER ASSISTANCE").

Type of Works	**Clearance to Physical Location of Optus Asset**
Jackhammers / Pneumatic Breakers	Not within 1 meter.
Light duty Vibrating Plate or Wacker Packer type compactors (not heavy road construction vibrating rollers etc.)	500mm compact clearance cover before a light duty compactor can be used over any Optus conduit. No compaction permitted over Optus direct buried cable without prior approval from Optus.
Boring Equipment (in-line, horizontal and vertical)	Not within 5 meters parallel of the Optus asset location without an Accredited Optus Asset Locator physically exposing the Optus asset and with an Optus representative onsite. Not to cross the Optus asset without an Accredited Optus Asset Locator physically exposing the Optus asset and with an Optus representative onsite.

Type of Works	Clearance to Physical Location of Optus Asset
Heavy vehicle Traffic (over 3 tonnes)	Not to be driven across Optus conduits with less than 600mm of cover. Not to be driven across Optus direct buried cable with less than 1.2 meters of cover. Once off crossings permitted, multiple crossing (e.g. road construction or logging) will require Optus approval. Accredited Optus Asset Locator to physically expose the Optus asset to verify actual depth.
Mechanical Excavators, Farm Ploughing, Vertical Hole installation for water bore or fencing etc.	Not within 1 meter. Accredited Optus Asset Locator to physically expose the Optus asset to verify actual location.

ASSET CLEARANCES AFTER COMPLETION OF WORKS
All Optus pits and manholes must be a minimum of 1 meter from the back of any kerb, 3.5 meters of the road surface without a kerb or not within 15 meters of street intersection.

In urban areas Optus conduit must have the following minimum depth of cover:

- Footway 600mm;
- Roadway 1 meter at drain invert and at road centre crown.

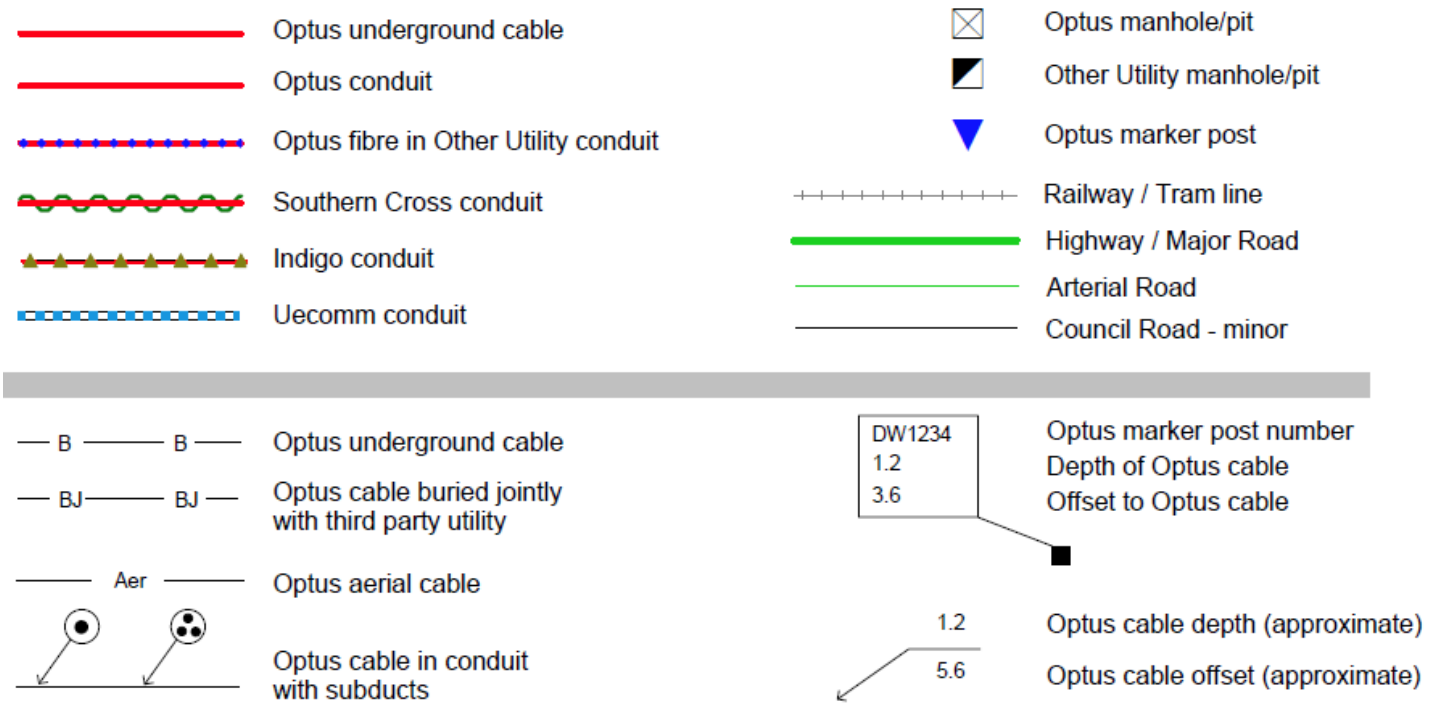
In rural areas Optus conduit must have a minimum depth of cover of 1 meter and direct buried cable 1.2 meters.

In cases where it is considered that the above clearances cannot be maintained at the completion of works, advice must be sought from the relevant Optus Damages and Relocations Team (refer "Further Assistance").

FURTHER ASSISTANCE
Further assistance on asset clearances, protection works or relocation requirements can be obtained by contacting the relevant Optus Damages and Relocations Team on the following email address:
NFODamages&RelocationsDropbox@optus.com.au

Further assistance relating to asset location drawings etc. can be obtained by contacting the Optus Network Operations Asset Analysis Team on 1800 505 777.

OPTUS ENGINEERING DRAWING SYMBOLS



OPTUS

Optus Accredited Asset Locators

Name	Company Name	Phone	Email	State	Region/Service Area
Alan Cordner	Alcom Fibre Services Pty Ltd	0400 300 337	alcomfibre@bigpond.com	NSW / ACT	Sydney
Brad McCorkindale	Bradmac Locating Services	0434 157 409	brad.mac@bigpond.com	NSW / ACT	All
Troy Redden	On Point Utility Locating	1300 6676 468	troy@onpointlocating.com.au	NSW	Sydney Only
Shane Buckley	Cable & Pipe Locations	0408 730 430	sabuckley@bigpond.com	NSW / QLD	Armidale, Casino, Coffs Harbour, Dorrigo, Glenn Innes, Grafton, Inverell, Kempsey, Lismore, Nambucca, Port Macquarie, Tamworth, Taree, Tenterfield, Yamba
Philip Pegler	Down Under Detection Services (DUDS)	0418 267 964	apegler@duds.net.au	NSW	All
Noreen Egan	SureSearch Underground Services	1300 884 520 0418 920 245	Noreen@suresearch.com.au	NSW / ACT / QLD	NSW, Sydney, Northern NSW, Canberra, QLD, South East QLD.
Leonard McGowan	Pipesure Australia	1300 411 811	len@pipesure.com.au	NSW	Sydney
Bruce Whittaker	Optical Fibre Technologies	0402 354 322	opticaltek1@aol.com	NSW	Sydney/Wollongong
Darryl Smith	Darryl Smith Electrical	02 6642 3731	office@dsmithelectrical.com.au	NSW	Grafton
George Koenig	Downunder Locations NSW Pty	0438 243 856	Downunderlocations@gmail.com	NSW	Tweed Heads, Gold Coast, Brisbane
Michael Grant	M&K Grant Bega Bobcats Pty Ltd	0427 260 423	zzbobcat@bigpond.net.au	NSW	Bega, Far South Coast
Antony Critcher	Geotrace Pty Ltd	0417 147 945	antony@geotrace.com.au	NSW	All Areas, Sydney, Wollongong, Newcastle, ACT

Anthony Lane	Hydro Digga	0447 774 000	locator@hydrodigga.com	NSW	All of NSW, ACT & South East Qld
Grant Pearson	Australian Utilities Management Pty Ltd	0427 833 222	aine@ausutilities.net.au	NSW	Sydney Metro
Nathan Ellis	Utility Locating Services	0404 087 555	nathan@utilitylocatingservices.com.au	NSW	Sydney
Rodney Pullen	Provac	0450 268 012	rod@provac.net.au	NSW /QLD	South East QLD, Northern NSW
Rodney Pullen	One Find Cables	0451 268 012	rod@provac.net.au	NSW /QLD	South East QLD, Northern NSW
Drew Misko	Australian Subsurface Pty Ltd	0427 879 600	admin@australiansubsurface.com	NSW / ACT	All of NSW/ACT
Scott O'Malley	Coastal Cable Locators Pty Ltd	0427 975 777	skomalley@bigpond.com	NSW	South Coast- Snowy Mountains- Southern Highlands
Liam Bolger	Brandon Construction Services	0438 044 008	liam.bolger@hotmail.com	NSW	Bathurst, Orange, Dubbo
Brett Pickup	All About Pipes	02 8763 4200	Brett.Pickup@allaboutpipes.com.au	NSW / VIC	All
Karen Joyce	Durkin Construction Pty Ltd	02 9712 0308	karen@durkinconstruction.com.au	NSW	Sydney
Timothy Laidler	Locate & Map	0431 191 669	tim@locateandmap.com.au	NSW	Sydney, Central Coast
Ken Brown	Riteway Traffic Control Pty Ltd	0419 212 969	kbrowne@ritewaytc.com.au	NSW	Central Coast, Hunter
Walter R Johansen	Steger & Associates	02 6296 4089	enquiries@steger.com.au	ACT / NSW	Canberra
Jean-Max Monty	Civilscan	0416 068 060	civilscan@bigpond.com	NSW	Sydney – Central Coast – Newcastle – Wollongong – Hunter Valley – Blue Mountains
Alan Hunter	Hunter Ground Search	02 4953 1244 0418 684 819	huntergroundsearch@bigpond.com	NSW	Newcastle, Central Coast, Hunter Valley, Mid North Coast, Liverpool Plains, Central West NSW
Gilbert J Cook	Datateks Communications Specialists	0408 693 660	datateks@datateks.com.au	NSW	Southern NSW

Damien Black	Mid North Coast Hydro Digging	0418 409 465	dblack1@bigpond.com	NSW	Newcastle –Foster –Taree -Wauchope -Port Macquarie -Kempsey -Coffs harbour
Neil Blenkinsop	Utility Mapping Pty Ltd	0427 318 681	nblenkinsop@utilitymapping.com.au	NSW	Sydney
Daniel Fox	Epoca Environmental Pty Ltd	02 4739 2465 0433 100 642	daniel@epocaenvironmental.com.au	NSW	All NSW, ACT
Rod Shaw	Cable Find	0478 887 073	rod@cablefind.com.au	NSW	Northern Rivers
Danny Carter	Online Pipe & Cable Locating	1300 665 384	danny@onlinepipe.com.au	NSW	Sydney, Newcastle, Canberra, Blue Mountains
Sam Romano	Locating Services	0403 065 510	sam.romano@locatingservices.com.au	NSW	NSW All
Scott Allison	Crux Surveying Australia	02 9540 9940	sydneyoffice@cruxsurveying.com.au	NSW	Sydney Metro & Surrounding Areas
Ian Brown	Peter Ellsmore & Associates	0439 423 708	ian.brown@ellsmore.com.au	NSW	Wollongong, Illawarra, South Coast, Southern Highlands, Macarthur & Sydney
Donna Wullaert	Commence Communications Pty Ltd	02 6226 3869 0428 595 620	admin@commencecomms.com.au	NSW	Canberra, Yass, Bungendore, Goulburn and Surrounding regional Areas
Stephen Fraser	Advanced Ground Locations	02 4930 3195 0412 497 488	steve_agl@hotmail.com	NSW	Newcastle, Hunter Valley, Central Coast, Taree & Surrounding Areas
Andrew Findlay	LiveLocates	0429 899 777	info@livelocates.com.au	NSW	South Coast/ACT, Snowy Mountains
Graeme Teege	Armidale Electrical	02 6772 3702	office@armidale-electrical.com.au	NSW	Armidale
Myles Green	Australian Locating Services	1300 761 545	myles@locating.com.au	NSW	Sydney
Brett Wallin	Utility Scan	0426 354 051	brett@utilityscan.net	NSW	Sydney CBD and Regional areas
Daniel Hudson	One Search Locators	1300 530 420	daniel@onesearchlocators.com.au	NSW	All NSW, ACT
Tim Galaz	Utec Solutions	02 9389 0040	office@utecsolutions.com.au	NSW/QLD /VIC	All areas, NSW, QLD, VIC

Gary Laneyrie	Laneyrie Electrical	0412 079 079 0413 048 048	bindy@laneyieelectrical.com.au	NSW	Illawarra, South Coast, Hunter Region
Reece Gainsford	East Coast Locating Services	0431 193 111	eastcoastlocating@hotmail.com	NSW	Sydney, Maitland, Newcastle, Hunter, Port Stephens, Central Coast
Allan Clarke	The Control Group Pty Ltd	0421 960 017	allan@thecontrolgroup.com.au	NSW	Northern NSW
Simon Cook	Douglas Partners	0431 507 667	simon.cook@douglaspartners.com.au	NSW	NSW All
Samual Boesen	Rubicof Cable & Pipe Locators	0403 285 352 0418 103 369	rubicof@optusnet.com.au	NSW	Cessnock
Craig Vallely	Aqua Freeze & Locate Pty Ltd	0458 774 440	service@aquafreeze.com.au	NSW	Sydney
Laurence Mead	Veris	0419 770 560	i.mead@veris.com.au	NSW	Sydney
Bobby Friesz	Vac Group Operations (T/A Earth Radar)	0447 837 267	Bobby.Friesz@vacgroup.com.au	NSW	Sydney
Chris Hall	D C Locators Pty Ltd	0419 679 741	dcloc@powerup.com.au	QLD	Brisbane, Ipswich
Jeff Trackson	J.R & L.M Trackson Pty Ltd	0417 600 978	jtrackson@tracavoid.com.au	QLD	All
Benji Lee	LADS	0478 915 237	benji@ladsqld.com.au	QLD	South East QLD
Andrew Watson	Lambert Locations Pty Ltd	07 5562 8400	admin@lambertlocations.com.au	QLD	South East QLD & Northern NSW
Ross Clarke	FNQ Cable Locators Pty Ltd	0428 775 655	onlineco@bigpond.net.au	QLD	Far North QLD, Cape York & Peninsula
Col Greville	Bsure Locators	0488 520 688	admin@bsurelocators.com.au	QLD	Wide Bay Burnett and Central Qld
Mikael White	All Asset Locations	0478 846 025	allassetlocations@gmail.com	QLD	Sunshine Coast
Andrew Cowan	VAC Group Operations (T/A Earth Radar)	0447 008 806	andrew.cowan@vacgroup.com.au	QLD	South East and Central QLD
Jimmy Wilkins	GeoRadar Australia	0425 677 227	jimmy@georadar.net.au	QLD	Emerald, Bundaberg
Beaumont Blake	PipeHawk CCTV	0435 558 533	accounts@pipehawkcctv.com.au	QLD	South East QLD & Northern NSW
Craig Waite	C Locate	0437 808 444	clocate@bigpond.com	QLD	South East QLD

QLD Operations	Utility Location Services	0499 775 095 07 3807 3552	qldops@utilitylocationservices.com.au	QLD	SouthEast QLD, Northern NSW
Andrew Watson	RPS AUS East	0408 839 723	andrew.watson@rpsgroup.com.au	QLD	Brisbane
Luke Steadman	Utility Mapping Pty Ltd	0472 867 197	lsteadman@utilitymapping.com.au	QLD	All
Robert Reed	All Asset Locations Pty Ltd	0478 846 025	allassetlocations@gmail.com	QLD	Sunshine Coast
Jenny Dziduch	1300 Locate Pty Ltd	1300 562 283	admin@1300locate.com.au	QLD	All Queensland, Northern NSW
Sam Hazel	Utility ID Underground Service Locators	0401 202 515	sam@utilityid.com.au	QLD	Southern QLD
Brendon Smith	Dynamic Hydro Excavations	1300 822 878	admin@dynamicexcavation.com.au	QLD	QLD, NSW, VIC
Marty Carlson	Surveywerx Pty Ltd	0488 842 110	mike@surveywerx.com	QLD	South East QLD
Adam Lloyd	Aussie HydroVac Services	07 3287 7818	adam.lloyd@aussiehydrovac.com.au	QLD	All
Gary Poppi	Ace Cable Locations	0431 517 837	garypoppi@bigpond.com	QLD	Wide Bay Burnett
Josh Taylor	Advanced Locations Victoria	0427 846 716	josh@advancedlocationsvic.com.au	VIC	All
Ben Minutoli	Geelong Cable Locations	1800 449 543	ben@geelongcablelocations.com.au	VIC	Melbourne, Geelong, Country Victoria
Mick McGoldrick	Cavan Constructions	0404 241 679	mick@locatecables.com	VIC	Western Victoria
David Kelleher	Construction Sciences	03 9553 7236	utilities@constructionsciences.net	VIC	Victoria
Stuart Miles	ELS Environmental Location Systems	03 8795 7461	accounts@radiodetection.com.au	VIC	Victoria
Darren Dean	Asset Survey Solutions	1300 035 796	darren.dean@assetsurvey.com.au	VIC	Victoria
Alex Jones	Utility Mapping Pty Ltd	0417 413 353	ajones@utilitymapping.com.au	VIC	
Adam Linford	Gippsland Pipe & Cable Locations	0409 386 817	gippspac@hotmail.com	VIC	Gippsland
Thomas Pitt	Access Utility Engineering (AUE)	03 9580 0440	info@accessue.com.au	VIC	Victoria
Bernie Acabal	Taylors Development Strategists	03 9501 2800 0419 758 794	b.acabal@taylorsds.com.au	VIC	Victoria

Philong Nguyen	Asset Detection Services Pty Ltd	0413 949 400	phi.nguyen@assetdetection.com.au	VIC	VIC, NSW, TAS All areas
Maurice Tobin	Drain Solutions	1300 546 348	info@drainsolutions.com.au	VIC	Melbourne Metro
Nathan Kelleher	Seeker Utility Engineering	0439 691 840	nathan.kelleher@seekerutility.com.au	VIC	Melbourne
Jeffrey Ramos	VAC Group Operations (T/A Earth Radar)	0436 635 011	Jeffrey.ramos@earthradar.com.au	VIC	All
Infrastructure Civil Services	Trenchless Pipelaying Contractors (TPC)	08 8376 5911	tpc@trenchlesspipelaying.com.au	SA	All
Sean Nemeth	Enerven Energy Infrustructure Pty Ltd	0488 167 772	sean.nemeth@enerven.com.au	SA	Adelaide
SADB	SADB Civil Construction & Trenchless	08 8168 7200	reception@sadb.com.au		
Galen Shanahan	Vac Group Operations (T/A Earth Radar)	0447 837 000	Galen.Shanahan@vacgroup.com.au	SA	All
Marilyn Dentice	Cable Locates & Consulting	08 9524 6600	accounts@cablelocates.com.au	WA	Metro & Country
Lisa Scofield	Abaxa	08 9256 0100	accounts@abaxa.com.au	WA	All
Derek McShane	Subterranean Service Locations	0420 862 426	Derek@sslwa.com.au	WA	Midwest/Gascoyne
Ben Upton	TerraVac Vacuum Excavation	0427 531 119	locations@terravac.com.au	WA	All
Dale Shearsmith	Subtera Subsurface Locating	1300 046 636	dale@subtera.com.au	WA	All
Liam Davies	Bunbury Telecom Service Pty Ltd	08 9726 0088	liam@btswa.com.au	WA	South West WA
Tammy Thorp	B.C.E Spatial	08 9364 6408	admin@bcespatial.com.au	WA	Perth Metro & Regional
Scott Anderton	Utility Mapping Pty Ltd	0438 630 146	sanderton@utilitymapping.com.au	WA	
Chris Lee	Pulse Locating	0437 289 861	enquiries@pulselocating.com.au	WA	Perth
Morgan O'Connor	Kier Contracting	1300 543 728	morgan@kier.com.au	WA	Perth Metro & Greater region, Regional WA
Nigel Nunn	CCS Group / Utility Locating Solutions	08 9385 5000	enquiry@ccswa.com.au	WA	Perth

Paul Stevenson	Geographe Underground Services	0427 523 811	paul.stevenson@geographeunderground.com.au	WA	All
Jeremy Brown	Spotters Asset Locations Pty Ltd	0459 130 677	jeremy@spottersassetlocations.com.au	WA	All
Reece Topham	Prime Locate	0400 888 406	reece@primelocate.com.au	WA	All
Jonathon Sylva	Advance Scanning Services	1300 738 118	bookings@advancescanning.com	WA	All
Tim Daws	Award Contracting	0411 878 895	info@awardcontracting.com.au	WA	City & Regional
Dave Turner	Anywair Pipe & Cable	0418 890 071	dave@anywair.com.au	NT	All NT, WA, QLD
Steve Gault	Northern Comms	0407 904 319	steve@northerncomms.net.au	NT	All
Wayne Parslow	Danisam	0417 089 865	danisam@westnet.com.au	NT	Darwin NT and Surrounds
Elizabeth Young	Archers Underground Services Locations (AUS Locations)	03 6245 1298	admin@auslocations.com.au auslocations@bigpond.com	TAS	All
Patrick Monaghn	Paneltec Group	0447 797 544	patrick@paneltec.com.au	TAS	All
Scott Richardson	AJ Water & Leak Detection	0457 710 680	admin@ajwater.com.au	TAS	All

To: Mr Syed Shah

6 7 Millennium Court
Silverwater, NSW, 2128

Uecomm Pty Limited
ABN 56 079 083 195

Building 8, 658 Church St,
Richmond, VIC 3121
Ph: (03) 9221 4100
Fax: (03) 9221 4193
Ah: 1800 707 447

LOCATION OF UNDERGROUND FIBRE OPTIC CABLE INFORMATION SHEET

IMPORTANT: PLEASE READ ALL INFORMATION AND CONDITIONS BELOW AND THE NOTICE ON THE REVERSE SIDE OF THE PLAN/S.

"Dial Before You Dig" Sequence No 102505610	**Issue Date:** 06/10/2020
Customer ID 2121829	**Issue By:**

Location: **2 Cavill Avenue, Ashfield, NSW 2131**
Map Ref: **254B2**
Uecomm Asset Location No. **102505610**
Dial Before You Dig Job No. **20369702**

In relation to your enquiry at the above address, Uecomm advises as follows:

The records of Uecomm Limited disclose that there ARE underground FIBRE OPTIC / TELECOMMUNICATIONS cables in the vicinity of the above enquiry as per attached plan/s.

- The underground cables referred to in this advice are defined as the underground communications cables owned or controlled by Uecomm Pty Limited.
- The person/company responsible for submitting the inquiry should take care to ensure all plans listed above have been received. For any plan listed above but not received please contact **1800 707 447**.
- Any information provided is valid only for **30 days** from the date of issue set out above.
- If the work operations extends beyond this period, or if the designs are altered in any way, you are requested to resubmit your proposal for reassessment.
- Further assistance may be obtained if necessary by telephoning **1800 707 447**.

PLEASE READ ALL INFORMATION AND DISCLAIMERS BELOW:

1. Due to the nature of underground cables and the age of some cables and records, it is impossible to conclusively ascertain the location of all cables. The accuracy and/or completeness of the information cannot be guaranteed and, accordingly, they are intended to be indicative only and, as a result, Uecomm does not accept any responsibility for any inaccuracies of its plans. They should not be solely relied upon when undertaking underground works. It is also inaccurate to assume that fibre optic cables follow straight lines and careful on-site investigations are essential to locate its exact position.

2. The following minimum clearances must be maintained:
   - 300mm when laying asset's inline, horizontal or vertical.
   - 500mm when operating vibrating equipment, e.g., jackhammers or vibrating plates.
   - 1000mm when operating mechanical excavators.

3. Due to the inherent dangers associated with excavation in the vicinity of underground cables, precautions should be taken in the undertaking of any underground works, including (but not limited to) the following:
   - All excavation sites should be examined for underground cables by careful hand excavation. Cable cover slabs if present must not be disturbed. Hand excavation needs to be undertaken with extreme care to minimise the likely hood of damage to the cable, e.g., blades of hand equipment should be orientated parallel to the line of the cable rather than digging across the cable.
   - If any undisclosed underground cables are located, Uecomm Limited should be notified immediately.
   - All personnel must be properly briefed, particularly those associated with the use of earthmoving equipment, trenching, boring and pneumatic equipment.
   - All excavations must be undertaken in accordance with the relevant legislation and regulations.

4. **DAMAGE. ANY DAMAGE TO UECOMM'S NETWORK MUST BE REPORTED IMMEDIATELY TO 1800 707 447**.

5. Uecomm recommends using Uecomm approved location contractors to provide on-site location services for Uecomm plant. You can arrange Uecomm on-site visits by calling Uecomm on 1800 707 447 and Uecomm or its approved representative will attend your site to provide guidance to the location of the Uecomm assets (the *"Uecomm Asset Alignment"*). **Uecomm requires 3 clear business days notice to conduct an on-site location.** The initial on-site visit by Uecomm will not normally incur a charge, but at the discretion of Uecomm, subsequent site visits may incur a charge to be applied at an hourly rate.

6. Uecomm will hold the relevant party responsible for any damage to Uecomm plant and all expenses incurred by Uecomm as a result of asset damage.

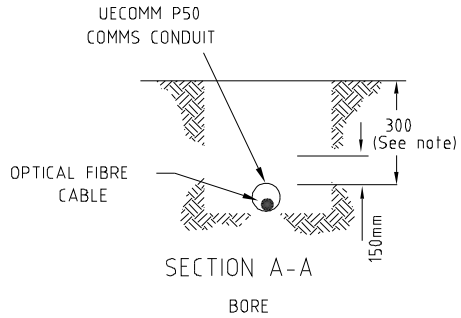
7. Except to the extent that liability may not be capable of lawful exclusion, Uecomm Pty Limited and its servants and agents and the related bodies corporate of Uecomm Pty Limited and their servants and agents shall be under no liability whatsoever to any person for any loss or damage (including indirect or consequential loss or damage) however caused (including, without limitation, breach of contract negligence and/or breach of statute) which may be suffered or incurred from or in connection with this information sheet or any Plans attached hereto. Except as expressly provided to the contrary in this information sheet or the attached Plans, all terms, conditions, warranties, undertakings or representations (whether expressed or implied) are excluded to the fullest extent permitted by law.

We thank you for your enquiry and appreciate your continued use of the Dial Before You Dig Service and/or Uecomm Asset Analysis Service. If you require further information please contact Uecomm on **1800 707 447**.

IMPORTANT *This document may be confidential and privileged. Unauthorised use is prohibited. If you have it in error, please notify us and shred this document. Thank you.*

LEGEND

- ELECTRICITY POLE
- FIBRE OPTIC CABLE
- CABLE CONDUIT (TRENCHING)
- CABLE CONDUIT (BORE TUNNELLING)
- UE P2 PIT
- UE P5 PIT
- UE P6 PIT
- UE P8 PIT
- UE P9 PIT
- BL - BUILDING LINE
- BOK - BACK OF KERB
- CL - CENTRELINE OF CONDUIT
- TP - TURNING POINT OF CONDUIT
- FENCE LINE, FL
- TELSTRA MANHOLE
- TELSTRA PIT
- OPTICAL FIBRE JOINT
- JOINT LOOP (m) - POLE / UNDERGROUND
- CABLE HEAD POLE
- 0.6m - CABLE DEPTH



NOTE
ALL INFORMATION ON THIS PLAN WAS CORRECT AT TIME OF CONSTRUCTION.

DRAWING NOT TO SCALE

Note:
1. Conduit depths quoted are approximate only and may change due to unforseen circumstances.
2. In all instances it is recommended that the position of conduits & cables should be proved on site by hand, prior to commencement of works.
3. Yellow marker tape shall be installed at least 150mm above the uppermost surface of all conduits or cables.

QC Communications
UNIT F2
22 Powers Rds
Seven Hills NSW 2147
ABN 80 079 324 299

HI PERFORMANCE COMMUNICATIONS

REVISION	DATE	REV.	REVISION DESCRIPTION	CHK'D	APP'D.

CONTACT OFFICER ROSS OATES PH: - 02 8226 3203

PROJECT NUMBER
DE&TS-151

PLAN No. Uecomm 04/02

SYDNEY / UBD REF 254.B2-4

Uecomm
MAKING THE CONNECTION
ACN 079 083 196

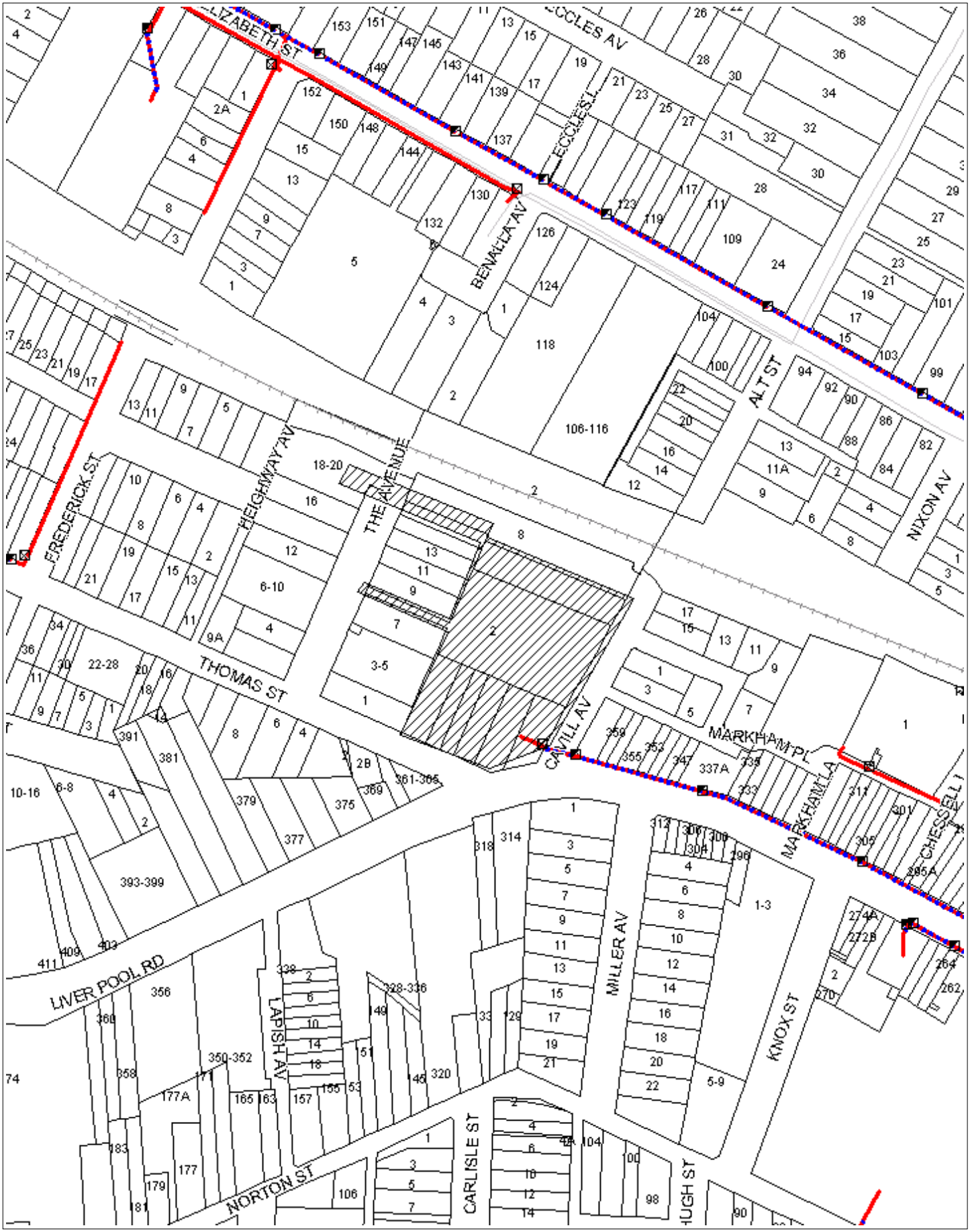
UECOMM
SYDNEY

DRAWN NCA 14.10.02
DESIGN CHECKED
APPROVED

DRG No. OFN5/SYD/2240

U/G OPTICAL FIBRE CABLE RUN
48F SMOF CABLE
2 CAVILL AVE
ASHFIELD, 2131

A3



WARNING: This document is confidential and may also be privileged. Confidentiality nor privilege is not waived or destroyed by virtue of it being transmitted to an incorrect addressee. Unauthorised use of the contents is therefore strictly prohibited. Any information contained in this document that has been extracted from our records is believed to be accurate, but no responsibility is assumed for any error or omission.
Optus Plans and information supplied are valid for 30 days from the date of issue. If this timeline has elapsed please raise a new enquiry.

Sequence Number: 102505610

Date Generated: 06/10/2020

For all Optus DBYD plan enquiries –
Email: Fibre.Locations@optus.net.au
For urgent onsite assistance contact 1800 505 777
Optus Limited ACN 052 833 208


Ashfield Aquatic Centre [Opening 17...
Heighway Ave
Frederick St
Alt St
Elizabeth St
Thomas St
Frederick St
Anytime Fitness
A22
Miller Ave
Knox St
Google
Map data ©2020

Spatial Services
Works likely to impact survey marks

Penalties apply for unauthorised removal, damage, destruction, displacement, obliteration or defacing of survey marks

ISSN 2203-9384 Information Sheet July 2018

Legislation

Survey marks are protected under the *Surveying and Spatial Information Act 2002 (NSW) Section 24.* The following penalties and orders apply for unauthorised removal, damage or disturbance of survey marks:

- Maximum penalty of 25 units, currently **$2,750** per mark; and
- up to **$10,000** per mark in compensation to the Surveyor-General towards the cost of reinstatement of each survey mark; and
- up to **$10,000** per mark in compensation to any other person towards any loss or damage suffered by that person as a consequence of the offence.

If works are likely to impact a survey mark, an application under the *Surveying and Spatial Information Regulation 2017 Clause 90* must be lodged with the Surveyor-General.

Why are survey marks important?

Survey marks are a State asset and provide a wealth of important information to a wide range of people in the community. They are used to support the surveying of property boundaries and easements, and are important for engineering, road building, mapping and other land surveys.

The loss of survey marks can significantly degrade the integrity of the legal property boundaries and impact on the costs of development projects that depend upon position and height.

How do I preserve survey marks?

Surveyor-General's Direction No.11 – Preservation of Survey Infrastructure provides directions on how to comply with the Legislation.

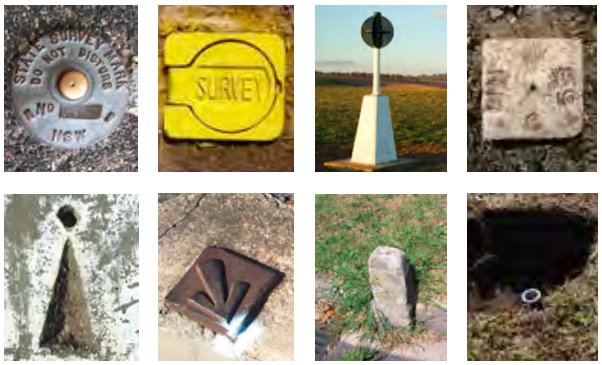
You can find the Direction on the following link: http://spatialservices.finance.nsw.gov.au/__data/assets/pdf_file/0005/217094/SG_Directon_No11_Final4.pdf

A Registered Land Surveyor will be able to provide advice about the preservation of survey infrastructure. A list of Registered Land Surveyors is available from the Board of Surveying and Spatial Information website: http://www.bossi.nsw.gov.au/about/find_a_registered_surveyor

Additional information to assist with best practice guidelines for road infrastructure development can be found in Roads and Maritime Services QA Specification *G71 – Construction Surveys* by following the link: http://www.rms.nsw.gov.au/business-industry/partners-suppliers/documents/specifications/g071.pdf

Types of survey marks

There are many types of survey marks used for various purposes. Many are buried and may only be identified by a Registered Land Surveyor. Some examples of common survey marks can be seen below.



More information

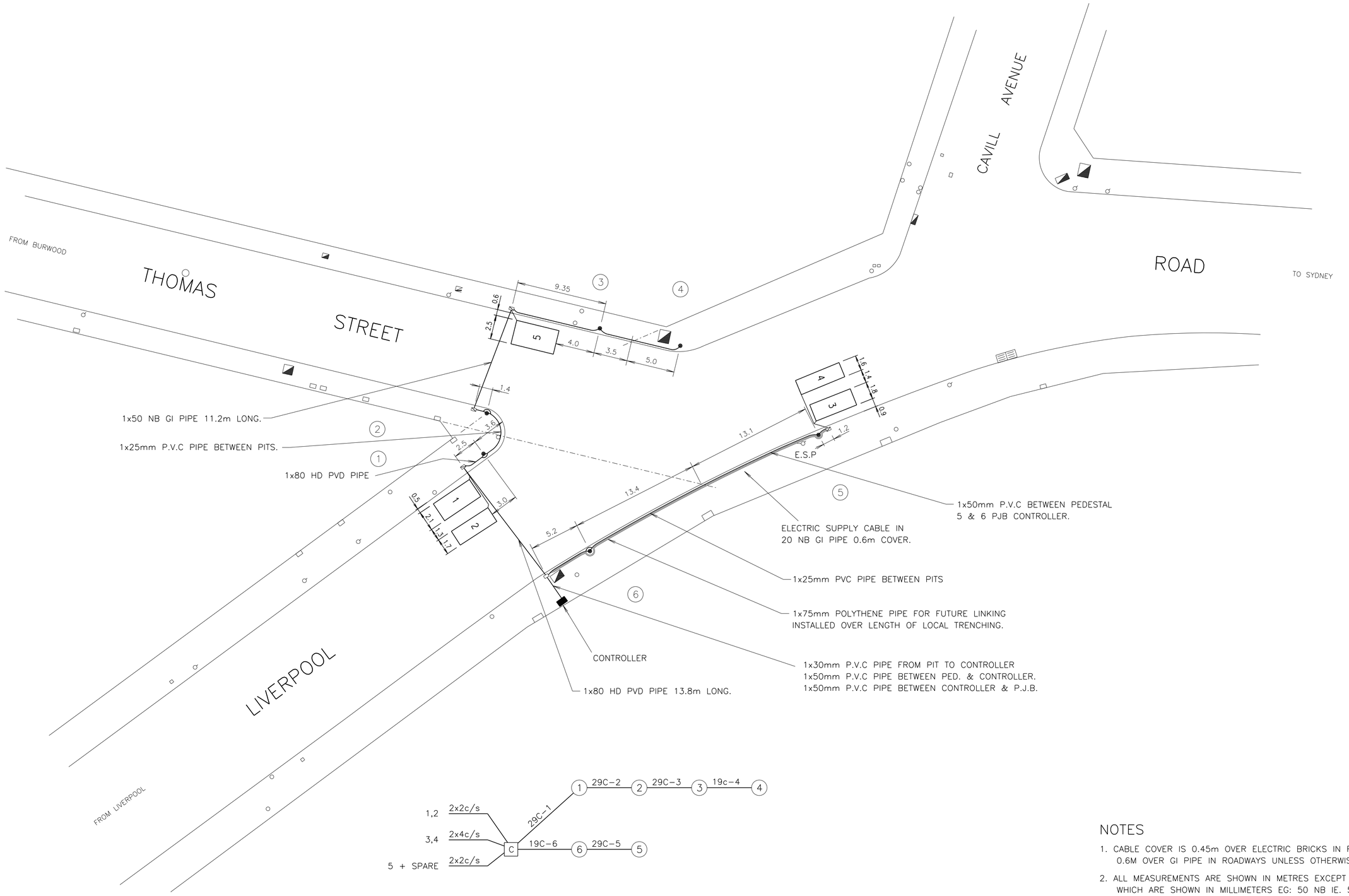
For more information or to obtain advice on compliance with Legislation, please forward your enquiry to: Surveyor-General-Approvals@finance.nsw.gov.au

Applications to remove a Survey Mark can be lodged here: http://spatialservices.finance.nsw.gov.au/surveying/surveying_services/forms_and_applications/survey_marks_removal

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Author: DFSI Spatial Services P18/10/036

Transport
Roads & Maritime
Services



NOTES

1. CABLE COVER IS 0.45m OVER ELECTRIC BRICKS IN FOOTWAYS AND MEDIANS 0.6M OVER GI PIPE IN ROADWAYS UNLESS OTHERWISE STATED.
2. ALL MEASUREMENTS ARE SHOWN IN METRES EXCEPT FOR PIPE DIAMETERS WHICH ARE SHOWN IN MILLIMETERS EG: 50 NB IE. 50mm NOMINAL BORE.
3. ALL SIGNAL CABLES IN FOOTWAYS ARE DIRECT BURIED UNLESS OTHERWISE STATED.

CABLE INSTALLATION

A ORIGINAL ISSUE

"B" ISSUE WAE
CONT. & SUPPLY RELOCATED
YSC 04/97

C ISSUE J/L SS659
DETECTORS AMENDED TO SUIT
SITE CONDITIONS.
W.A.E.
DB KD 29-10-2012

REFERENCE PLANS	
Symbols & Abb.	VD003-6
Standard Posit.	VD001-5
Det. Sched. Exp.	VD018-10
Pres. Detectors	2C005-9
SSG Dis. Seq.	VD018-8
Design Layout	SHEET 7
Cable Connection	SHEET 10

U.B.D.REF. MAP B9 83

SONIA ESBER
DRAWN

C.L.Z
CHECKED

C.L.Z
PASSED

APPROVED
C. L. Zamudio
C.L.ZAMUDIO
MANAGER ELECTRICAL DESIGN
DATE 15/5/91

ROADS AND MARITIME SERVICES

MUNICIPALITY OF ASHFIELD
LIVERPOOL ROAD
AND
THOMAS STREET
ASHFIELD

ENGINEERING TECHNOLOGY
SCALE 5 0 5 10
FILE 10 TS 134 SUPERSEDES SHEET 2
DRAWING FILE : VV0903_9C.INS.dgn
REGN. 0002.010.VV.0903

SHEET 9
ISSUE A B C

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Dial Before You Dig (DBYD)
Location Information

Transport Sydney Trains
477 Pitt Street
Sydney, NSW, 2000

To:
ADE Consulting Group - Mr Syed Shah
6 7 Millennium Court
Silverwater NSW 2128

Enquiry Details	
Utility ID	30205 - Central
Sequence Number	102505605
Job Number	20369702
Enquiry Date	06/10/2020 10:59
Response	**NOT AFFECTED**
Address	2 Cavill Avenue Ashfield
Location in Road	Not Supplied
Activity	Vertical Boring

Enquirer Details			
Customer ID	2121829		
Contact	Mr Syed Shah		
Company	ADE Consulting Group		
Email	syed.shah@ade.group		
Phone	0405752313	Mobile	0405752313

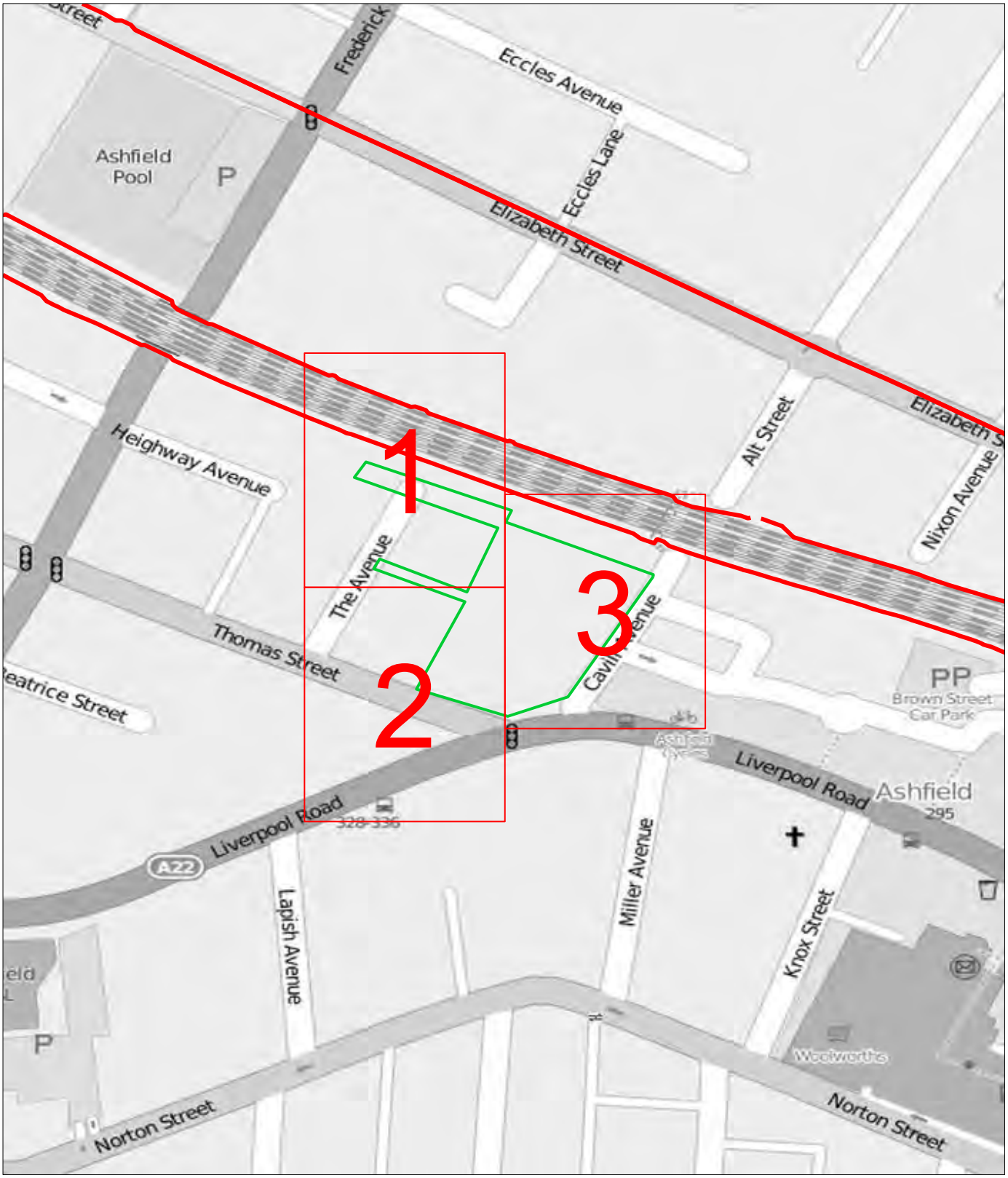
Date: 06/10/2020

Transport Sydney Trains

Overview Map

Sequence No: 102505605

2 Cavill Avenue Ashfield



The precision of the location of the services on this plan varies depending on the source and method of capture. This plan should be used as a guide only. This plan shows only Sydney Trains electrical cables and tunnels located outside of the rail corridor.

N

Greyscale basemaps sourced from OpenStreetMaps

LEGEND:

1 Detail Map

Not Affected DBYD Work Area

Powered by x-info dbyd

DIAL BEFORE YOU DIG www.1100.com.au

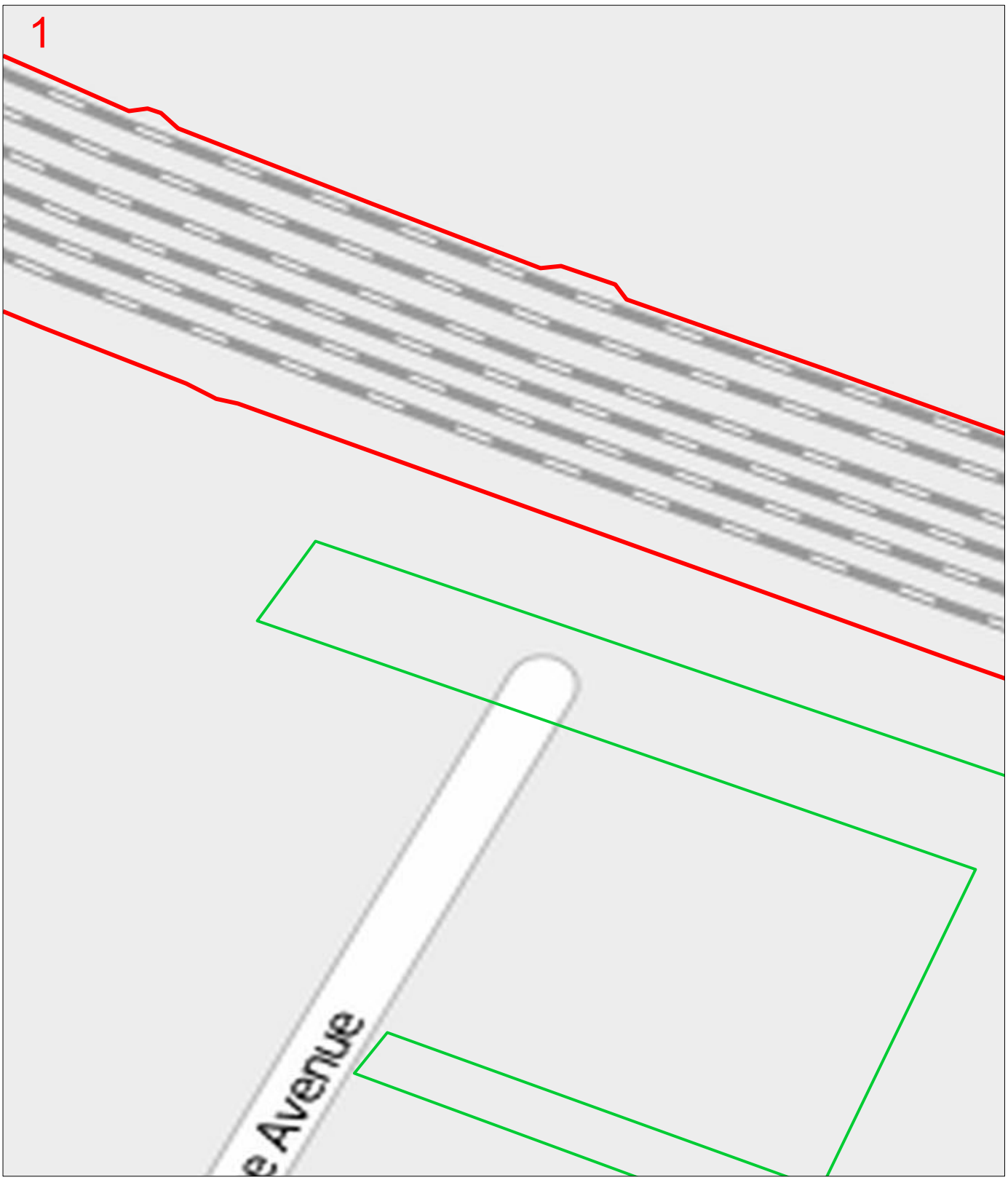
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Transport Sydney Trains

Map 1

Sequence No: 102505605

2 Cavill Avenue Ashfield



N

Greyscale basemaps sourced from OpenStreetMaps

LEGEND:

- Not Affected DBYD Work Area
- HV Cable
- Tunnel
- Communications

The precision of the location of the services on this plan varies depending on the source and method of capture. This plan should be used as a guide only. This plan shows only Sydney Trains electrical cables and tunnels located outside of the rail corridor.

Powered by x-info dbyd

DIAL BEFORE YOU DIG www.1100.com.au

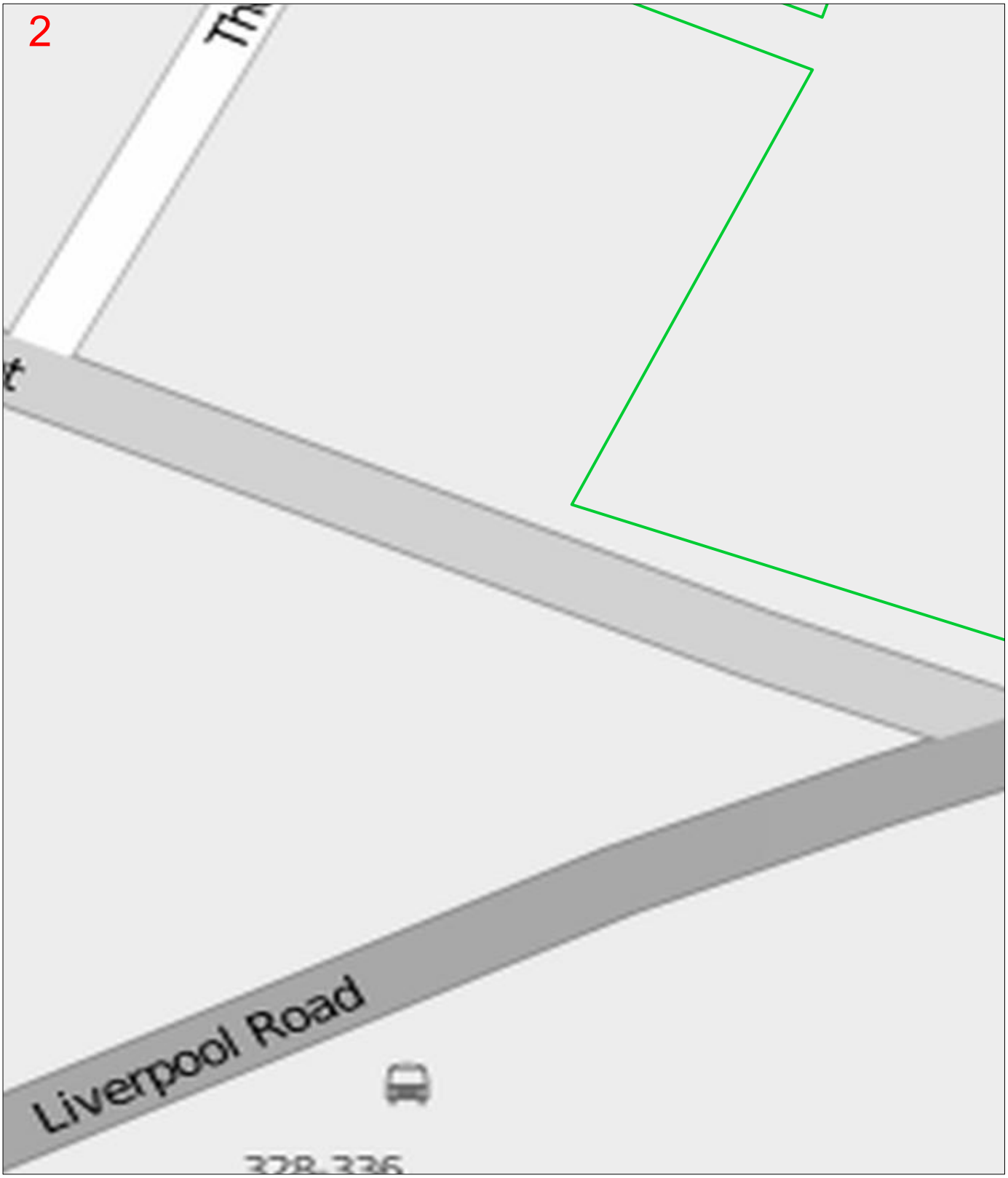
Date: 06/10/2020

Transport Sydney Trains

Map 2

Sequence No: 102505605

2 Cavill Avenue Ashfield



N

Greyscale basemaps sourced from OpenStreetMaps

LEGEND:

- Not Affected DBYD Work Area
- HV Cable
- Tunnel
- Communications

The precision of the location of the services on this plan varies depending on the source and method of capture. This plan should be used as a guide only. This plan shows only Sydney Trains electrical cables and tunnels located outside of the rail corridor.

Powered by x-info dbyd

DIAL BEFORE YOU DIG www.1100.com.au

Date: 06/10/2020

Transport Sydney Trains

Map 3

Sequence No: 102505605

2 Cavill Avenue Ashfield



N

Greyscale basemaps sourced from OpenStreetMaps

LEGEND:

- Not Affected DBYD Work Area
- HV Cable
- Tunnel
- Communications

The precision of the location of the services on this plan varies depending on the source and method of capture. This plan should be used as a guide only. This plan shows only Sydney Trains electrical cables and tunnels located outside of the rail corridor.

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DIAL BEFORE YOU DIG www.1100.com.au

TERMS & CONDITIONS – DIAL BEFORE YOU DIG

The material provided or made available by Rail Corporation New South Wales ("**RailCorp"**) and its agents (including Sydney Trains) in relation to your Dial Before You Dig search ("**Information"**) in respect of the Search Area is provided subject to the following terms and conditions, which are taken to have been accepted when You use the Information:

Search Area

1. RailCorp has generated the Information based on the Search Area information You submitted to the Dial Before You Dig search. It is your responsibility to ensure the Search Area has been accurately defined, and if the Information does not match the Search Area, You must resubmit your enquiry with the Dial Before You Dig search.

RailCorp Dial Before You Dig Service Search

1. The Information **only** indicates the location of active electrical infrastructure power cables/tunnels/communication cables ("**RailCorp Assets"**) in the vicinity of the Search Area (please note the electrical infrastructure of other network providers may be located in the vicinity of the Search Area but will not be disclosed in the Information).

2. The Information only relates to proposed Works to be undertaken outside of the rail corridor. If the proposed Works are to take place within the rail corridor, you must request RailCorp to complete a separate service search.

3. The Information does not indentify RailCorp's Communication and Control systems/assets. Please contact RailCorp on (02) 9379 5000 if You require RailCorp to identify its Communications and Control systems/assets in the vicinity of the Search Area.

4. You are liable for the review of the Information before commencing any Works. You must ensure that Works have no adverse affect on any RailCorp Assets and/or RailCorp railway operations. If you determine that your works may impact upon RailCorp Assets and/or RailCorp railway operations, you may contact the appropriate RailCorp representative on the details below.

Engineering & Maintenance Interface	DBYD-Stage2works@transport.nsw.gov.au
Airport Line Maintenance Engineer	phone (02) 9669 8602
RailCorp Communication and Control Systems	phone (02) 9379 5000

5. **Validity:** The Information is only valid for a period of one (1) month after you have been provided the Information. If Works have not commenced within one (1) month of the date after the Information is provided, you must resubmit your enquiry with the Dial Before You Dig search.

RailCorp not liable for review and coordination

6. You are liable for the review of the Information before commencing any Works. You must ensure that Works have no adverse affect on any RailCorp Assets and/or RailCorp railway operations.

No representation or warranty by RailCorp

7. RailCorp does not make any representation or give any guarantee, warranty or undertaking (express or implied) as to the currency, accuracy, completeness, effectiveness or reliability of the Information. The Information, including any plans or diagrams:

   (a) only indicates the approximate location of RailCorp Assets at the time the services were installed and may not show all RailCorp Assets in the vicinity of the Search Area;

   (b) may be out of date and not show changes to surface levels, fences and other structures in the vicinity of the Search Area; and

   (c) may indicate the possible presence or absence of RailCorp Assets in the Search Area and has not been checked for accuracy or completeness for the purposes of the Works.

Performance of the Works

8. You are responsible for, amongst other things:

   (a) ensuring that you exercise reasonable care and diligence in performing the Works and comply with RailCorp directions (if any) in relation to undertaking the Works;

   (b) ensuring that once you have identified any services, Works are not undertaken:

      (i) within 5 metre radius of any RailCorp electrical, Communication assets and

      (ii) within 25 metres of any other RailCorp tunnel and/or Airport Line tunnel.

   (c) ensuring the Information and any other relevant documents related to the Works are kept at the Search Area during the duration of the Works;

   (d) immediately reporting to RailCorp's ICON-Electrical System Operator of any damage caused or threat of damage to RailCorp Assets in connection with the Works; and

   (e) ensuring that the Information is used only for the purpose for which the Dial Before You Dig search is intended.

Release and indemnity

9. You acknowledge that You use the Information at your own risk. In consideration of the Dial Before You Dig search and the Information provided by RailCorp, to the fullest extent permitted by law:

   (a) RailCorp shall not be liable for any Loss, including consequential, special or indirect loss or damage, in respect of the Information provided to You, and your exclusive remedy for all Losses arising out of the Information provided to You (whether based on negligence, breach of warranty, strict liability, contract or otherwise) shall be limited, at RailCorp's absolute discretion, to:

      (i) supplying the Information again; and

      (ii) payment of the cost of having the Information supplied again.

   (b) In no event will RailCorp be liable for, and You release RailCorp from any Loss arising from or in connection with the Information, including the use of or inability to use the Information and delay in the provision of Information:

      (i) whether arising under statute or in contract, tort or any other legal doctrine, including any negligent act, omission or default (including wilful default) by RailCorp; and

      (ii) regardless of whether RailCorp are or ought to have been aware of, or advised of, the possibility of such loss, costs or damages.

   (c) You will indemnify RailCorp against any Loss arising from or in connection with RailCorp providing incorrect or incomplete information to You in connection with the Dial Before You Dig search.

   (d) You assume all risks associated with the Information, including risk to your computer and software systems or data being damaged or destroyed by any virus, and You release and discharge RailCorp from all Loss whatsoever which might arise in respect of your use of the Information.

Legislative requirements and governing law

10. In carrying out the Works You must comply with all relevant laws and the lawful direction of any relevant authority (including RailCorp).

11. You acknowledge and agree that a person who undertakes excavation works is subject to duties and responsibilities under the *Work Health and Safety* Act 2011 and *Work Health and Safety Regulation 2011.* WorkCover Authority has prepared the '*Work Near Underground Assets Guideline*' (as may be amended from time to time), which contains practical advice for working near underground utility services and guidance as to how to meet the requirements of the *Work Health and Safety* Act 2011 when carrying out excavation works. A copy of the guide is available online at: **http://www.safework.nsw.gov.au/health-and-safety**

12. These terms and conditions are governed by the laws of New South Wales and You submit to the exclusive jurisdiction of the courts of New South Wales.

13. The following definitions apply in this document:

    - **"Loss"** includes any loss, cost, expense, claim, liability or damage (including arising in connection with personal injury, death or any damage to or loss of property and economic or consequential loss, lost profits, loss of revenue, loss of management time, opportunity costs or special damages). This definition includes "Losses".

    - **"RailCorp"** means Rail Corporation New South Wales and its employees, officers, agents (including Sydney Trains), representatives and contractors.

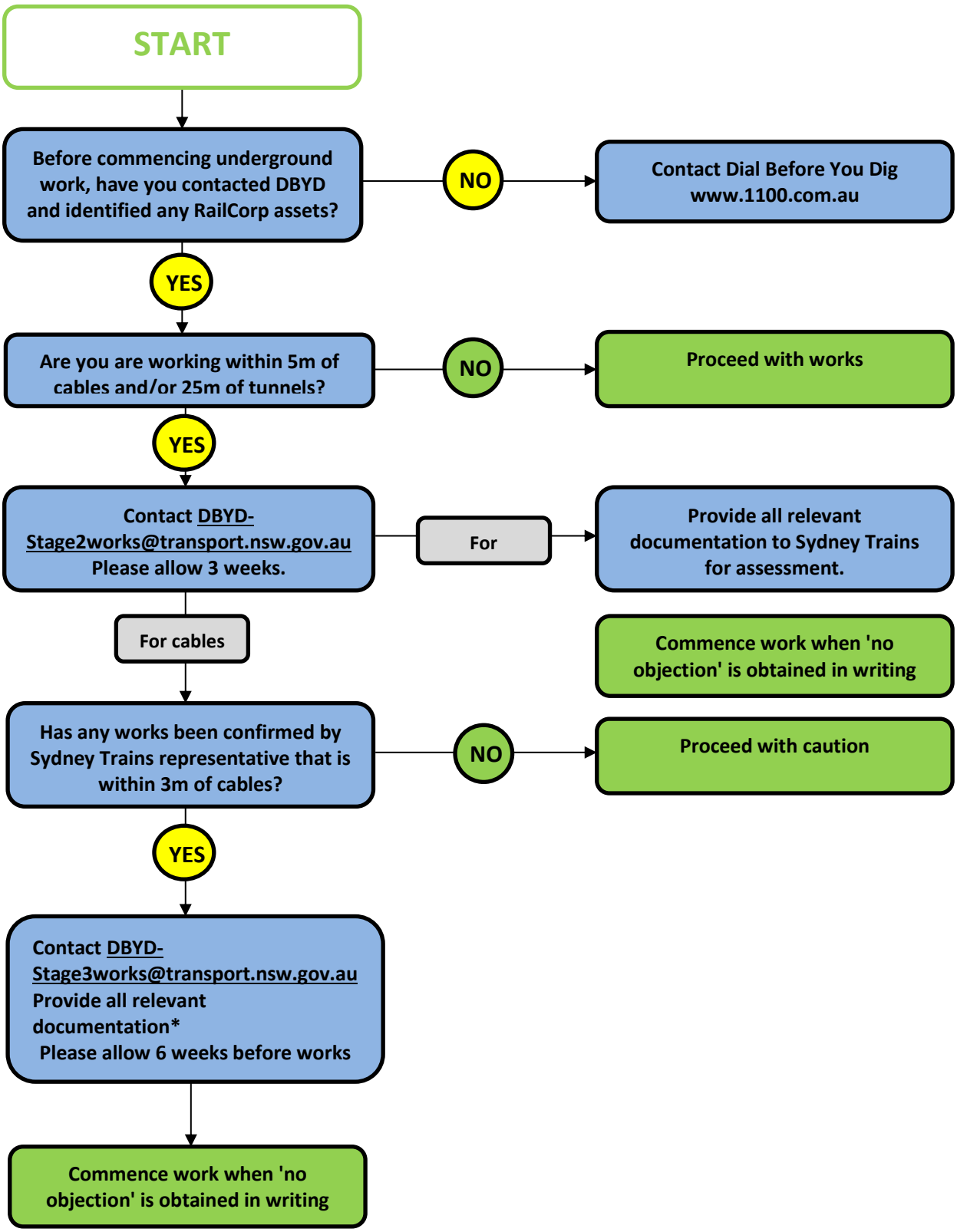
    - **"Search Area"** means the property you defined when you submitted your Dial Before You Dig search.

    - **"Works"** means any type of excavation works.

    - **"You"** includes references to your employees, officers, agents, representatives, contractors and anyone else using the Information.

In an emergency, or to notify RailCorp of any damage to its assets, contact

ICON (Electrical System Operator) on (02) 9379 4911 or 1800 060 015 immediately



*Relevant documentation may include construction designs, construction methodology, SWMS.
**12 week notice or more may be required for isolation and is subject to the assessment of impact on the rail network and operations.

Sydney Trains is a NSW Government agency
477 Pitt Street, Sydney NSW 2000 PO Box K349 Haymarket NSW 1238 **T** 1300 038 500
www.transport.nsw.gov.au/sydneytrains ABN 38 284 779 682

Guide to reading Sydney Water DBYD Plans



February 2015

Asset Information

Legend

Sewer

- Sewer Main (with flow arrow & size type text) — 225 PVC
- Disused Main
- Rising Main
- Maintenance Hole (with upstream depth to invert) — 1.7
- Sub-surface chamber
- Maintenance Hole with Overflow chamber
- Ventshalft EDUCT — VSE
- Ventshaft INDUCT — VS
- Property Connection Point (with chainage to downstream MH) — 10.5
- Concrete Encased Section — Concrete Encased
- Terminal Maintenance Shaft — TMS
- Maintenance Shaft — MS
- Rodding Point — RP
- Lamphole
- Vertical — VERT
- Pumping Station — SP0882
- Sewer Rehabilitation

Pressure Sewer

- Pressure Sewer Main
- Pump Unit (Alarm, Electrical Cable, Pump Unit) — A
- Property Valve Boundary Assembly
- Stop Valve
- Reducer / Taper
- Flushing Point — FP

Vacuum Sewer

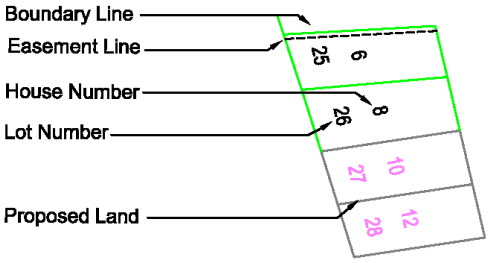
- Pressure Sewer Main
- Division Valve
- Vacuum Chamber
- Clean Out Point

Stormwater

- Stormwater Pipe
- Stormwater Channel
- Stormwater Gully
- Stormwater Maintenance Hole

Property Details

- Boundary Line
- Easement Line
- House Number
- Lot Number
- Proposed Land



- Sydney Water Heritage Site (please call **132 092** and ask for the **Heritage Unit**)

Water

- WaterMain - Potable (with size type text) — 200 PVC
- Disconnected Main - Potable
- Proposed Main - Potable
- Water Main - Recycled
- Special Supply Conditions - Potable
- Special Supply Conditions - Recycled
- Restrained Joints - Potable
- Restrained Joints - Recycled
- Hydrant
- Maintenance Hole
- Stop Valve
- Stop Vale with By-pass
- Stop Valve with Tapers
- Closed Stop Valve
- Air Valve
- Valve
- Scour
- Reducer / Taper
- Vertical Bends
- Reservoir
- Recycled Water is shown as per Potable above. Colour as indicated

Private Mains

- Potable Water Main
- Recycled Water Main
- Sewer Main
- Symbols for Private Mains shown grey

Asset Information

Pipe Types

ABS	Acrylonitrile Butadiene Styrene	**AC**	Asbestos Cement
BRICK	Brick	**CI**	Cast Iron
CICL	Cast Iron Cement Lined	**CONC**	Concrete
COPPER	Copper	**DI**	Ductile Iron
DICL	Ductile Iron Cement (mortar) Lined	**DIPL**	Ductile Iron Polymeric Lined
EW	Earthenware	**FIBG**	Fibreglass
FL BAR	Forged Locking Bar	**GI**	Galvanised Iron
GRP	Glass Reinforced Plastics	**HDPE**	High Density Polyethylene
MS	Mild Steel	**MSCL**	Mild Steel Cement Lined
PE	Polyethylene	**PC**	Polymer Concrete
PP	Polypropylene	**PVC**	Polyvinylchloride
PVC - M	Polyvinylchloride, Modified	**PVC - O**	Polyvinylchloride, Oriented
PVC - U	Polyvinylchloride, Unplasticised	**RC**	Reinforced Concrete
RC-PL	Reinforced Concrete Plastics Lined	**S**	Steel
SCL	Steel Cement (mortar) Lined	**SCL IBL**	Steel Cement Lined Internal Bitumen Lined
SGW	Salt Glazed Ware	**SPL**	Steel Polymeric Lined
SS	Stainless Steel	**STONE**	Stone
VC	Vitrified Clay	**WI**	Wrought Iron
WS	Woodstave		

Further Information

Please consult the Dial Before You Dig enquiries page on the Sydney Water website

For general enquiries please call the Customer Contact Centre on **132 092**

In an emergency, or to notify Sydney Water of damage or threats to its structures, call 13 20 90 (24 hours, 7 days)

IMPORTANT INFORMATION - DIAL BEFORE YOU DIG

Attention: You must read the information below

The material provided or made available to you by Sydney Water (including on the Sydney Water website) in relation to your Dial Before You Dig enquiry (**Information**) is provided on each of the following conditions, which you are taken to have accepted by using the Information:

1 The Information has been generated by an automated system based on the area highlighted in the "Locality Indication Only" window on your Caller Confirmation. It is your responsibility to ensure that the dig site is properly defined when submitting your Dial Before You Dig enquiry and, if the Information does not match the dig site, to resubmit your enquiry for the correct dig site.

2 Neither Sydney Water nor Dial Before You Dig make any representation or give any guarantee, warranty or undertaking (express or implied) as to the currency, accuracy, completeness, effectiveness or reliability of the Information. The Information, including Sydney Water plans and work-as-executed diagrams, amongst other things:

(a) may not show all existing structures, including Sydney Water's pipelines, particularly in relation to newer developments and in relation to structures owned by parties who do not participate in the Dial Before You Dig service;

(b) may be out of date and not show changes to surface levels, road alignments, fences, buildings and the like;

(c) is approximate only and is therefore not suitable for scaling purposes; and

(d) does not show locations of property services (often called house service lines) belonging to or servicing individual customers, which are usually connected to Sydney Water's structures.

3 You are responsible for, amongst other things:

(a) exposing underground structures, including Sydney Water's pipelines, by pot-holing using hand-held tools or vacuum techniques so as to determine the precise location and extent of structures before any mechanical means of excavation are used;

(b) the safe and proper excavation of and for underground works and structures, including having regard to the fact that asbestos cement pipelines, which can pose a risk to health, may form part of Sydney Water's water and sewerage reticulation systems;

(c) protecting underground structures, including Sydney Water's pipelines, from damage and interference;

(d) maintaining minimum clearances between Sydney Water's structures and structures belonging to others;

(e) ensuring that backfilling of excavation work in the vicinity of Sydney Water's structures complies with Sydney Water's standards contained on its website or otherwise communicated to you;

(f) notifying Sydney Water immediately of any damage caused or threat of damage to Sydney Water's structures;

(g) ensuring that plans are approved by Sydney Water (usually signified by stamping) prior to landscaping or building over or in the vicinity of any Sydney Water structure; and

(h) ensuring that the Information is used only for the purposes for which Sydney Water and Dial Before You Dig intended.

4 You acknowledge that you use the Information at your own risk. In consideration for the provision of the Dial Before You Dig service and the Information by Sydney Water and Dial Before You Dig, to the fullest extent permitted by law:

(a) all conditions and guarantees concerning the Information (whether as to quality, outcome, fitness, care, skill or otherwise) expressed or implied by statute, common law, equity, trade, custom or usage or otherwise are expressly excluded and to the extent that those statutory guarantees cannot be excluded, the liability of Sydney Water and Dial Before You Dig to you is limited to either of the following as nominated by Sydney Water in its discretion, which you agree is your only remedy:

(i) the supplying of the Information again; or

(ii) payment of the cost of having the Information supplied again;

(b) in no event will Sydney Water or Dial Before You Dig be liable for, and you release Sydney Water and Dial Before You Dig from, any Loss arising from or in connection with the Information, including the use of or inability to use the Information and delay in the provision of the Information:

(i) whether arising under statute or in contract, tort or any other legal doctrine, including any negligent act, omission or default (including wilful default) by Sydney Water or Dial Before You Dig; and

(ii) regardless of whether Sydney Water or Dial Before You Dig are or ought to have been aware of, or advised of, the possibility of such loss, costs or damages;

(c) you will indemnify Sydney Water and Dial Before You Dig against any Loss arising from or in connection with Sydney Water providing incorrect or incomplete information to you in connection with the Dial Before You Dig service; and

(d) you assume all risks associated with the use of the Dial Before You Dig and Sydney Water websites, including risk to your computer, software or data being damaged by any virus, and you release and discharge Sydney Water and Dial Before You Dig from all Loss which might arise in respect of your use of the websites.

5 "**Sydney Water**" means Sydney Water Corporation and its employees, agents, representatives and contractors. "**Dial Before You Dig**" means Dial Before You Dig Incorporated and its employees, agents, representatives and contractors. References to "**you**" include references to your employees, agents, representatives, contractors and anyone else using the Information. References to "**Loss**" include any loss, cost, expense, claim, liability or damage (including arising in connection with personal injury, death or any damage to or loss of property and economic or consequential loss, lost profits, loss of revenue, loss of management time, opportunity costs or special damages). To the extent of any inconsistency, the conditions in this document will prevail over any other information provided to you by Sydney Water and Dial Before You Dig.

In an emergency, or to notify Sydney Water of damage or threats to its structures, call 13 20 90 (24 hours, 7 days)

Further information and guidance is available in the Building Development and Plumbing section of Sydney Water's website at www.sydneywater.com.au, where you will find the following documents under 'Dial Before You Dig':

- Avoid Damaging Water and Sewer Pipelines
- Water Main Symbols
- Depths of Mains
- Guidelines for Building Over/Adjacent to Sydney Water Assets
- Clearances Between Underground Services

Or call **13 20 92** for Customer Enquires.

Note: The lodging of enquiries via **www.1100.com.au** will enable you to receive colour plans in PDF format 24 hours a day, 7 days a week via email.

This communication is confidential. If you are not the intended recipient, please destroy all copies immediately. Sydney Water Corporation prohibits unauthorised copying or distribution of this communication.

A3

ELIZABETH
FREDERICK
ECCLES
LANE
AVE
BENALLA
ST
HEIGHWAY
THOMAS
THE AVENUE
CAVILL
MARKHAM
RD
LIVERPOOL
LAPISH
NORTON
MILLER
KNOX
ASHFIELD
Railway

DBYD Address:
2 Cavill Avenue
Ashfield NSW 2131

DBYD Job No: 20369702

DBYD Sequence No: 102505612

Copyright Reserved Sydney Water 2020

No warranty is given that the information shown is complete or accurate.

SYDNEY WATER CORPORATION

Scale: 1:1500

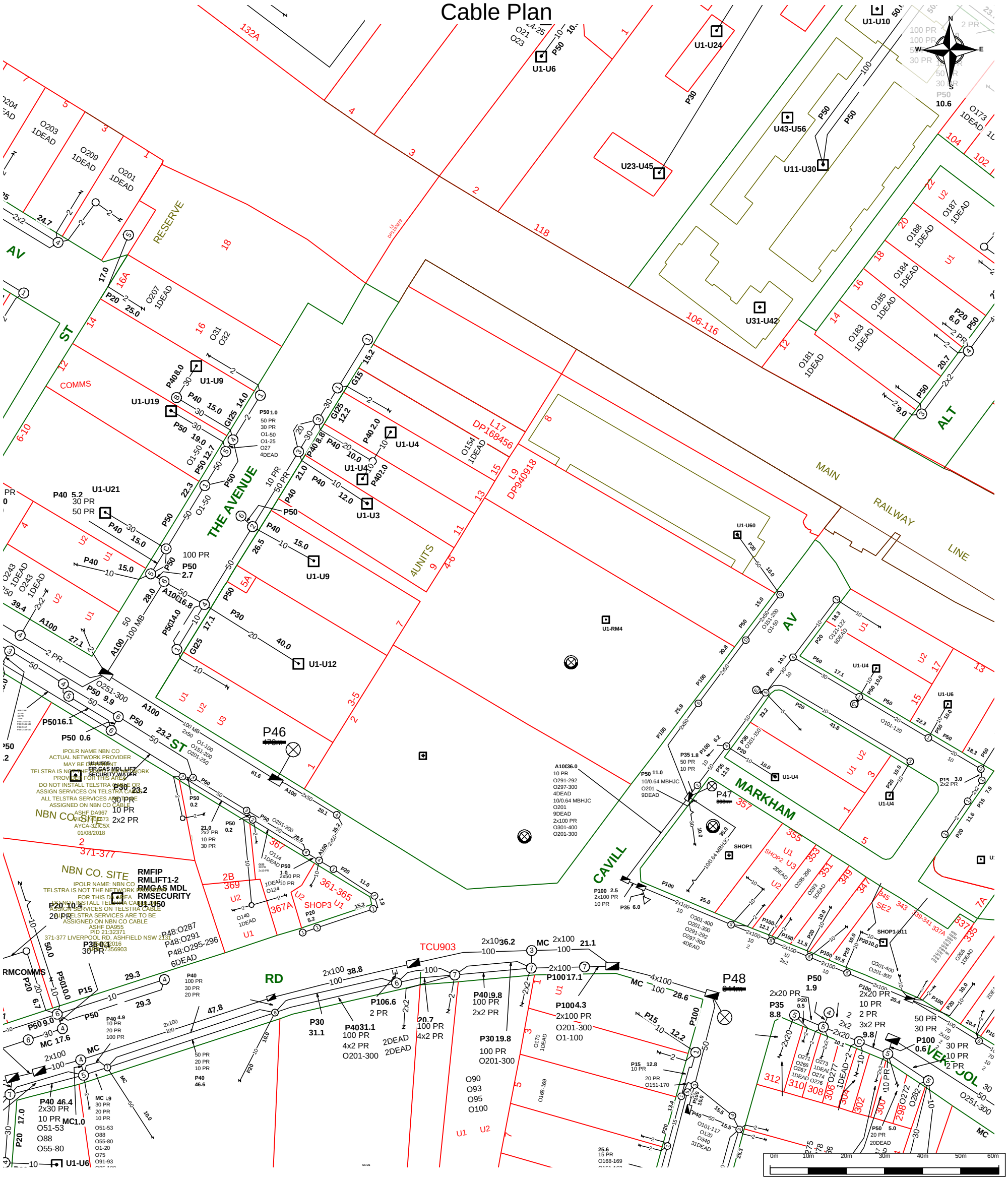
Date of Production: 06/10/2020

Plan 1 of 1

N

0m 7m 14m 21m 28m

Cable Plan



For all Telstra DBYD plan enquiries -
email - Telstra.Plans@team.telstra.com
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 06/10/2020 11:10:26

Sequence Number: 102505609

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

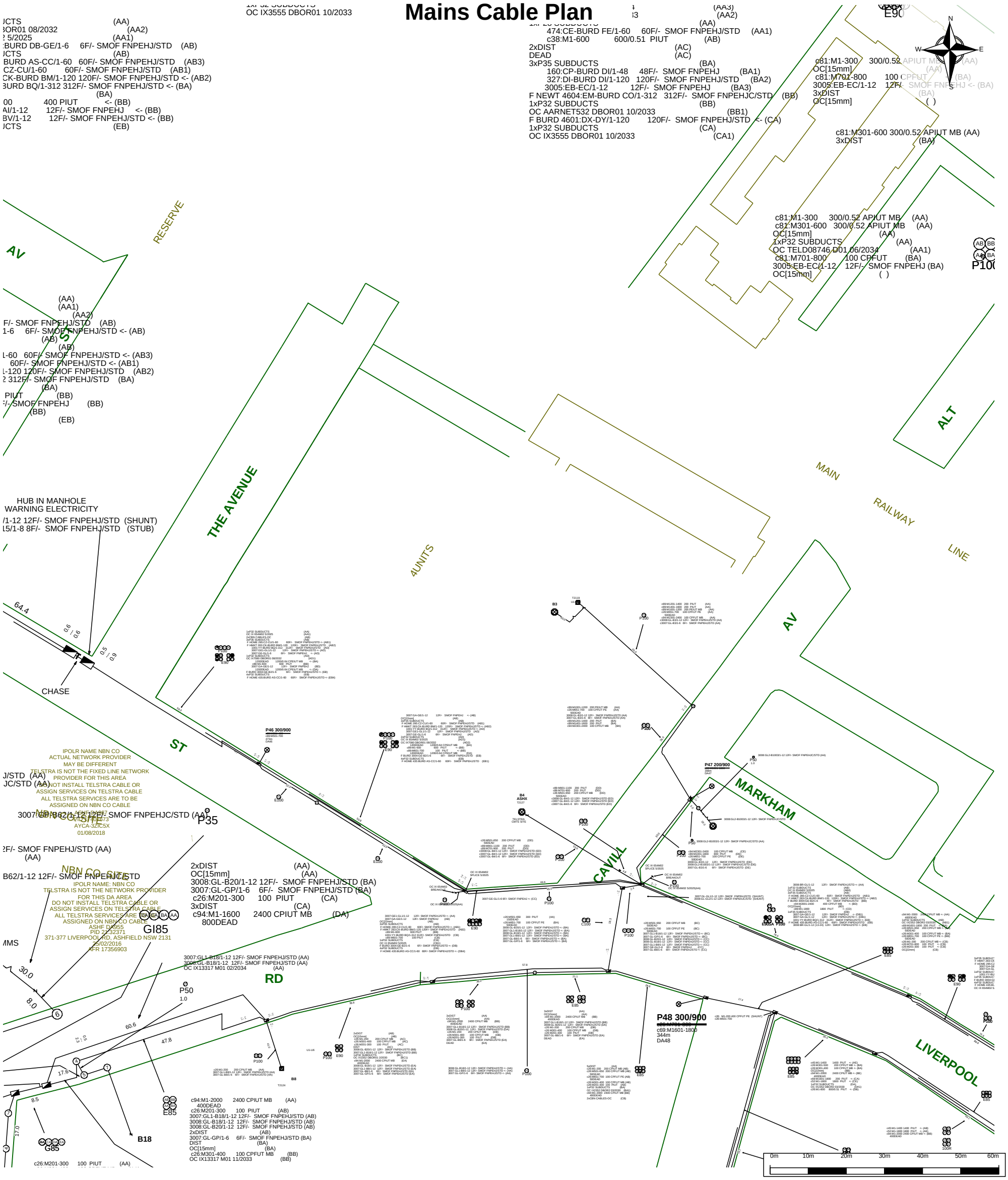
WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

Mains Cable Plan



For all Telstra DBYD plan enquiries -
email - Telstra.Plans@team.telstra.com
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 06/10/2020 11:10:30

Sequence Number: 102505609

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

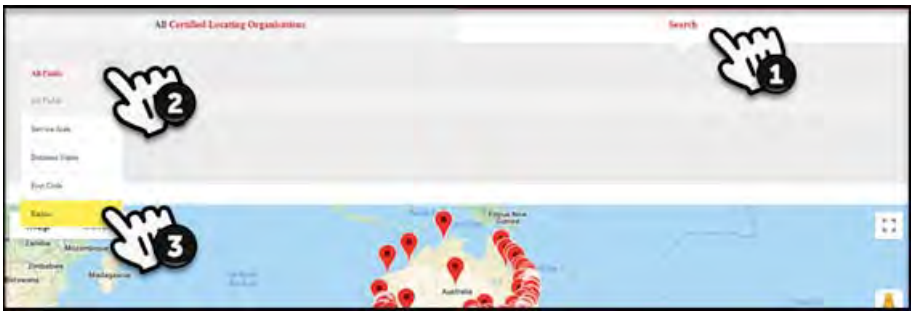
Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

Search for the closest Certified Locating Organisation (CLO) to your work-site at the following website: https://dbydlocator.com/certified-locating-organisation/

Read the terms of use - Click accept.

A national map and an A-Z list of all Certified Locating Organisations is now available.
You have filtering options.
Make the map full screen, 'fly' around and zoom into your district.

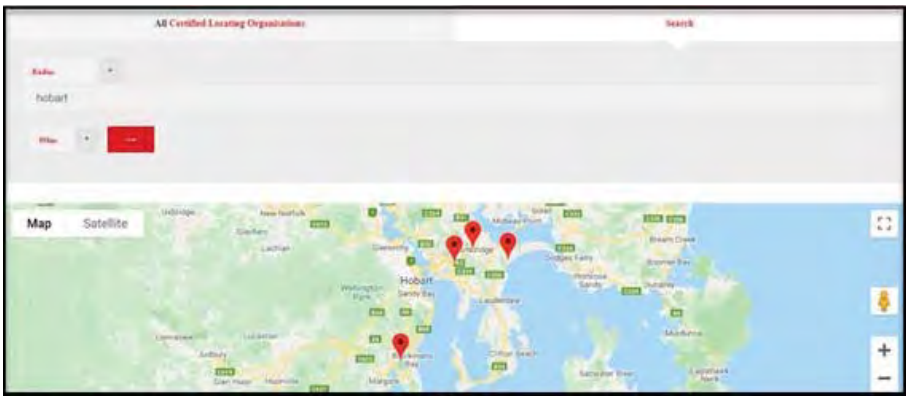
Click the nearest marker to link to that CLO's details
OR click **1.**Search **2**.Dropdown Menu **3**.Radius



Type the town name for Example: Hobart **and choose the radius** for Example: 50klms (as below)

This example search brings four results. Scroll down to see all four CLO's details at once

OR click the map marker to go directly to that organisations contact details.



Chose the closest Locator indicated OR simply scroll down to see them all.



Telstra is aware of each Certified Locating Organisation **and** their employee locators.

Locator skills have been tested, and the Organisation has calibrated location and safety equipment.

Each Certified Locator working for a CLO is issued with a photo ID Card, authorising them to access Telstra pits and manholes for the purpose of cable and plant locations.

Please ask to see your Locators' CLO ID Card.

DUTY OF CARE

IT'S HOW WE CONNECT

TELSTRA CORPORATION ACN 051 775 556

IMPORTANT:

When working in the vicinity of telecommunications plant you have a "Duty of Care" that must be observed. Please read and understand all the information and disclaimers provided below.

Telstra network is complex and requires expert knowledge to interpret information, to identify and locate components, to pothole underground assets for validation and to safely work around assets without causing damage. If you are not an expert and/or qualified in these areas, then you must not attempt these activities. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers. The 5 P's to prevent damage to Telstra assets are listed below. Construction activities and/or any activities that potentially may impact on Telstra's assets must not commence without first undertaking these steps. Construction activities can include anything that involves breaking ground, potentially affecting Telstra assets.

If you are designing a project it is recommended that you also undertake these steps to validate underground assets prior to committing to your design.

All damages to Telstra Network must be reported immediately

- Call **13 22 03** Say "Damages" at the voice prompt, then press 1 to speak to an Operator
- Or report online https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment

(The following pages contain more detail on each step below and the contact details to seek further advice. AS5488-2013 is the Australian Standard for the Classification of Subsurface Utility Information.)

1 PLAN:

The essential first step in preventing damage -
You must have current Telstra plans via the DBYD process. Telstra advises that the accuracy of the information provided by Telstra conforms to Quality Level D as defined in AS5488-2013. This means the information is indicative only, not a precise location. **The actual location may differ substantially from that shown on the plans** - refer to steps 2 & 3 to determine actual location prior to proceeding with construction.

2 PREPARE:

The essential second step in preventing damage -
Engage a Telstra Accredited Plant Locator. To be able to trace and identify individual subsurface cables and ducts requires access to Telstra pits and manholes. Only a Telstra Accredited Plant Locator (TAPL) is authorised to access Telstra network for locating purposes. A TAPL can interpret plans, validate visible assets and access pits and manholes to undertake electronic detection of underground assets prior to further validation. All Telstra assets must be located, validated and protected prior to commencing construction. If you are not authorised to do so by Telstra, you must not access Telstra network or locate Telstra network. All Telstra Accredited Plant Locators are required to have DBYD Locator Certification.

3 POTHOLE:

The essential third step in preventing damage -
All Telstra assets must be positively identified (i.e. validated), by physically sighting them. For underground assets this can be done by potholing by hand or using non-destructive vacuum extraction methods (Refer to 'validation' as defined in AS5488-2013 QL-A). **Underground assets located by electronic detection alone (step 2), are not deemed to be 'validated' and must not be used for construction purposes.** Some TAPL's can assist with non-destructive potholing for validation purposes. **If you cannot validate the Telstra network, you must not proceed with construction**. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

4 PROTECT:

The essential fourth step in preventing damage -
Telstra assets must be protected to avoid damage from construction activities. Minimum working distances around Telstra network must be maintained. These distances are provided in this document. Telstra can also provide advice and assistance in regards to protection – refer to the following pages.

5 PROCEED:

Only proceed when the above steps have been completed.

STEP 1 - PLAN
Dial Before You Dig / Telstra Plans

The actual location of Telstra assets may differ substantially from that shown on the plans. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for the accuracy shown on the plans. Steps 2 and 3 must also be undertaken to determine actual location of network.

- Telstra DBYD plans are not suitable for displaying Telstra network within a Telstra exchange site. For advice on Telstra network within a Telstra exchange site contact Telstra Plan Service on 1800 653 935.
- Telstra owns and retains the copyright in all plans and details provided in conjunction with the applicant's request. The applicant is authorised to use the plans and details only for the purpose indicated in the applicant's request. The applicant must not use the plans or details for any other purpose.
- Telstra plans or other details are provided only for the use of the applicant, its servants, agents or Telstra Accredited Plant Locators. The applicant must not give the plans or details to any parties other than these, and must not generate profit from commercialising the plans or details.
- Please contact Telstra Plan Services immediately should you locate Telstra assets not indicated on these plans.
- Telstra, its servants or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and or details so supplied to the applicant, its servants and agents, and the applicant agrees to indemnify Telstra against any claim or demand for any such loss or damage.
- Please ensure Telstra plans and information provided remains on-site at all times throughout the inspection, location and construction phase of any works.
- Telstra plans are valid for 60 days after issue and must be replaced if required after the 60 days.
- **Emergency situations - receiving Telstra plans** Telstra's automated mapping system (TAMS) will provide a fast response for emergency situations (faster than an operator can provide manually via a phone call - see below for fast response requirements). Automated responses are normally available 24/7.

  To receive a fast automated response from Telstra your request must **-**

  - Be a web request lodged at DBYD (**www.1100.com.au**). The request will be then forwarded to Telstra.
  - Contain your current email address so you can receive the automated email response.
  - Be for the purposes of 'mechanical excavation' or other ground breaking DBYD activity. (Requests with activity types such as conveyancing, planning & design or other non-digging activities may not be responded to until the next business day).
  - Be for an area less than 350 metres in size to obtain a PDF map (over 350 metres will default to DWF due to size) this does not include congested CBD areas where only DWF may be supplied.
  - Be for an area less than 2500 metres in size to obtain a DWF map (CBD's less)

- **Data Extraction Fees.** In some instances a data extraction fee may be applicable for the supply of Telstra information. Typically a data extraction fee may apply to large projects, planning and design requests or requests to be supplied in non-standard formats. For further details contact Telstra Plan Services.

- **Electronic plans - PDF and DWF maps** If you have received Telstra maps via email you will have received the maps as either a PDF file (for smaller areas) or DWF file (for larger area requests). All requests over approximately *350m or in congested CBD areas can only be supplied in DWF format. There are size limits on what can be provided. (* actual size depends on geographic location of requested area). If you are unable to launch any one of the softcopy files for viewing and printing, you may need to download and install one or more of the free viewing and printing products such as Adobe Acrobat Reader (for PDF files) or Autodesk Design Review (for DWF files) available from the internet

- **Pdf files -** PDF is the default softcopy format for all requests for areas up to approx *350m in length. (*depends on geographic location of request). The PDF file is nominally formatted to A3 portrait sheet however it can be printed on any size sheet that your printer supports, e.g. either as the full sheet or selected areas to suit needs and legibility. (to print a selected area zoom up and print 'current view') If there are multiple layers of Telstra network you may receive up to 2 sheets in the single PDF file attachment supplied. There are three types or layers of network normally recorded - local network, mains cables or a combined layer of local and mains (usually displayed for rural or semi-rural areas). If mains cable network is present in addition to local cables (i.e. as separate layer in a particular area), the mains will be shown on a separate sheet. The mains cable information should be read in conjunction with the local cable information.

- **DWF files** – DWF is the default softcopy format for all requests for areas that are over 350m in length. Maximum length for a DWF automated response is approx 2500m - depending on geographic location of request (manually-processed plans may provide larger coverage). The DWF files differ from PDF in that DWF are vector files made up of layers that can be turned on or off and are not formatted to a specific sheet size. This makes them ideal for larger areas and for transmitting electronically.
  - ***How to view Telstra DWF files –***
    Telstra DWF files come with all layers turned on. You may need to turn individual layers on or off for viewing and printing clarity. Individual layer names are CC (main cable/conduit), DA (distribution area network) and sometimes a combined layer - CAC. Layer details can be viewed by either picking off the side menu or by selecting 'window' then 'layers' off the top menu bar. Use 'layers' to turn individual layers off or on (double click or right click on layer icon).
  - ***How to print Telstra DWF files –***
    DWF files can be printed on any size sheet – either their entirety or by selected areas of interest. Some DWF coverage areas are large and are not suited to printing legibly on a single A4 sheet - you may need several prints if you only have an A4 printer. Alternatively, an A3, A1 or larger printer could be used. To print, zoom in or out and then, by changing the 'print range' settings, you can print what is displayed on your screen to suit your paper size. If you only have a small printer, e.g. A4, you may need to zoom until the text is legible for printing (which is why you may need several prints). To print what is displayed on your screen the 'view' setting should be changed from 'full page' to 'current view'. The 'current sheet' setting should also be selected. You may need to print layers separately for clarity and legibility. (Details above on how to turn layers on or off)
  - ***How to change the background colour from white to black (when viewing) Telstra DWF files –***
    If using Autodesk Design Review the background colour can be changed by selecting 'Tools' then 'options' then 'sheet'. Tick the box 'override published paper colours' and select the colour required using the tab provided.

STEP 2 – PREPARE
Telstra Accredited Plant Locator (TAPL):

Utilising a TAPL is an essential part of the process to identify network and to trace subsurface network prior to validating. A TAPL can provide plan interpretation, identification and electronic detection. This will assist in determining the position of subsurface assets prior to potholing (validating). Some TAPL's can also assist in validating underground detected network. Electronic detection is only an indication of the existence of underground network and can be subject to interference from other services and local conditions. Electronic detection must not be used solely to determine location for construction purposes. The electronic (indicative) subsurface measurements must be proven by physically sighting the asset (see step 3 – Pothole).

- All TAPL's locating Telstra network must be able to produce a current photo ID card issued by Telstra. A list of TAPL's is provided with the Telstra Dial Before You Dig plans.
- All TAPL's in addition to the Telstra photo ID card must also have current DBYD Locator Certification with ID card.

- Telstra does not permit external parties (non-Telstra) to access or conduct work on Telstra network. Only Telstra staff, Telstra contractors or locators whom are correctly accredited are authorised to work on or access Telstra manholes, pits, ducts, cables etc. This is for safety as well as for legal reasons.
- The details of any contract, agreement or retainer for site assistance to locate telecommunications plant shall be for you to decide and agree with the Telstra Accredited Plant Locator engaged. Telstra is not a party to any contract entered into between you and a Telstra Accredited Plant Locator.
- Payment for the site assistance will be your responsibility and payment details must be agreed before the engagement is confirmed.
- Telstra does not accept any liability or responsibility for the performance of or advice given by a Telstra Accredited Plant Locator. Accreditation is an initiative taken by Telstra towards the establishment and maintenance of competency standards. However, performance and the advice given will always depend on the nature of the individual engagement.
- Neither the Telstra Accredited Plant Locator nor any of its employees are an employee or agent for Telstra. Telstra is not liable for any damage or loss caused by the Telstra Accredited Plant Locator or its employees.

- **Electronically derived subsurface measurements (e.g. depths/alignments by locating devices)**

All locator provided measurements for Telstra assets must have the AS5488-2013 quality level specified - (e.g. QL-A, B, C or D). These quality levels define the accuracy of subsurface information and are critical for determining how the information is later used – for example if suitable for excavation purposes.

1) ***An example of a subsurface measurement with no quality level specified – (i.e. not to be used)***

Telstra cover - **0.9m**

*The measurement above has no AS5488-2013 quality level specified and **must not** be provided by a locator or used for design or construction. This is because it is not known whether the measurement is actual or derived (where 'actual' means validated and 'derived' means assumed and not validated, e.g. electronic or other). Typically damages occur by constructors incorrectly using unvalidated measurements as actual measurements.*

2) ***An example of a subsurface measurement with quality level B specified –***

Telstra cover - **0.9m** (QL-B)

Where (QL-B) complies with AS5488-2013 QL-B (for example an electronic location that complies with QL-B)

(Note QL-B means it has not been validated and must not be used for construction purposes around Telstra network, however it would assist further investigation to determine the actual location)

3) ***An example of a subsurface measurement with the quality level A specified –***

Telstra cover - **0.6m** (QL-A)

Where (QL-A) complies with AS5488-2013 QL-A (and is deemed suitable for excavation purposes). *In this example the asset has been electronically located first, (QL-B) and then physically exposed (QL-A).*

Note -Telstra will seek compensation for damages caused to it its property and losses caused to Telstra and its customers if unvalidated subsurface measurements are used for construction and subsequently result in damage to Telstra assets. Only measurements conforming to AS5488-2013 (QL-A) are deemed by Telstra to be validated measurements.

- **Rural landowners - Rural Locations Subsidy Scheme** Where Telstra-owned cable crosses agricultural land, Telstra may provide on-site assistance with cable location. **You must contact Telstra Plan Services to determine eligibility and to request the service**.

Please note the following –

- If eligible, the location assistance must be approved and organised by Telstra. Telstra will not pay for a location that has not been approved and facilitated by Telstra (Telstra is not responsible for payment assistance when a customer engages a locator directly).
- Telstra will only "subsidise" the location up to $330 (Incl. GST). This will cover one hour on-site location only, private lead-in locations are for lead-ins 100m or longer. Any time required in addition to Telstra-funded time can be purchased directly from the assigned Telstra Accredited Plant Locator.
- This service does NOT include the use Mechanical Aids or Hydro Excavation (Vac Trucks) to locate and should be discussed between the Accredited Plant Locator and the private rural landowner
- The exact location, including depth of cables, must be validated by potholing, which may not be covered by this service.

- This service is nominally only available to assist private rural land owners.
- This service nominally covers one hour on-site only, private lead-in locations are for lead-ins 100m or longer. Any time required in addition to Telstra-funded time can be purchased directly from the assigned Telstra Accredited Plant Locator.
- This service does not apply to previously located network at the same location (i.e. it is a once off).
- This service does not apply to other carriers' cables (marked as 'OC' on Telstra plans).

STEP 3 – POTHOLE

Validation as defined in AS5488-2013 (QL-A).

After utilising a Telstra Accredited Plant Locator and prior to commencing construction, any electronically detected underground network must be positively identified (validated) by physically sighting it. This can be done by careful hand digging or using non-destructive water jet methods to expose the network.

Manual potholing needs to be undertaken with extreme care and by employing techniques least likely to damage cables. For example, align shovel blades and trowels parallel to the cable rather than digging across the cable. Some Telstra Accredited Plant Locators are able to provide or assist with non-destructive potholing methods to enable validation of underground cables and ducts.

If you cannot validate the underground network then you must not proceed with construction. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

Important note: *The construction of Telstra's network dates back over many years. Some of Telstra's pits and ducts were manufactured from asbestos-containing cement. You must take care in conducting any works in the vicinity of Telstra's pits and ducts. You must refrain from in any way disturbing or damaging Telstra's network infrastructure when conducting your works. We recommend that before you conduct any works in the vicinity of Telstra infrastructure that you ensure your processes and procedures eliminate any possibility of disturbing, damaging or interfering in any way with Telstra's infrastructure. Your processes and procedures should incorporate appropriate measures having regard to the nature of this risk. For further information -*

https://www.telstra.com.au/consumer-advice/digging-construction/relocating-network-assets

STEP 4 – Protect:

You must maintain the following minimum clearance distances between construction activity and the validated position of Telstra plant.

Jackhammers/Pneumatic Breakers	*Not within 1.0m of **actual validated location.***
Vibrating Plate or Wacker Packer Compactor	*Not within 0.5m of **actual validated location** of Telstra ducts.* *300mm compact clearance cover before compactor can be used across Telstra ducts.*
Boring Equipment (in-line, horizontal and vertical)	*Not within 2.0m of **actual validated location**.* *Constructor to hand dig or use non-destructive water jet method (pothole) and expose plant.*
Heavy Vehicle Traffic (over 3 tonnes)	*Not to be driven across Telstra ducts (or plant) with less than 600mm cover.* *Constructor to check actual depth via hand digging.*
Mechanical Excavators, Farm ploughing and Tree Removal	*Not within 1.0m of **actual validated location.*** *Constructor to hand dig or use non-destructive water jet method (pot-hole) and expose plant.*

- For blasting or controlled fire burning please contact Telstra Plan Services.
- If conducting roadworks all existing Telstra pits and manholes must be a minimum of 1.2m in from the back of kerb after the completion of your work.
- After the completion of any ground work in footways or roadway whereby the existing levels are being changed the depth of cover of the existing Telstra asset at the completion of work must not be less than the existing level before work commenced.

  Regardless of whether the surface is being raised or lowered, any work impacting the depth of cover of Telstra underground assets should not commence before consultation with Telstra Network Integrity representatives, to discuss the possibility of '*protection*' or relocation (including lowering of the asset)".
- For clearance distances relating to Telstra pillars, cabinets and RIMs/RCMs please contact Telstra Plan Services.
- If Telstra plant is situated wholly or partly where you plan to work (i.e. in conflict, where a pit or manhole would be in a driveway or other vehicle thoroughfare), then Telstra's Network Integrity Group must be contacted to discuss possible engineering solutions to protect Telstra assets.
  Please phone **1800 810 443** or email NetworkIntegrity@team.telstra.com
- You are not permitted to relocate or alter or repair any Telstra assets or network under any circumstances.

  It is a criminal offence under the *Criminal Code Act 1995* (Cth) to tamper or interfere with communication facilities owned by a carrier. Heavy penalties may apply for breach of this prohibition, and any damages suffered, or costs incurred by Telstra as a result of any such unauthorised works may be claimed against you.

  Only Telstra and its contractors may access and conduct works on Telstra's network (including its plant and assets). This requirement is to ensure that Telstra can protect the integrity of its network, avoid disruption to services and ensure that the relocation meets Telstra's requirements.
- If Telstra relocation or protection works are part of the agreed solution, then payment to Telstra for the cost of this work shall be the responsibility of the principal developer, constructor or person for whom the work is performed. The principal developer or constructor will be required to provide Telstra with the details of their proposed work showing how Telstra's plant is to be accommodated and these details must be approved by the Regional Network Integrity Manager prior to the commencement of site works.
  Please phone 1800 810 443 or email NetworkIntegrity@team.telstra.com
  Further information -
  https://www.telstra.com.au/consumer-advice/digging-construction/relocating-network-assets

  Damage to Telstra's network must be reported immediately –
  132 203 Say "Damages" at the voice prompt, then press 1 to speak to an Operator

  Or report online:
  https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment
- You will be held responsible for all plant damage that occurs or any impacts to Telstra's network as a result of your construction activities. This includes interfering with plant, conducting unauthorised modification works and interfering with Telstra's assets in a way that prevents Telstra from accessing or using its assets in the future.
- Telstra reserves all rights to recover compensation for loss or damage to its cable network or other property including consequential losses.

FURTHER INFORMATION - CONTACTS

NATURAL DISASTERS

Natural Disasters include (amongst other things) earthquakes, cyclones, floods and tsunamis.
In the case of such events, urgent requests for plans or information relating to the location of Telstra network can be made directly to Telstra Network Integrity Team Managers as follows:

NSW –	John McInerney	0419 485 795
NT/WA/QLD –	Glenn Swift	0419 660 147
SA/VIC/TAS -	David Povazan	0417 300 947

TELSTRA PLAN SERVICES - for all Telstra Dial Before You Dig related enquiries

Email - Telstra.Plans@team.telstra.com

Phone - 1800 653 935 (general enquiries, business hours only)

Accredited plant locator enquiries -	Glen	(07)34551011
Telstra easements -	Glen	(07)34551011

**Please note - to make a Telstra plan enquiry the plans must be current (within 60 days of issue). If your plans have expired you will need to submit a new request via DBYD prior to contacting Telstra Plan Services.*

Information for new developments (developers, builders, home owners)
Telstra Smart Communities - https://www.telstra.com.au/smart-community

Asset relocations
Please phone 1800 810 443 or email NetworkIntegrity@team.telstra.com

https://www.telstra.com.au/consumer-advice/digging-construction/relocating-network-assets

Telstra offers free Cable Awareness Presentations, if you believe you or your company would benefit from this offer please contact Network Integrity on 1800 810 443 or NetworkIntegrity@team.telstra.com

PRIVACY NOTE

Your information has been provided to Telstra by DBYD to enable Telstra to respond to your DBYD request. Telstra keeps your information in accordance with its privacy statement entitled "Protecting Your Privacy" which can be obtained from Telstra either by calling 1800 039 059 or visiting our website at www.telstra.com.au/privacy

LEGEND

IT'S HOW WE CONNECT

For more info contact a Telstra Accredited Locater or Telstra Plan Services 1800 653 935

Exchange
(major cable present)

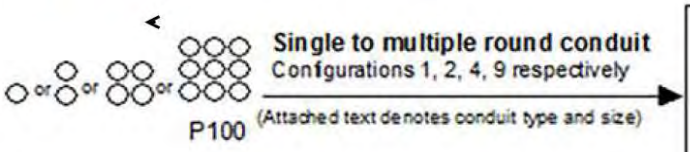
Footway access chamber
(can vary from 1-lid to 12-lid)

Pillar/cabinet
(above the ground / free standing)

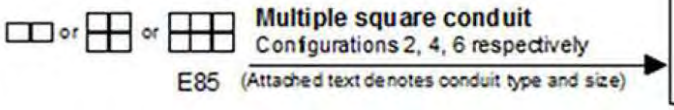
Above ground complex equipment housing (eg RIM)
Please Note: This equipment is powered by 240V electricity.

OC **other carrier**





Single to multiple round conduit
Configurations 1, 2, 4, 9 respectively
(Attached text denotes conduit type and size)



Multiple square conduit
Configurations 2, 4, 6 respectively
(Attached text denotes conduit type and size)

Some examples of conduit type and size:
A - Asbestos cement, P - PVC / plastic, C - Concrete, GI - Galvanised iron, E - Earthenware.
Conduit sizes *nominally* range from 20mm to 100mm.

P50	50mm PVC conduit
P100	100mm PVC conduit
A100	100mm asbestos cement conduit
E 85	85mm square earthenware conduit

Cable jointing pit
(number indicating pit type)

Elevated cable joint
(above ground joint on buried cable)

Telstra Plant in shared utility trench

Aerial Cable
(above ground)

Aerial Cable
(attached to joint use pole e.g. power)

Direct buried cable

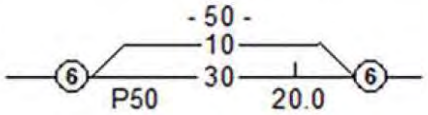
M **Marker post installed**

TR **Buried transponder**

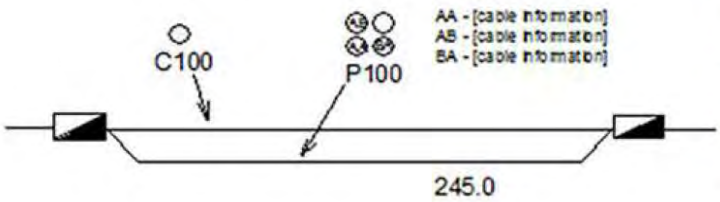
MT **Marker, transponder**

SMOF **Optical fibre cable direct buried**

Some examples of how to read Telstra plans:



One 50mm PVC conduit (P50) containing a 50-pair and a 10-pair cable between two 6-pits, 20.0m apart, with a direct buried 30-pair cable along the same route.



Two separate conduit runs between two footway access chambers (manholes) 245m apart. A nest of four 100mm PVC conduits (P100) containing assorted cables in three ducts (one being empty) and one empty 100mm concrete duct (C100) along the same route.

WARNING: Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK. A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works. The exact position of Telstra assets can only be validated by physically exposing it. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

TPG Corporation Limited
ABN 46 093 058 069
PO Box 1844 Macquarie Centre
North Ryde NSW 2113
Phone: **1800 786 306** (24hrs)

Date: 06/10/2020

Enquirer Name: Mr Syed Shah
Enquirer Address: 6 7 Millennium Court
Email: syed.shah@ade.group
Phone: 0405752313

Dear Mr Syed Shah

The following is our response on behalf of each of the TPG carriers (listed below) to your Dial Before You Dig enquiry – Sequence 102505606 .
It is provided to you on a confidential basis under the following conditions and must be shredded or securely disposed of after use.

Assets Affected:

Carriers (each a "TPG carrier") and assets affected:

PIPE Networks

Location: 2 Cavill Avenue

According to our records, the underground assets in the vicinity of the location stated in your enquiry are **AFFECTED**. Please read the below information and disclaimers in addition to the any attached plans provided prior to any construction activities.

IMPORTANT INFORMATION

- The information provided is valid for 30 days from the date of this response. If your work site area changes or your construction activity is beyond 30 days please contact Dial Before You Dig on 1100 or www.1100.com.au to re-submit a new enquiry.
- Due to the nature of underground assets and the age of some assets and records, our plans are indicative of the general location only and may not show all assets in the location. You should not solely rely on these plans when undertaking construction works. It is also inaccurate to assume depth or that underground network conduit and cables follow straight lines, and careful on-site investigations are essential to locate an asset's exact position prior to excavation. It is your responsibility to locate and confirm the exact location of our infrastructure using non-destructive techniques. We make no warranty or guarantee that our plans are complete, current or error free, and to the maximum extent permitted by law we exclude all liability to you, your employees, agents and contractors for any loss, damage or claim arising out of or in connection with using our plans.
- Please note that some of our conduits carry electrical cables and gas pipes. Please exercise extreme care when working within the vicinity of these conduit and take into account the minimum clearance distances under Duty Of Care below.
- You (and your employee and contractors) must not open, move, interfere, alter or relocate any of our assets without our prior approval.
- **Note** It is a criminal offence under the *Criminal Code Act 1995 (Cth)* to tamper or interfere with communication facilities owned by a carrier. Heavy penalties may apply for breach of this prohibition, and any damages suffered, or costs incurred by us as a result of such unauthorised works may be claimed against you.

DAMAGE

- You must report immediately any damage to our network on **1800 786 306** (24hrs). We will hold you liable and seek compensation for any loss or damage to our network, our property and our customers that is caused by or arises out of your activities.

DUTY OF CARE

You have a duty of care to carefully locate, validate and protect our assets when carrying out works near our infrastructure. For construction activities that may impact on or interfere with our network, you will need to call us on **1800 786 306** to discuss a suitable engineering solution, lead time and cost involved. The below precautions must be taken when working in the vicinity of our network:

- Contact us on **1800 786 306** to discuss and obtain relevant information and plans on our infrastructure in a particular location if the information provided in this response is insufficient.
- Physically locate and mark on-site our network infrastructure using non-destructive techniques i.e. pot holing or hand digging every 5 metres prior to commencing any construction activities. Assets located must be marked to AS5488 standard. **NO CONSTRUCTION WORK IS ALLOWED UNTIL THIS STEP IS COMPLETED**. You must use an approved telecommunications accredited locator, or we can provide a locator for you at your expense. If we provide you with a locator, and this locator attended the site and is proven to be grossly negligent in physically locating and marking our infrastructure, then to the extent any TPG carrier is liable for this locator's negligence, acts and omissions, the total liability aggregated for all TPG carriers is limited, at our option, to attend the site and re-mark the infrastructure or to pay for a third party to re-mark the infrastructure.
- If you require us to locate or monitor our infrastructure, please allow five business days' notice for us to respond.
- Ensure all information, including our network requirements and any associated plans provided by us are kept confidential and remain on-site throughout your construction works.

- Use suitably qualified and supervised professionals, particularly if you are working near assets that contain electricity cables or gas pipes.

- Ensure the below minimum clearance distances between the construction activities and the actual location of our assets are met. If you need clearance distances for our above ground assets, or if the below distances cannot be met, call **1800 786 306** to discuss.

  Minimum assets clearance distances.

  - 300mm when laying asset inline, horizontal or vertical.
  - 1000mm when operating vibrating equipment. Eg: vibrating plates. No vibrating equipment on top of asset.
  - 1000mm when operating mechanical excavators or jackhammers/pneumatic breakers.
  - 2000mm when performing directional bore in-line, horizontal and vertical.
  - No heavy vehicle over 3 tonnes to be driven over asset with less than 600mm of cover.

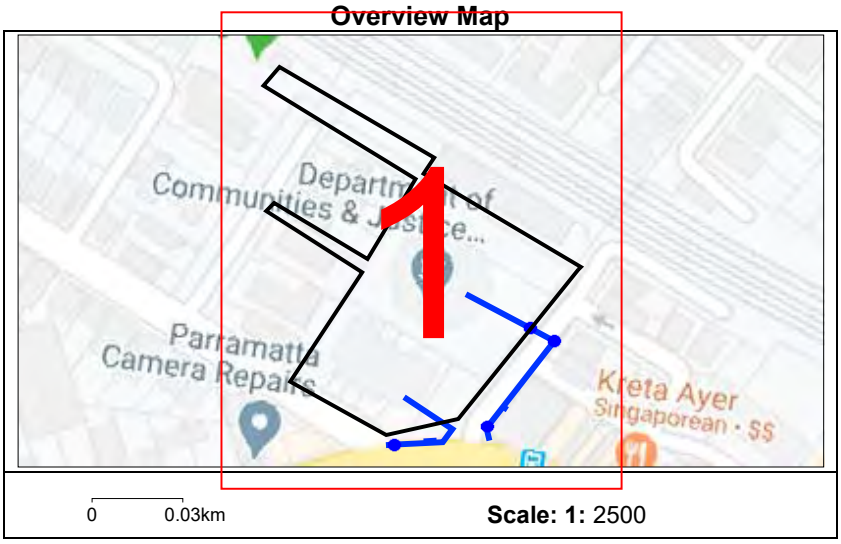
- Reinstate exposed TPG network infrastructure back to original state.

PRIVACY & CONFIDENTIALITY

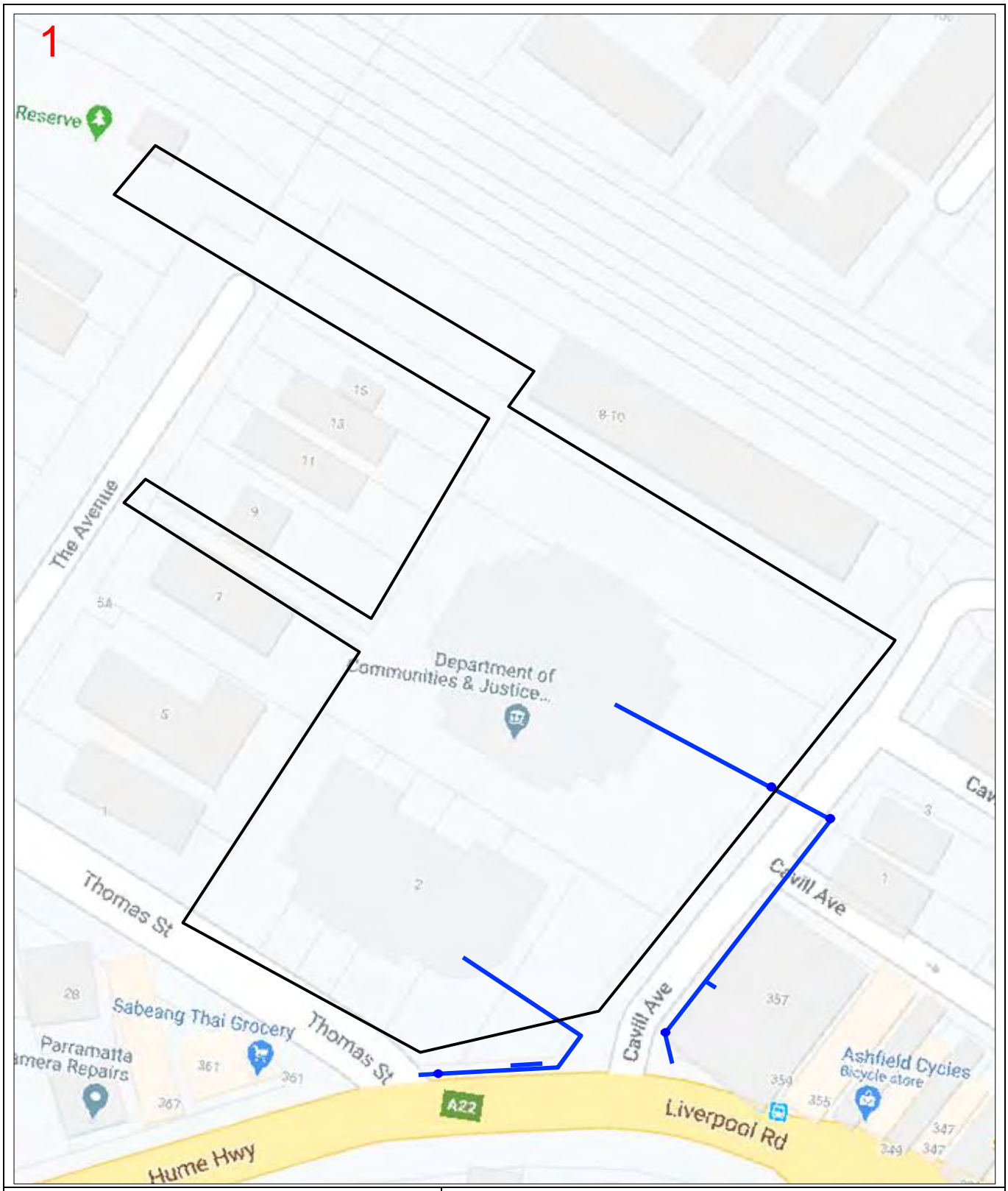
- Privacy Notice – Your information has been provided to us by Dial Before You Dig to respond to your Dial Before You Dig enquiry. We will keep your personal information in accordance with TPG's privacy policy, see www.tpg.com.au/about/privacy.

- Confidentiality – The information we have provided to you is confidential and is to be used only for planning and designing purposes in connection with your Dial Before You Dig enquiry. Please dispose of the information by shredding or other secure disposal method after use. We retain all intellectual property rights (including copyrights) in all our documents and plans.

Overview Map



TPG Corporation Limited



Enquiry Number: 102505606

Map Sheet: 1

Scale: 1: 750

0 0.008km

N

LEGEND

DBYD Work Area			
AAPT/PowerTel Pit		TransACT Pit	
AAPT/PowerTel Duct		TransACT Duct	
DDA Pit		SOUL Pattinson Telecoms Pit	
DDA Duct		SOUL Pattinson Telecoms Duct	
Agile/Adam Pit		PIPE Networks Pit	
Agile/Adam Duct		PIPE Networks Duct	

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Appendix XI – Site Plans

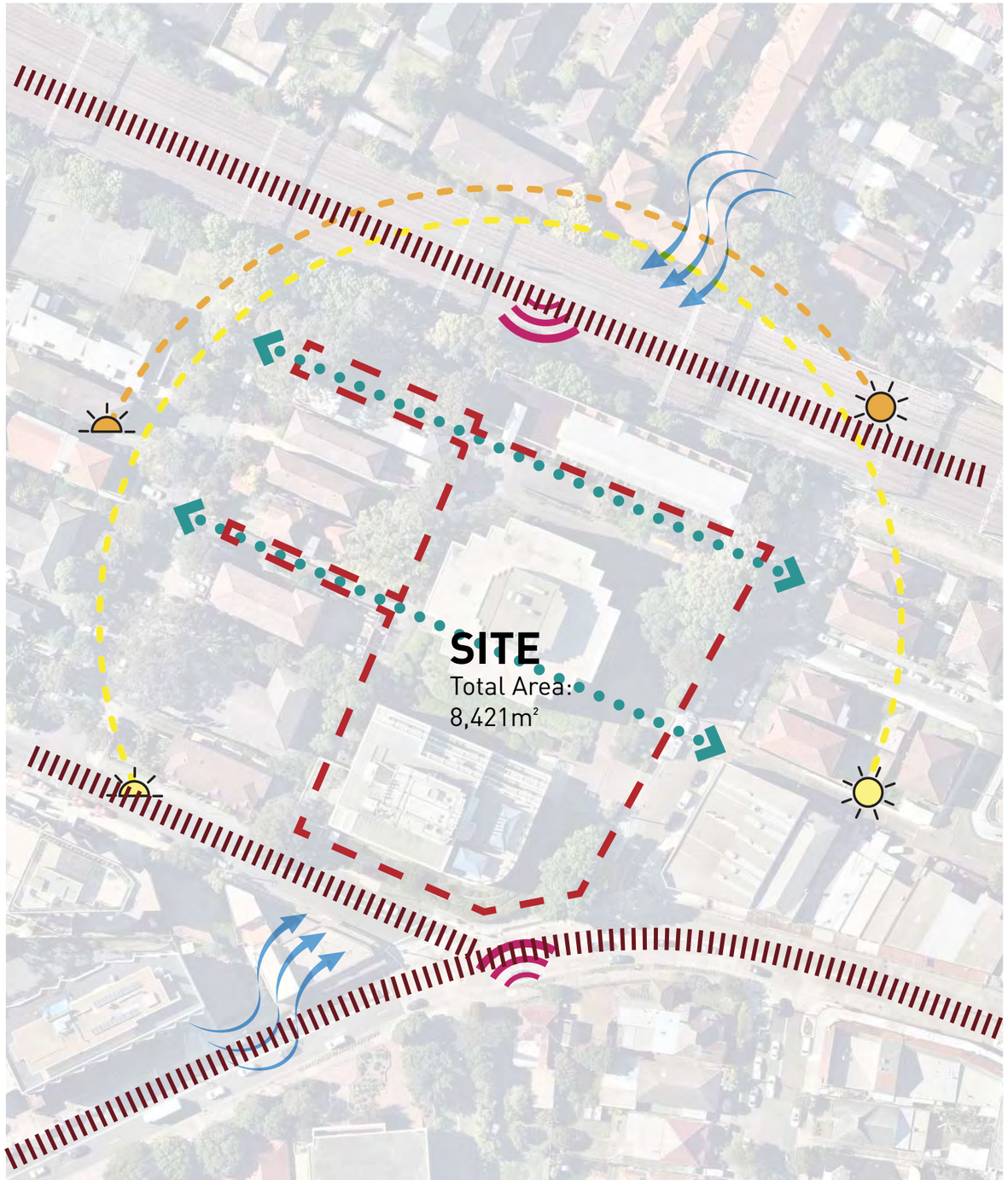
PTW

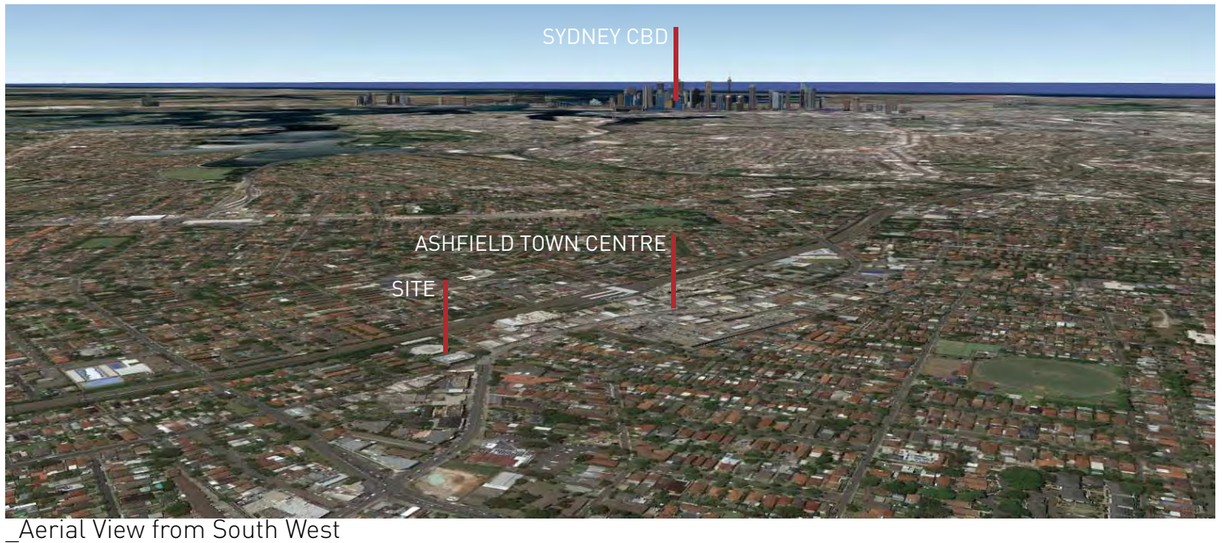
2-6 Cavill Avenue-Ashfield

Feasibility Report

September 2019

SITE - ENVIRONMENT





_Aerial View from South West



_Aerial View from North East

Site
Noise Source
Summer Sun Path
Winter Sun Path
Through site link

SITE







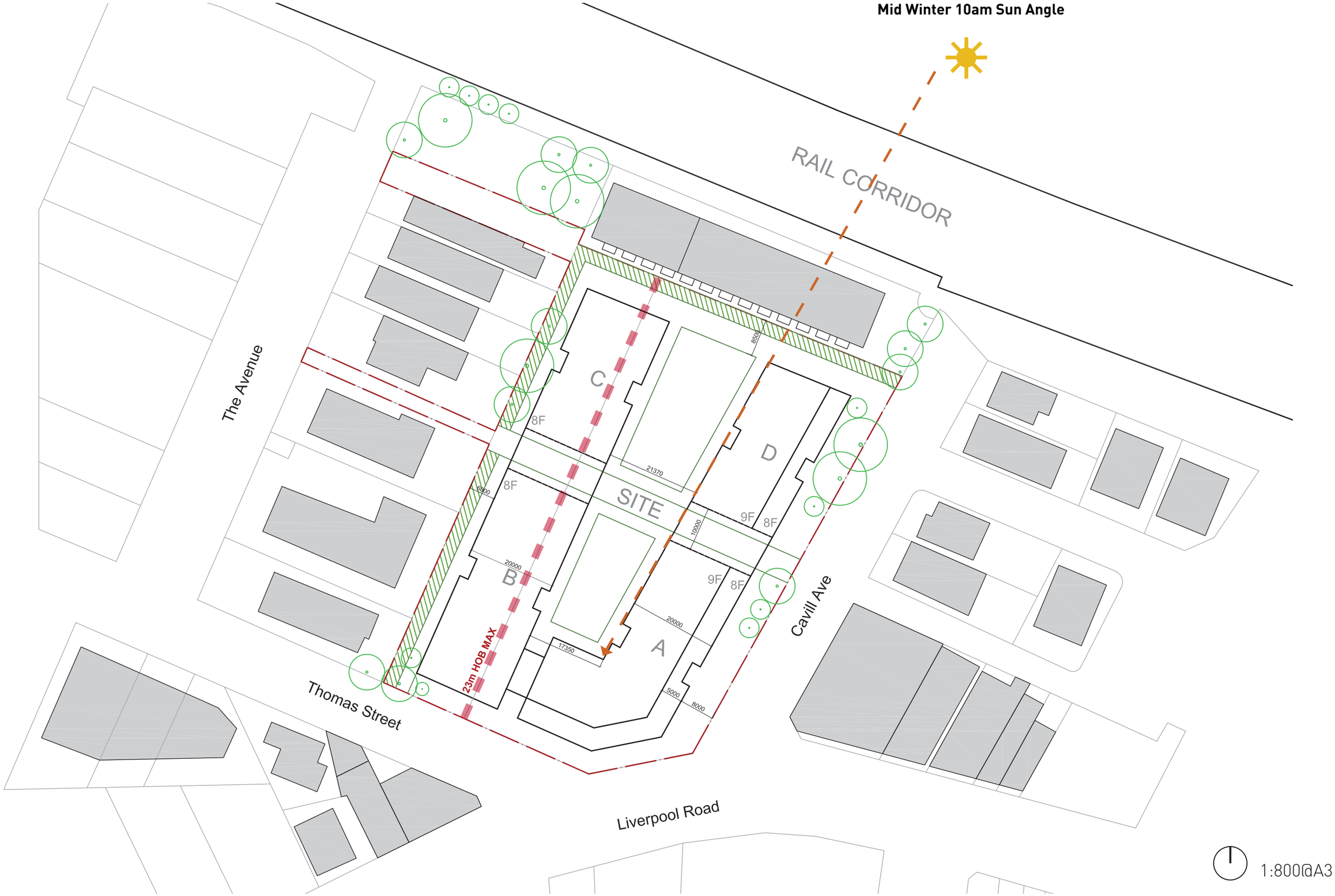






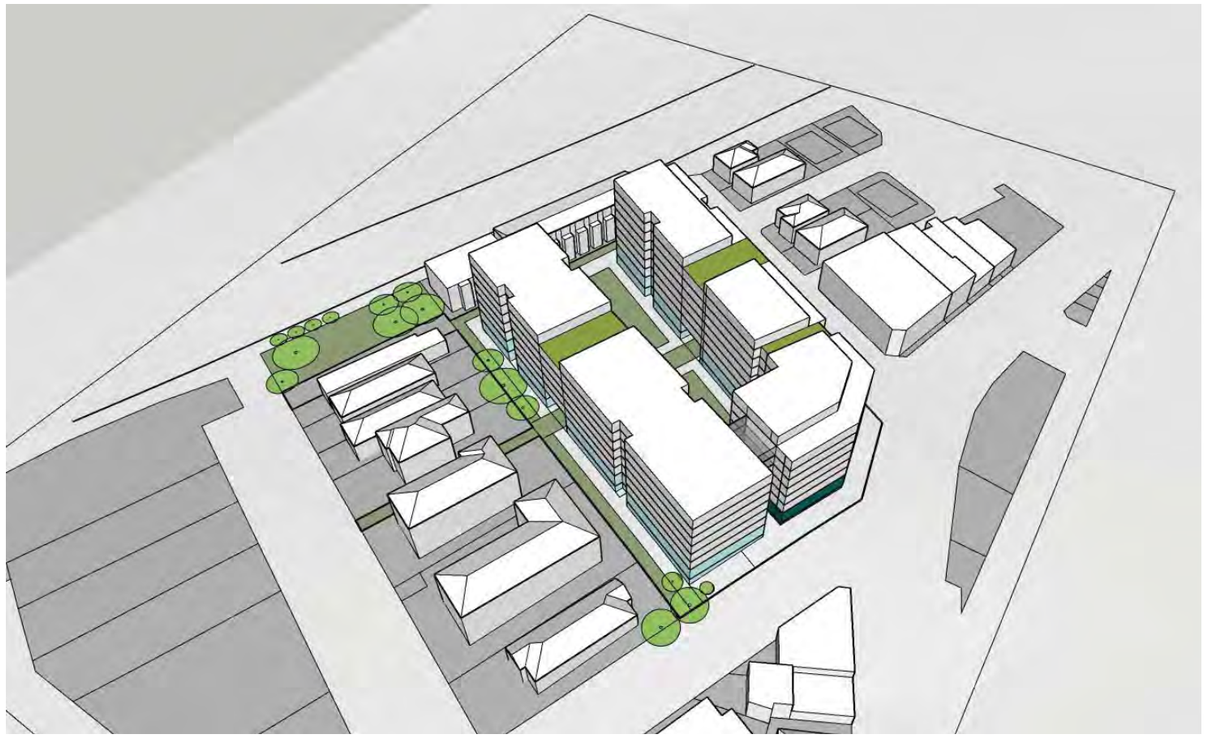
MASTERPLAN

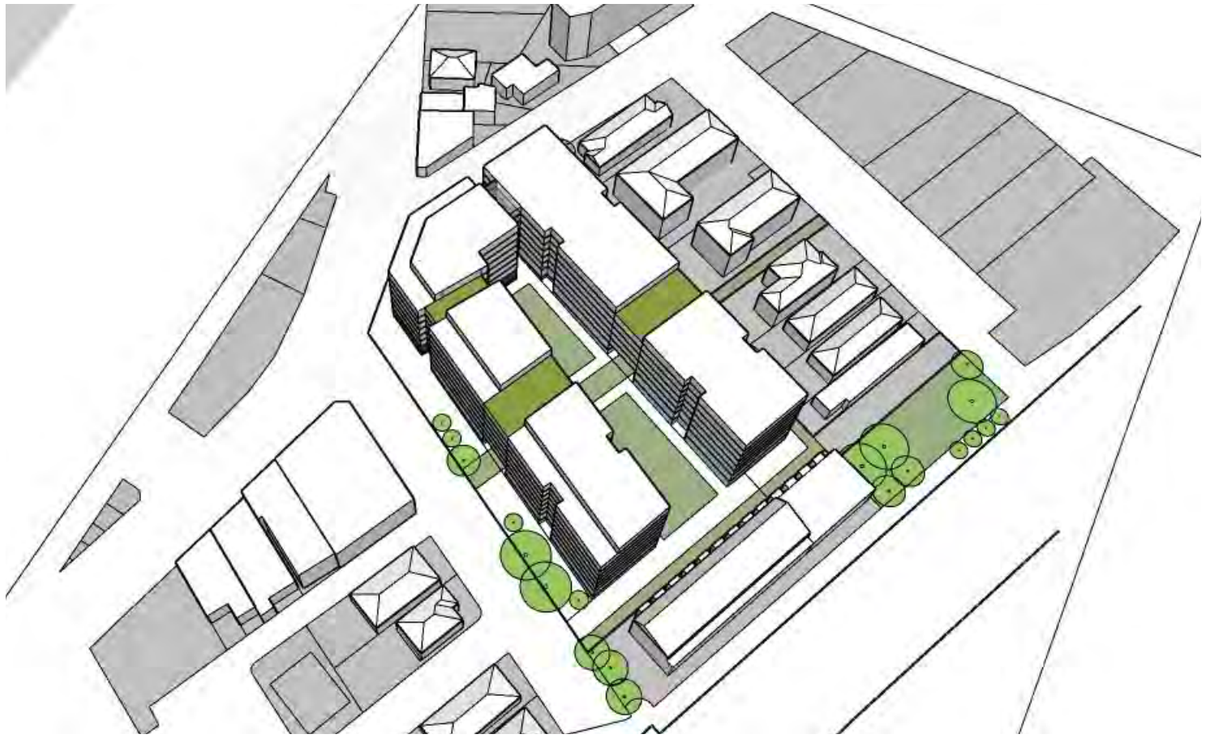
PROPOSED OPTION

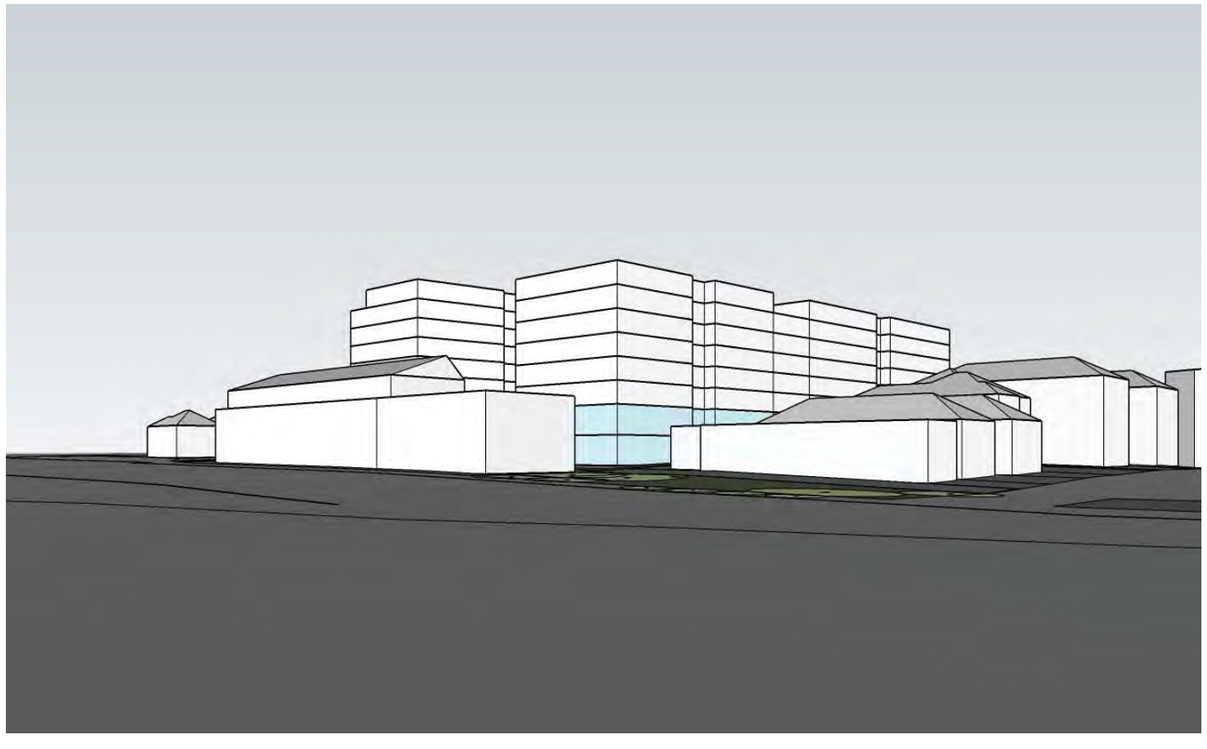


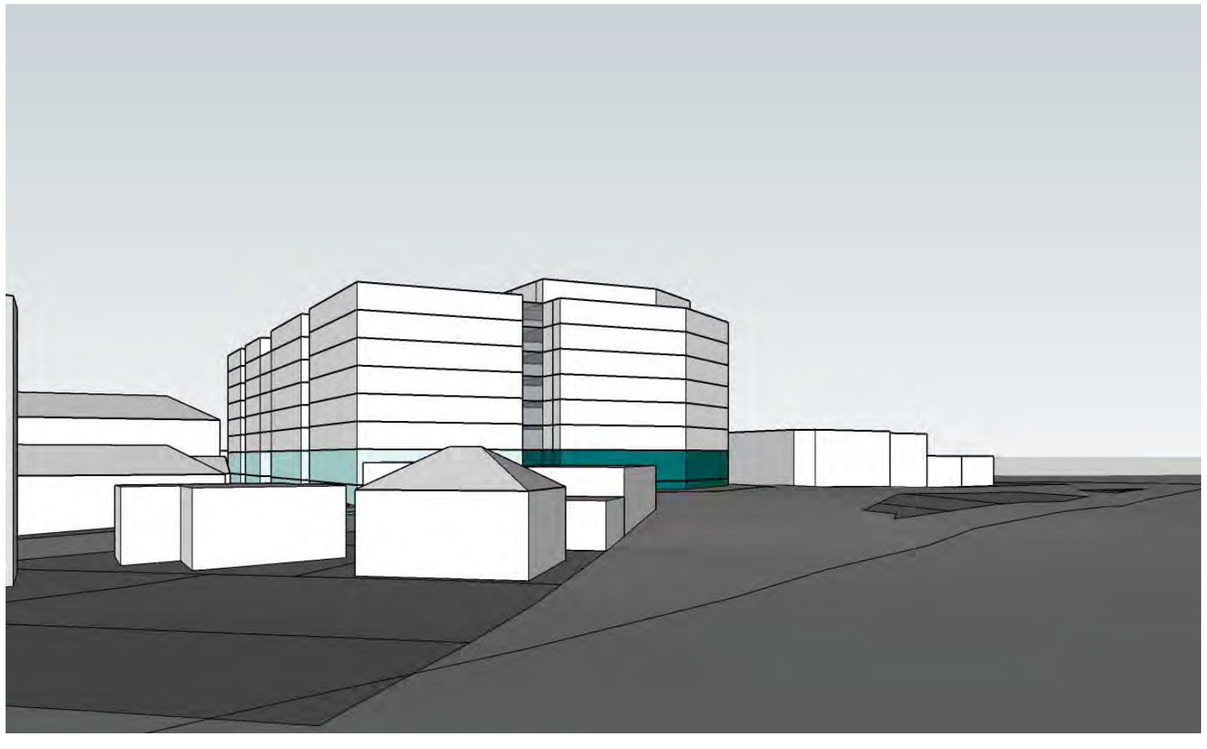
MASSING - 3D

PROPOSED OPTION



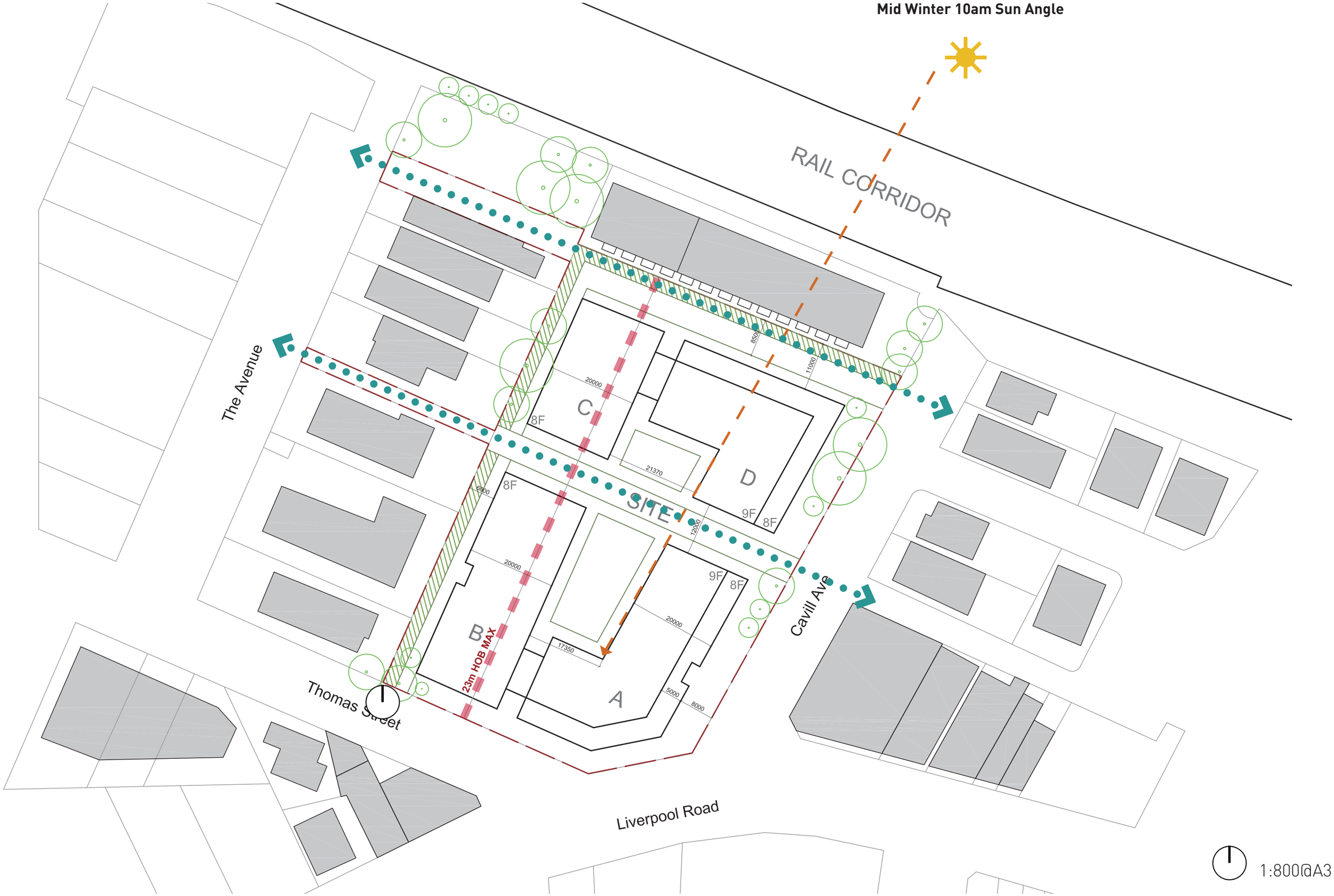






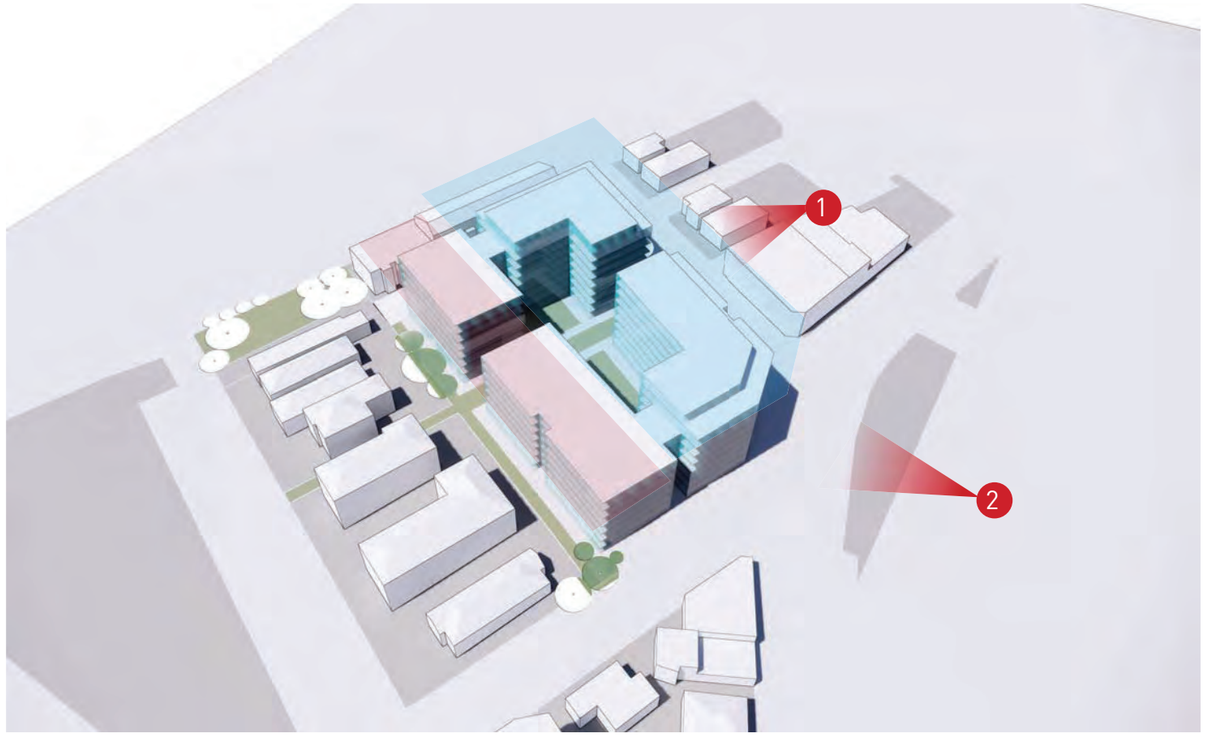
PLANNING PROPOSAL OPTION ADJUSTED TO CURRENT DCP

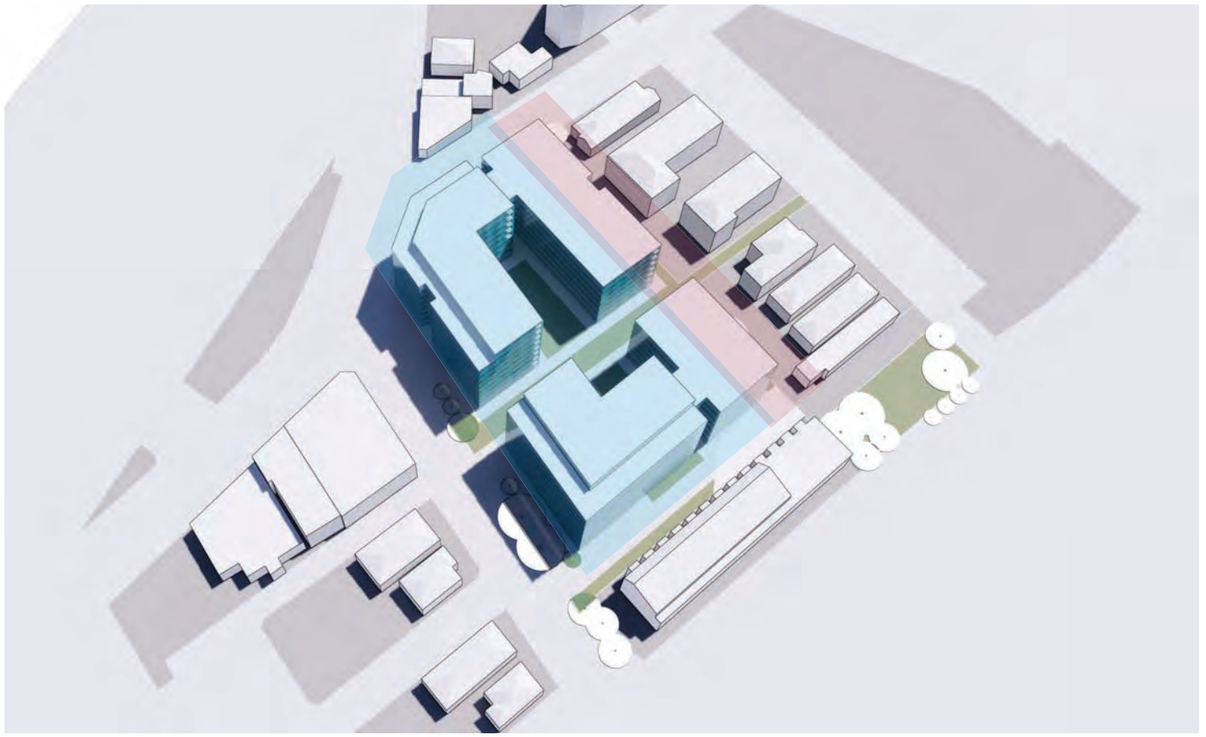
MASTER PLAN

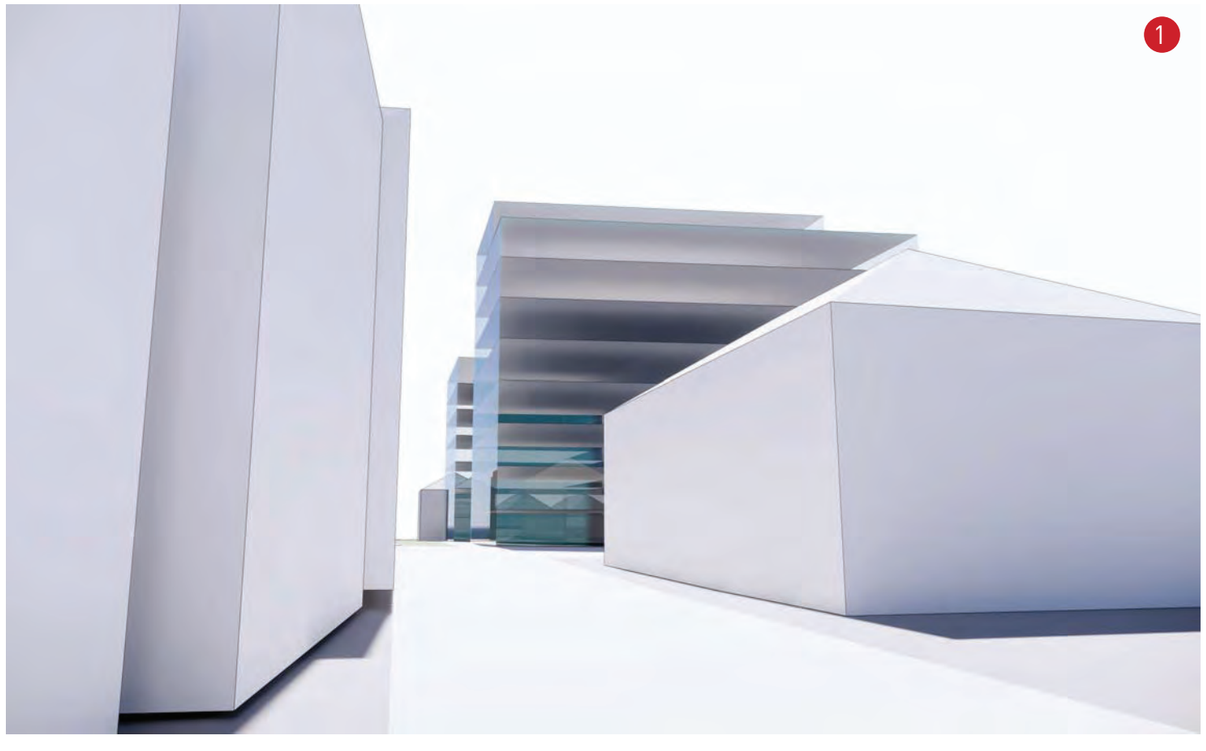


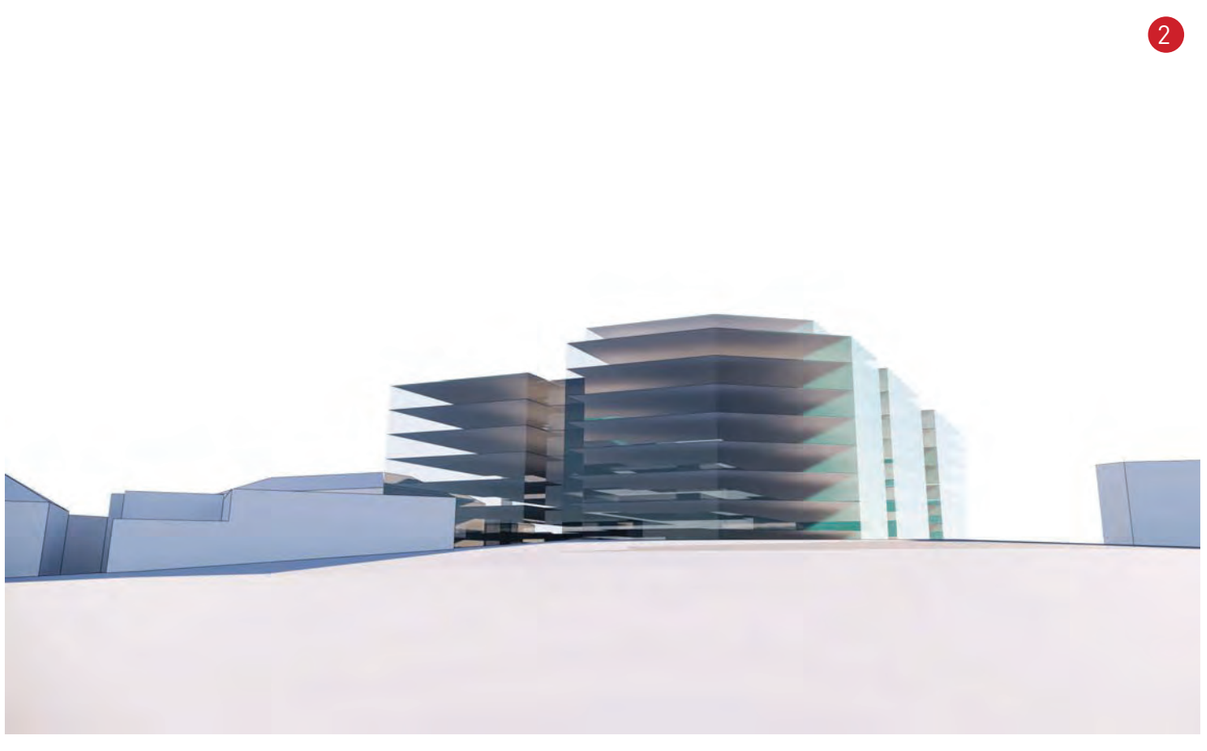
PLANNING PROPOSAL OPTION ADJUSTED TO CURRENT DCP

3D MASSING









OPTION 1

GROUND FLOOR PLAN



CARPARK ENTRANCE

RESIDENTIAL ENTRANCE

1:500@A3

OPTION 1

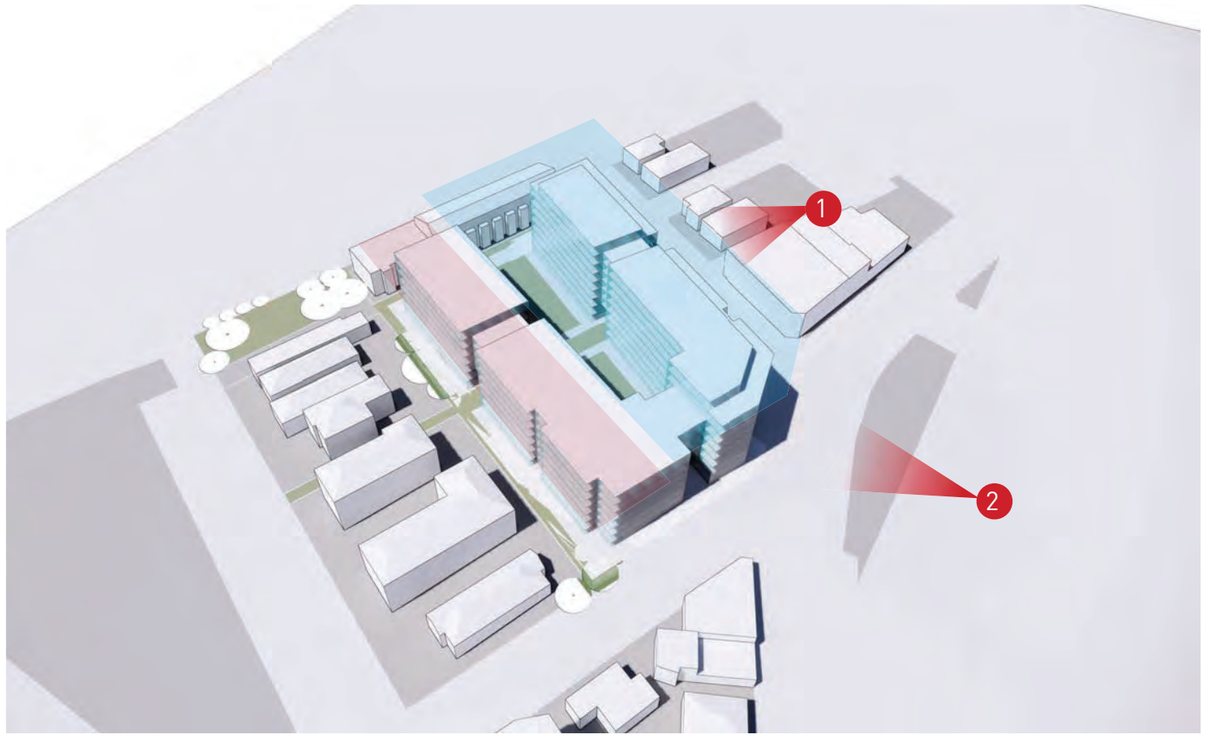
TYPICAL FLOOR PLAN

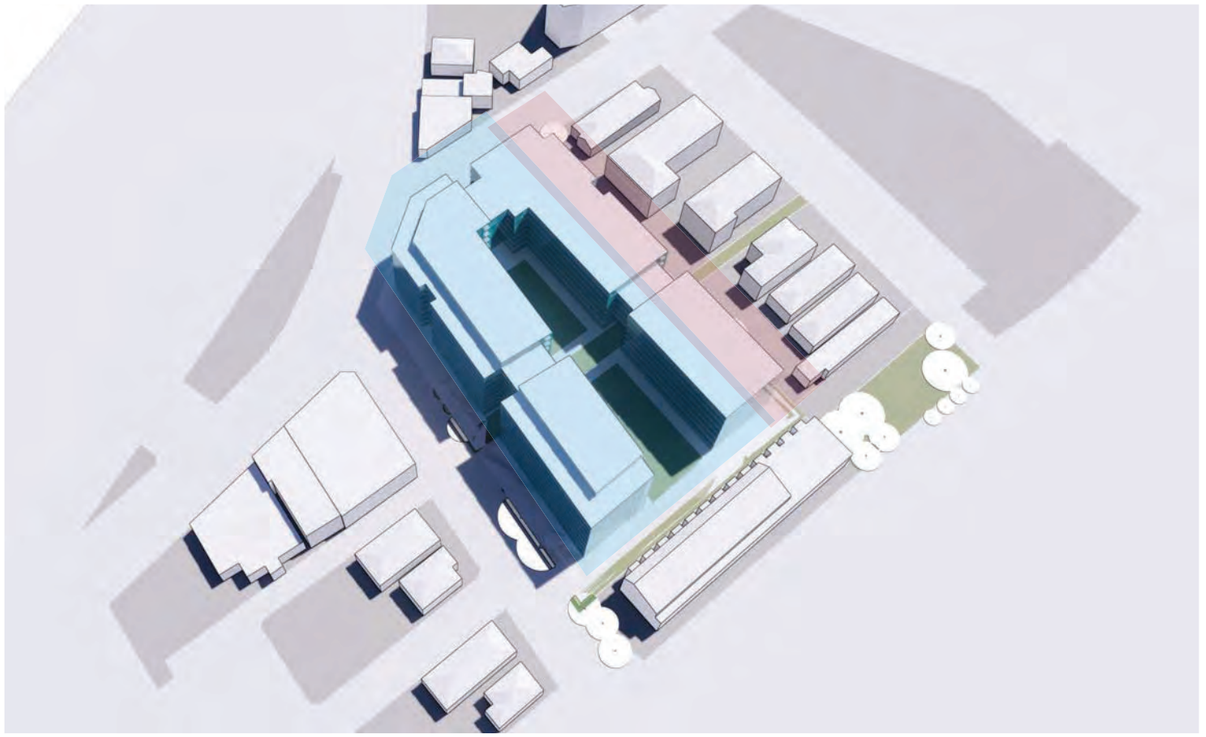


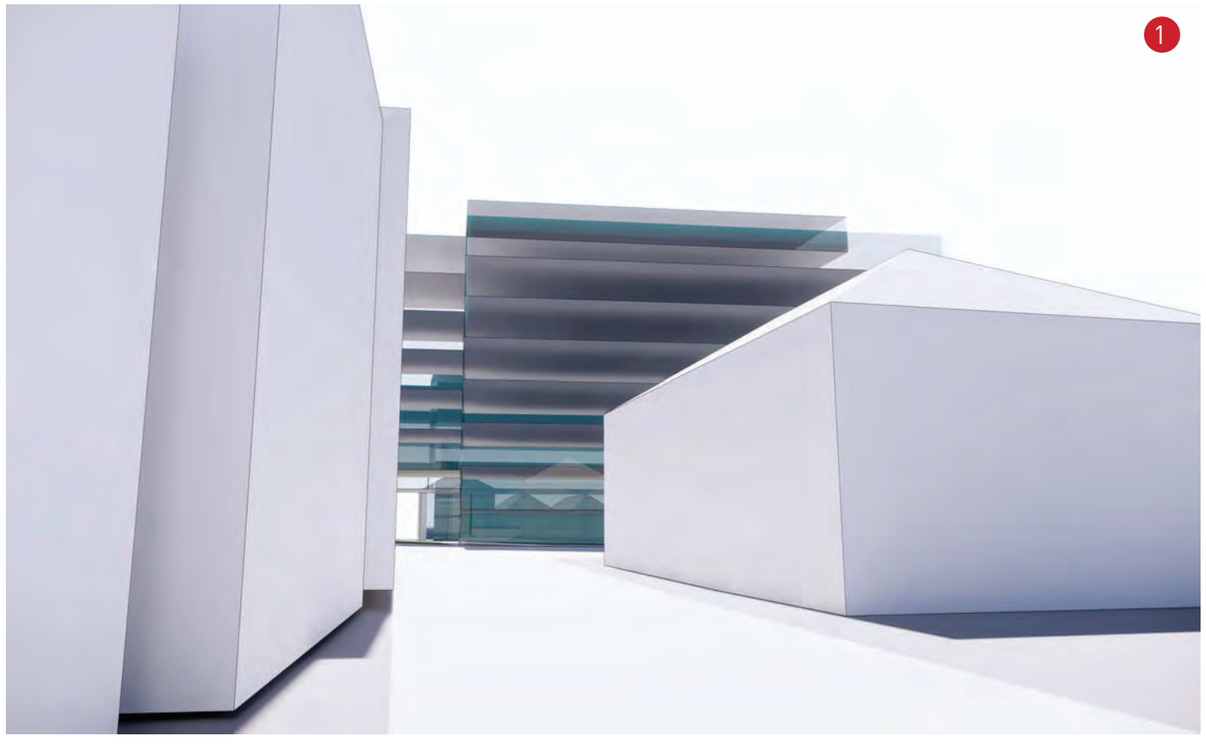
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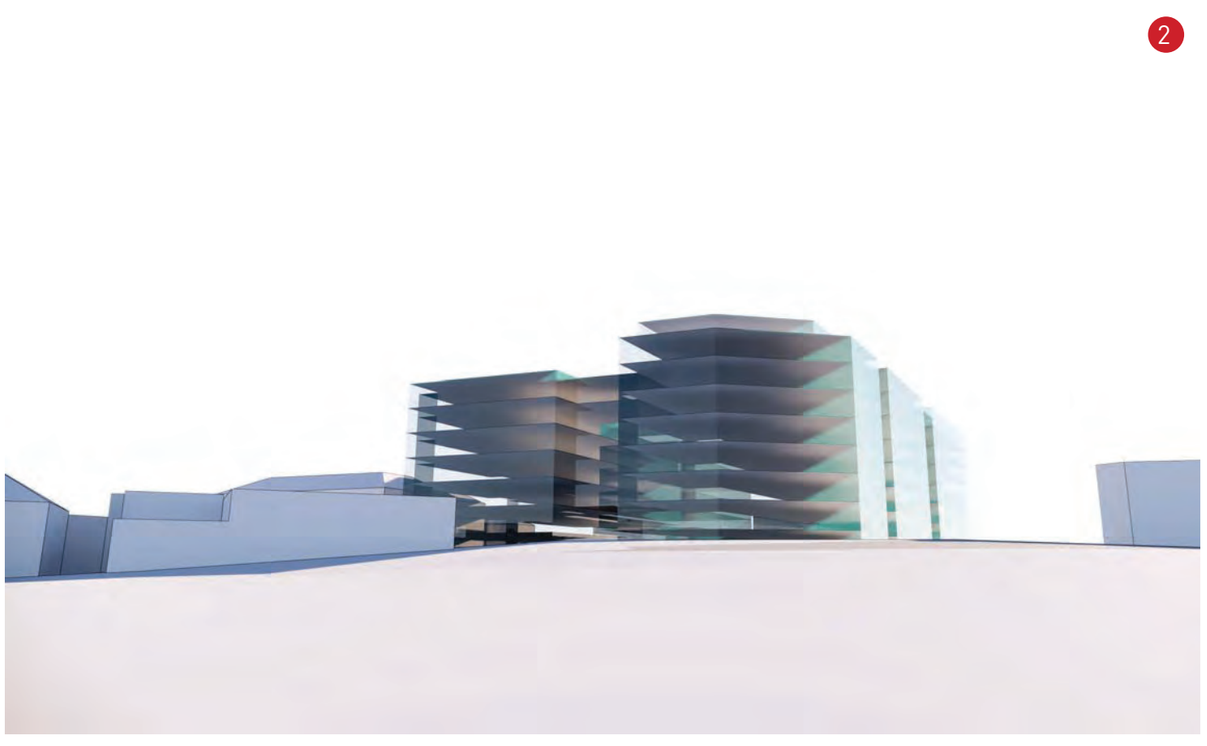
OPTION 1

MASSING - 3D



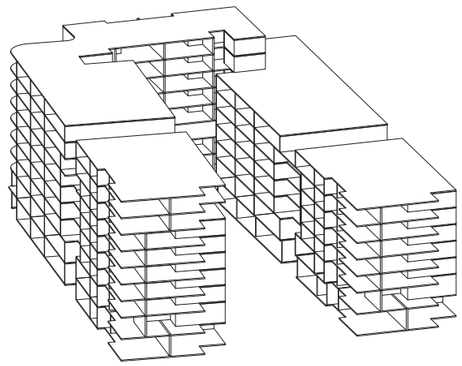




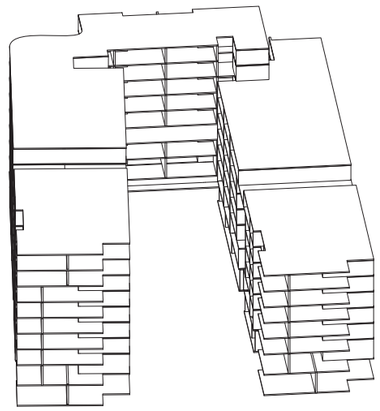


OPTION 1

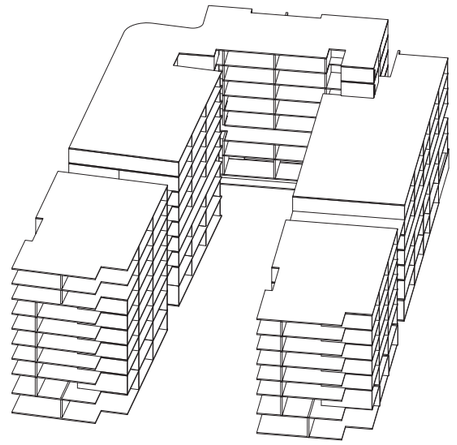
SUN EYE VIEW



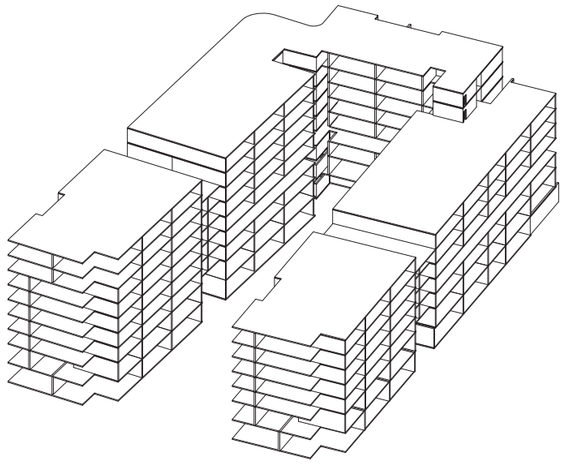
9AM_WINTER SOLSTICE



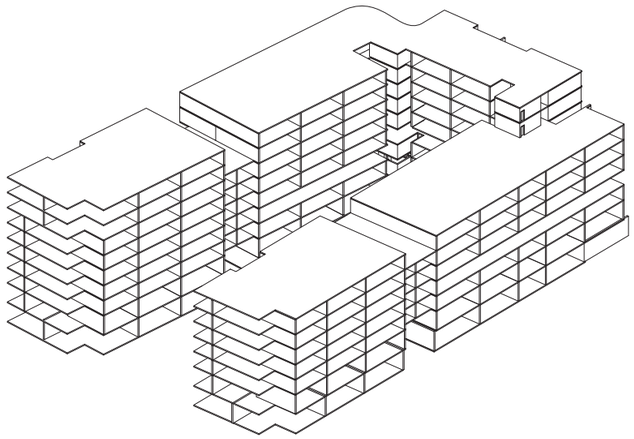
10AM_WINTER SOLSTICE



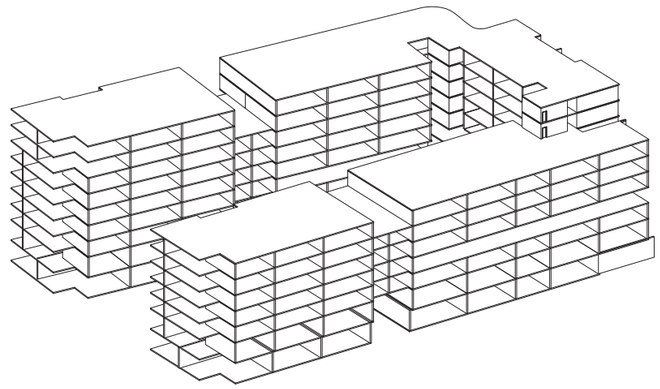
11AM_WINTER SOLSTICE



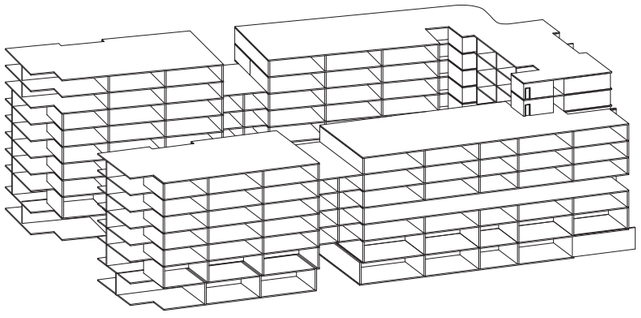
12PM_WINTER SOLSTICE



1PM_WINTER SOLSTICE



2PM_WINTER SOLSTICE



3PM_WINTER SOLSTICE

OPTION 2

GROUND FLOOR PLAN



CARPARK ENTRANCE

RESIDENTIAL ENTRANCE

1:500@A3

OPTION 2

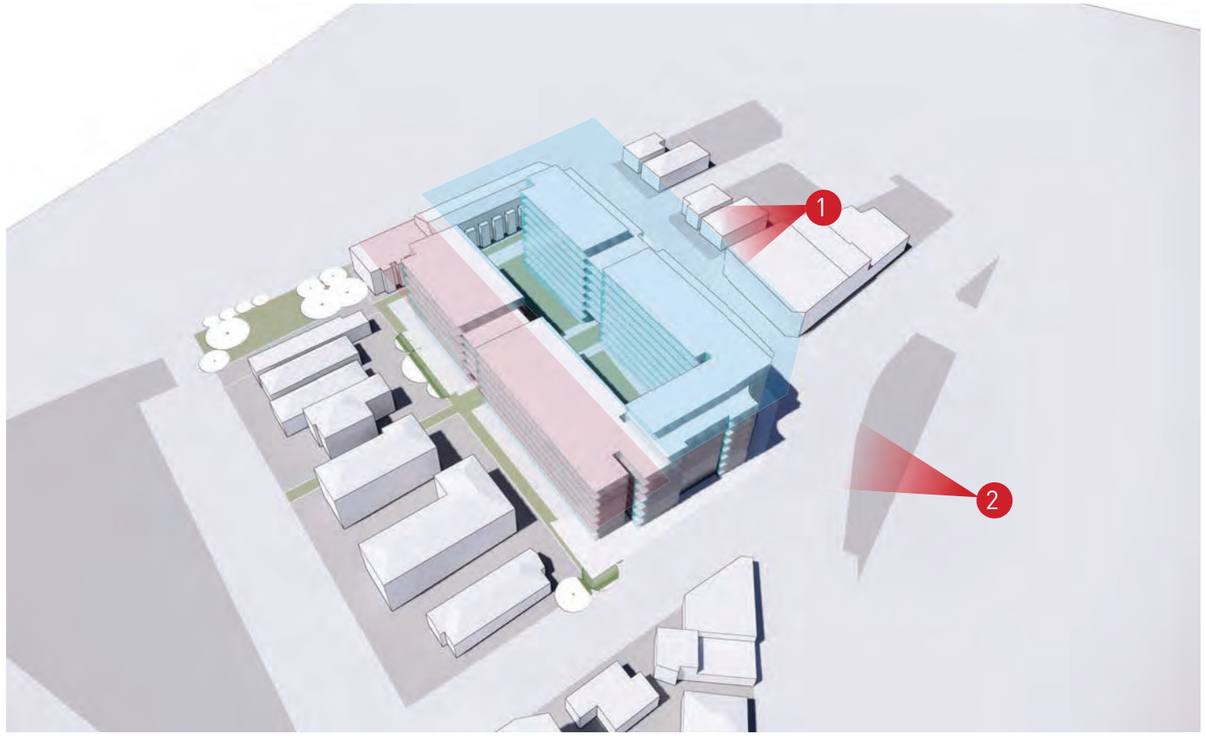
TYPICAL FLOOR PLAN

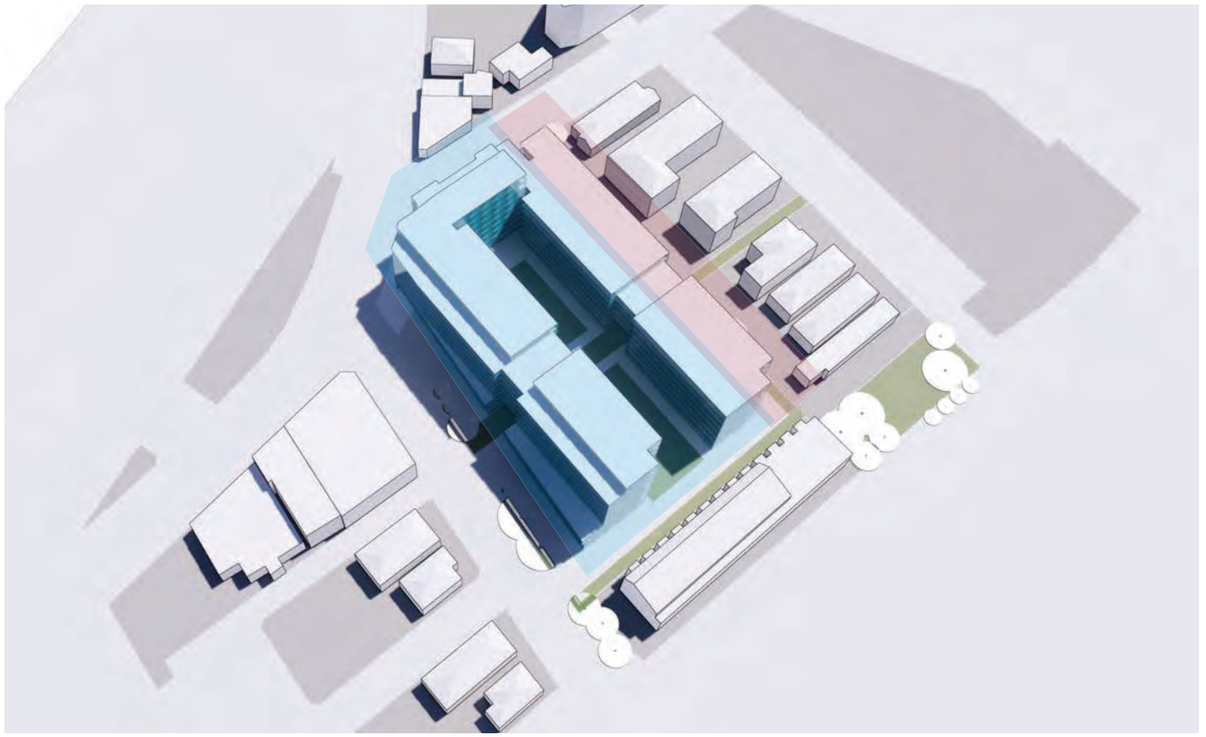


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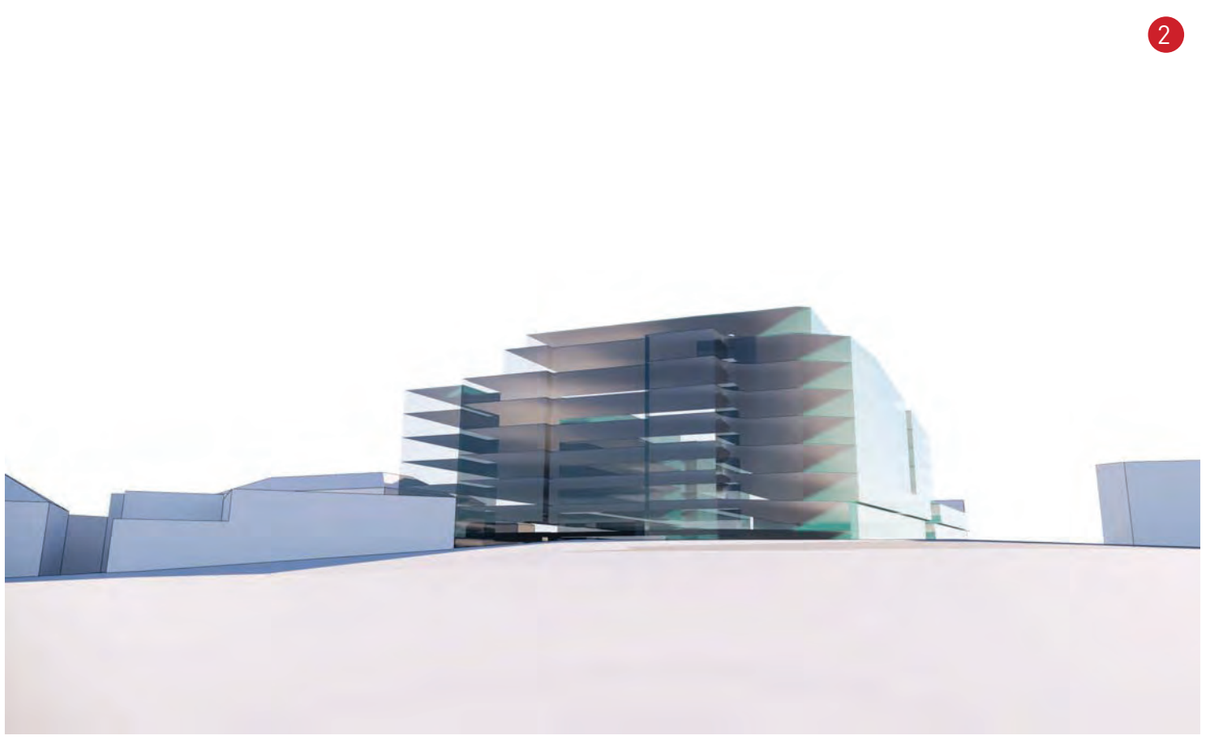
OPTION 2

MASSING - 3D



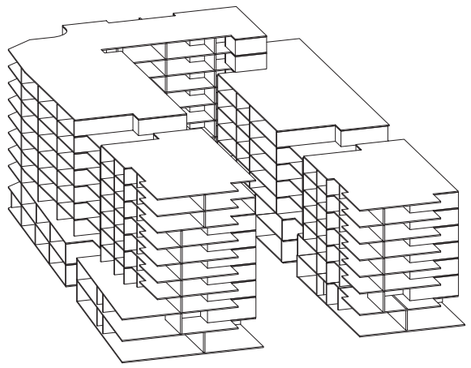




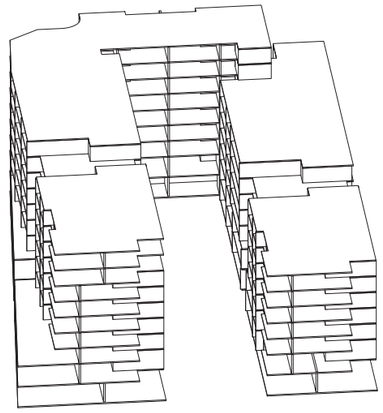


OPTION 2

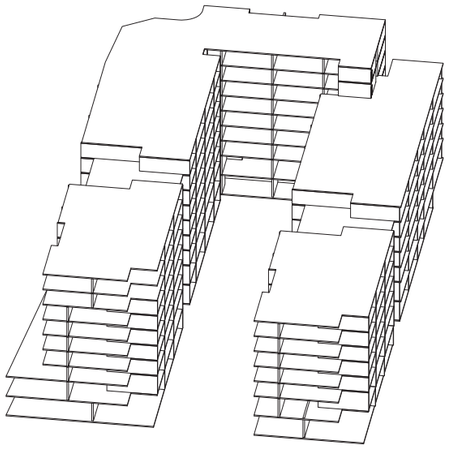
SUN EYE VIEW



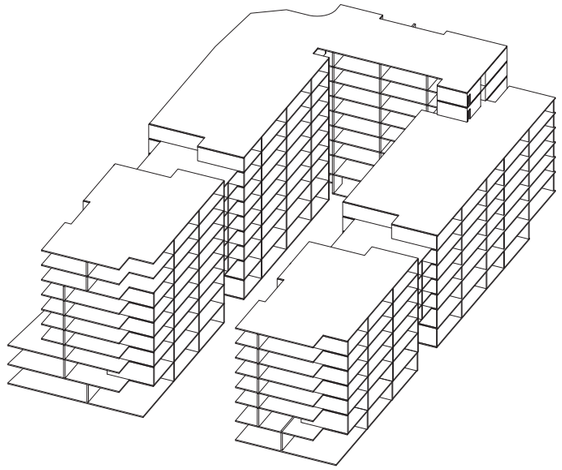
9AM_WINTER SOLSTICE



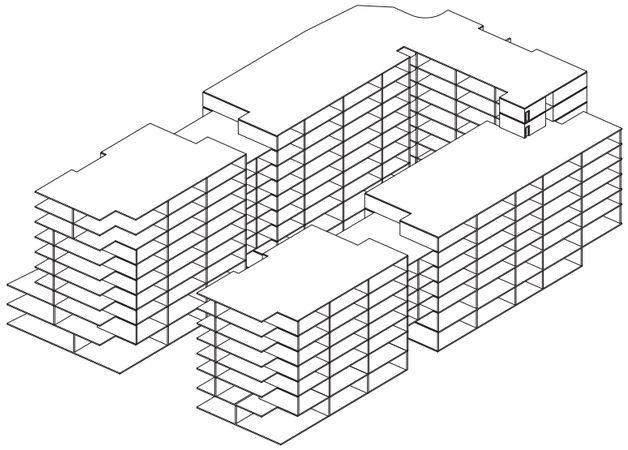
10AM_WINTER SOLSTICE



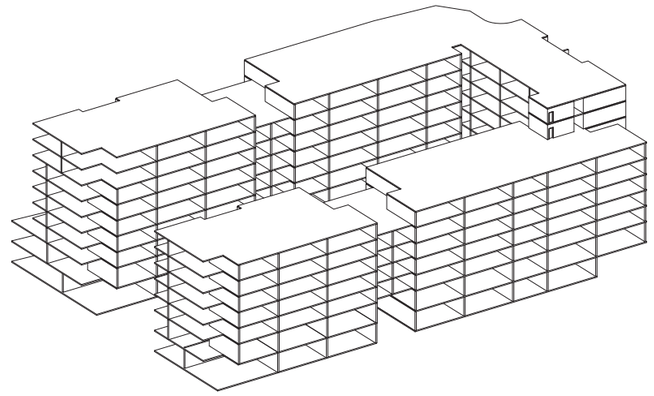
11AM_WINTER SOLSTICE



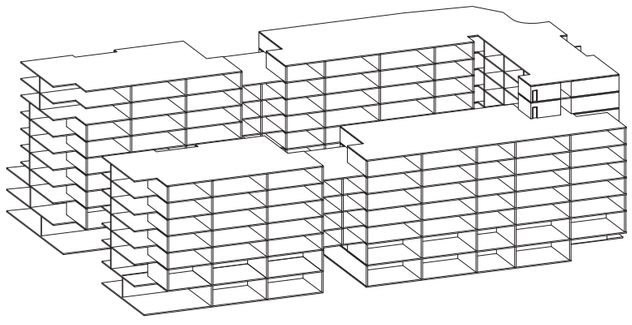
12PM_WINTER SOLSTICE



1PM_WINTER SOLSTICE



2PM_WINTER SOLSTICE



3PM_WINTER SOLSTICE

OPTION 3

GROUND FLOOR PLAN



CARPARK ENTRANCE

RESIDENTIAL ENTRANCE

1:500@A3

OPTION 3

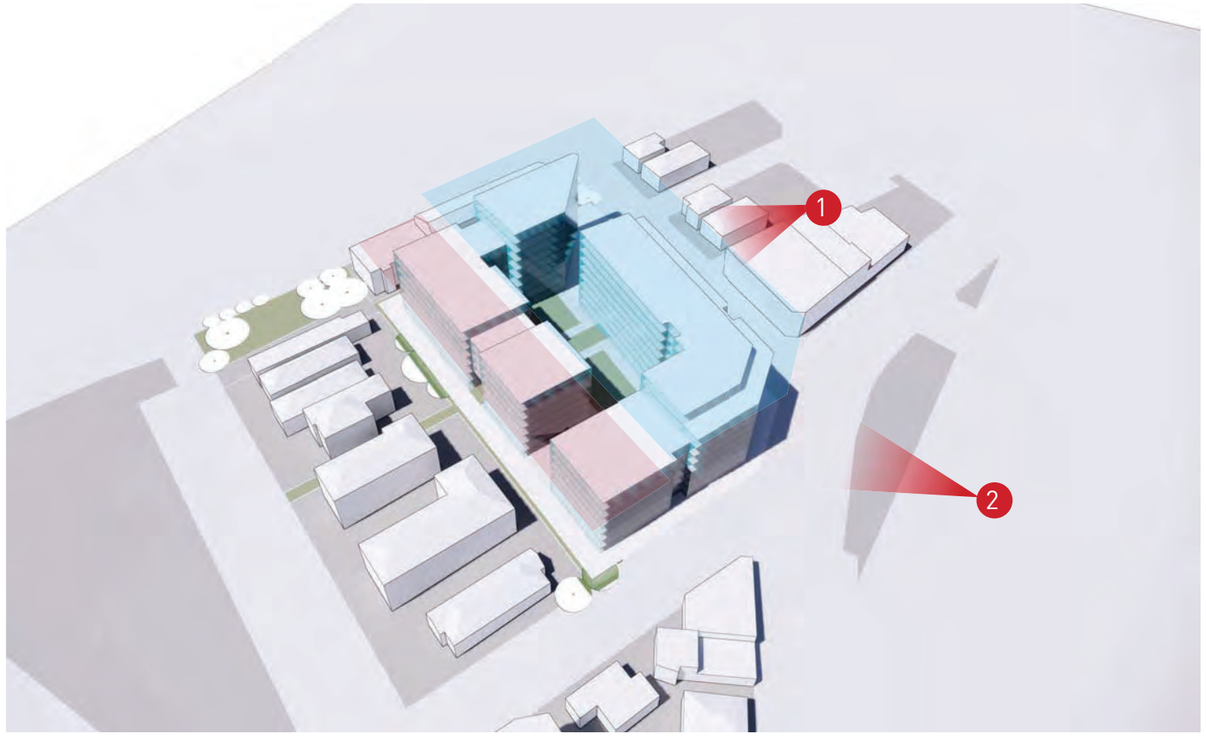
TYPICAL FLOOR PLAN



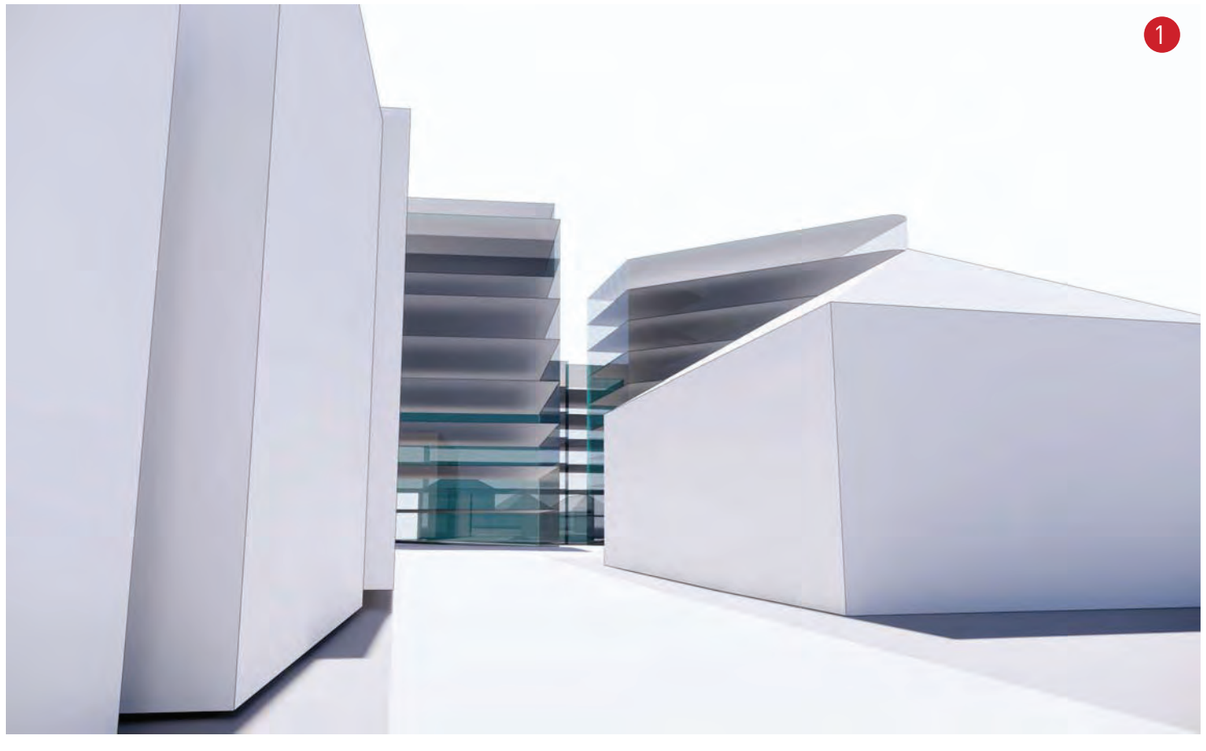
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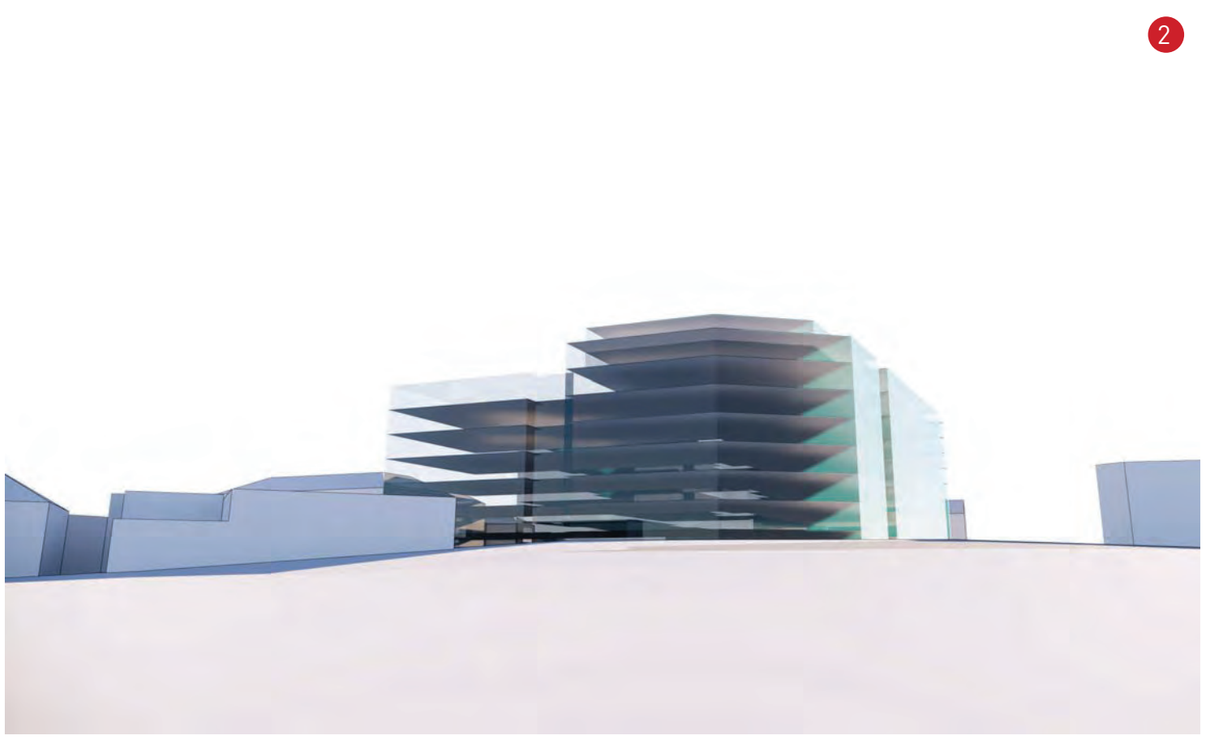
OPTION 3

MASSING - 3D



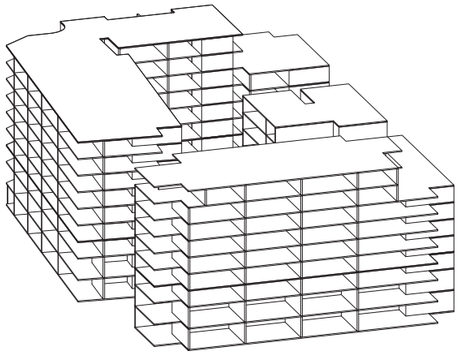






OPTION 3

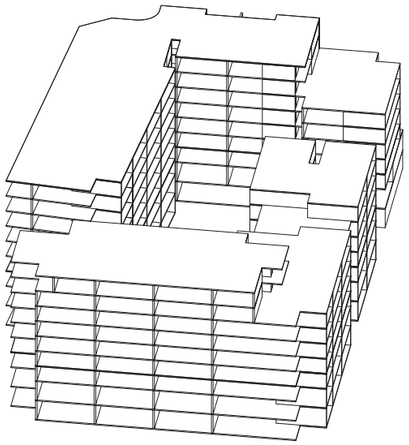
SUN EYE VIEW



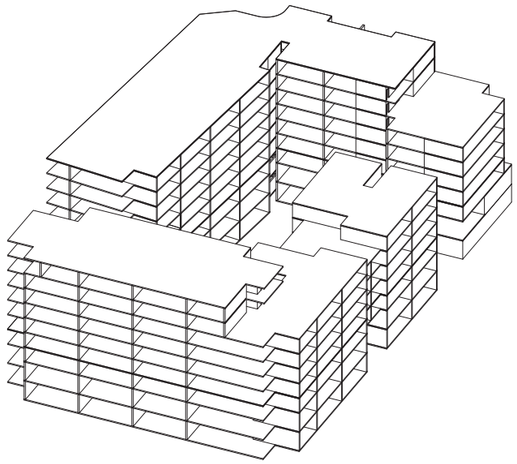
9AM_WINTER SOLSTICE



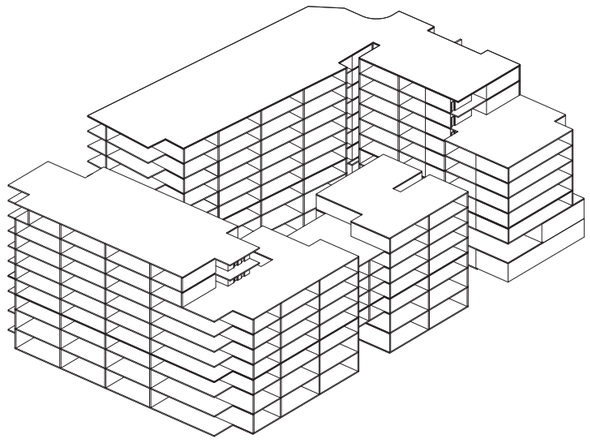
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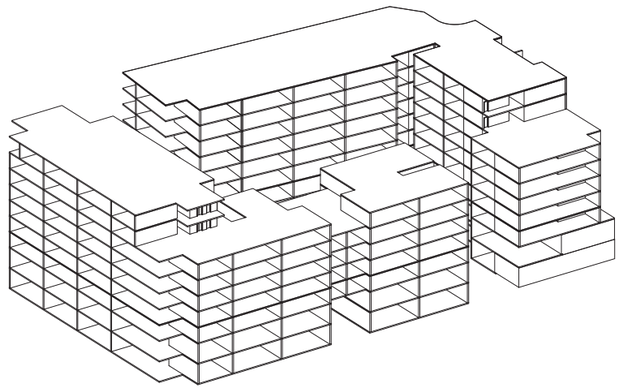
11AM_WINTER SOLSTICE



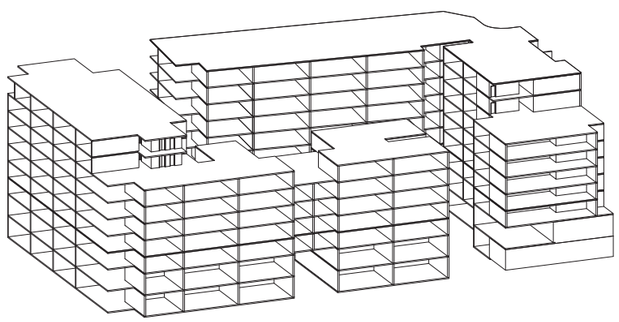
12PM_WINTER SOLSTICE



1PM_WINTER SOLSTICE



2PM_WINTER SOLSTICE



3PM_WINTER SOLSTICE

M.G.A

TREE DETAIL

HEIGHT (m) ie 18 = 18m
TRUNK (m) ie 0.7 = 0.7m DIAMETER
SPREAD (m) ie S8 = 8m DIAMETER
TREE SYMBOLS ARE A TRUE REPRESENTATION OF THE SPREAD
ie SYMBOL SIZE 2 (X - Y VALUE) = 2m SPREAD

2x DIAMETER SPREAD

DIAL BEFORE YOU DIG www.1100.com.au

A Dial Before You Dig enquiry must be lodged at least two business days prior to starting any excavation or work site project.

SHEET 2

THE AVENUE

THOMAS STREET

LIVERPOOL ROAD

CAVILL AVENUE

SHEET 3

SP46100 — No. 1 THE AVENUE TWO STOREY BRICK APARTMENT TILE ROOF

SP0024 — No. 5 THE AVENUE THREE STOREY BRICK APARTMENT TILE ROOF

SP3815 — No. 7 THE AVENUE THREE STOREY BRICK APARTMENT TILE ROOF

DP559224 1

A DP356984 — No. 9 THE AVENUE TWO STOREY BRICK DWELLING TILE ROOF

SP42794 — No. 11 THE AVENUE TWO STOREY BRICK DWELLING "DURHAM" TILE ROOF

A DP337533 — No. 13 THE AVENUE TWO STOREY BRICK DWELLING "VALMAR" TILE ROOF

No. 15 THE AVENUE TWO STOREY BRICK DWELLING METAL ROOFING

DP168456 17

DP165502 15

BRICK ROOFING

SP35258

No. 28 THOMAS ST SINGLE STOREY BRICK BUILDING TILE ROOF

No. 367A LIVERPOOL RD TWO STOREY BRICK COMMERCIAL BUILDING METAL ROOF

No. 367-369 LIVERPOOL RD SINGLE STOREY BRICK COMMERCIAL BUILDING METAL ROOF

DP6262 1

DP556722 2 — No. 2 CAVILL AVE FOUR STOREY CONCRETE BUILDING WITH ROOF DECK

DP971932 1

2

101 DP234926 — No. 4-6 CAVILL AVE FOUR STOREY CONCRETE BUILDING WITH ROOF DECK

9 DP234926

No. 10 CAVILL AVE THREE STOREY BRICK BUILDING METAL ROOF

No. 318 LIVERPOOL RD SINGLE STOREY

No. 314 LIVERPOOL RD SINGLE STOREY BRICK BUILDING METAL ROOF

No. 1 MILLER AVE SINGLE STOREY BRICK BUILDING TILE ROOF

No. 357-359 LIVERPOOL RD TWO STOREY COMMERCIAL BUILDING

22°54'35" 3.35 — 22°54'35" 7.62 — 202°32'55" 3.425

22" 57' 55' 58.91 — 22" 37' 30' 41.9

208° 19' 05" 96.4

3 0 6 12 21 30

SCALE 1:300 (A1)

FOR CLARITY THIS PLAN CONTAINS FURTHER SURVEY INFORMATION THAT IS NOT SHOWN ON THE PRINTOUT BUT IS CONTAINED WITHIN THE AUTOCAD FILE

LEGEND

- AWNING OR EAVE
- BUILDING
- BOTTOM OF WALL
- CROWN OF ROAD
- TREE EDGE
- FENCE
- GULLY PIT
- KERB LIP
- KERB AND CHANNEL INVERT
- KERB TOP BACK
- KERB TOP FRONT
- LINE MARKING DOUBLE CONTINUOUS
- ROOF RIDGE LINE
- LINE MARKING MISCELLANEOUS
- SURFACE LEVEL
- STRUCTURE MISCELLANEOUS
- TELECOMMUNICATIONS MANHOLE
- TOP OF WALL
- WATER PIPE ABOVE GROUND
- DH DOOR HEAD
- DS DOOR SILL
- WH WINDOW HEAD
- WS WINDOW SILL

CLIENT

Shayher Alliance Pty Ltd

PROJECT

DETAIL SURVEY OF LOT 17 IN DP168456, LOT 9 IN DP940918, LOT 101 IN DP234926, LOTS 1, 2 & 5 IN DP6262, LOTS 1 & 2 IN DP556722 & LOT 1 IN DP971932

(No. 2-6 CAVILL AVENUE, ASHFIELD)

NOTES

(i) This plan has been prepared for the exclusive use of Shayher Alliance Pty Ltd and their consultants for design purposes and is not to be used for any other purpose or by any other entity without the express permission of LandPartners Pty Ltd.

(ii) The title boundaries as shown hereon were not marked or surveyed at the time of survey and have been determined from the dimensions shown on plans of survey registered in the Department of Natural Resources, Mines and Energy.

(iii) Services shown hereon have been located where visible by field survey. If not able to be so located, services have been plotted from the records of relevant authorities where available and have been noted or symbolised accordingly. Where such records do not exist or are inadequate a notation has been made hereon.

(iv) Underground connections between services have been joined based on relevant authority records and have been symbolised accordingly.

(v) Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.

(vi) This data should not be reproduced in any way without the permission of LandPartners Pty Ltd. Any reproduction of this data must contain these notes

1	RL	16/01/2020	INITIAL ISSUE

SYM	CODE	DESCRIPTION
	BM	BENCHMARK
	BOL	BOLLARD
	CP	COLUMN / PILLAR
EB	EBX	ELECTRICAL BOX
E	ECM	ELEC CABLE MARKER
	ELP	ELEC/LIGHT POLE
EM	EM	ELECTRICAL PIT
	EP	ELECTRICITY POLE
	ESP	ELECTRICITY STAY POLE
H	FH	FIRE HYDRANT
	FHP	FIRE HYDRANT PILLAR
	FP	FLAG POLE
G	GMH	GAS MANHOLE
G	GMK	GAS MARKER
	GP	GUIDE POST
	GS	GUIDE SIGN
	GT	GULLY TRAP
	GV	GAS VALVE
	HB	HOSE BOX/REEL
	HM	HYDRANT MARKER
U	MHU	MANHOLE UNKNOWN
	PLM	PALM TREE
	PIL	TELECOM PILLAR
	PKM	PARKING METER
	PSM	PERM. SURVEY MARK
V	SEV	SEWERAGE VENT
	SHB	SHRUB

SYM	CODE	DESCRIPTION
	SGN	SIGNS
I	SIO	INSPECTION OPENING
S	SM	SEWERAGE MANHOLE
	SN	STREET NAME SIGN
	SPR	SPRINKLER
	SPR	TREE
	SSV	STOP/SLUICE VALVE
	STN	SURVEY STATION
D	SW	STORMWTR. MANHOLE
	TAP	TAP
T	TE	TELECOM PIT
T	TM	TELECOM MANHOLE
	TOH	TRANSFORMER O/HEAD
	TP	TELEPHONE POLE
	TRL	TRAFFIC LIGHTS
	TRP	TRAFFIC PIT
	WAV	WATER AIR VALVE
	WCU	WATER END CAP
	WM	WATER METER
W	WMH	WATER MANHOLE
	WPR	WATER REDUCER
	WRV	WATER REFLUX VALVE
	WSP	WATER SAMPLE POINT
	WSV	WATER SCOUR VALVE
	WTE	WATER TEE JUNCTION
	WV	WATER VALVE
	WVM	WATER VALVE MARKER

Symbols shown are indicative only. The symbol size and orientation does not necessarily represent the real size or orientation of the feature.

- DRAINAGE PIPE U/G — SW
- DRAIN — D
- ELECT. CABLE A/G — E
- ELEC. CABLE U/G — E
- GAS PIPE — GAS
- FENCE LINE
- SEWERAGE PIPE — S
- TELSTRA CABLE — T
- WATER PIPE — W

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e: info@landpartners.com.au
w: www.landpartners.com.au

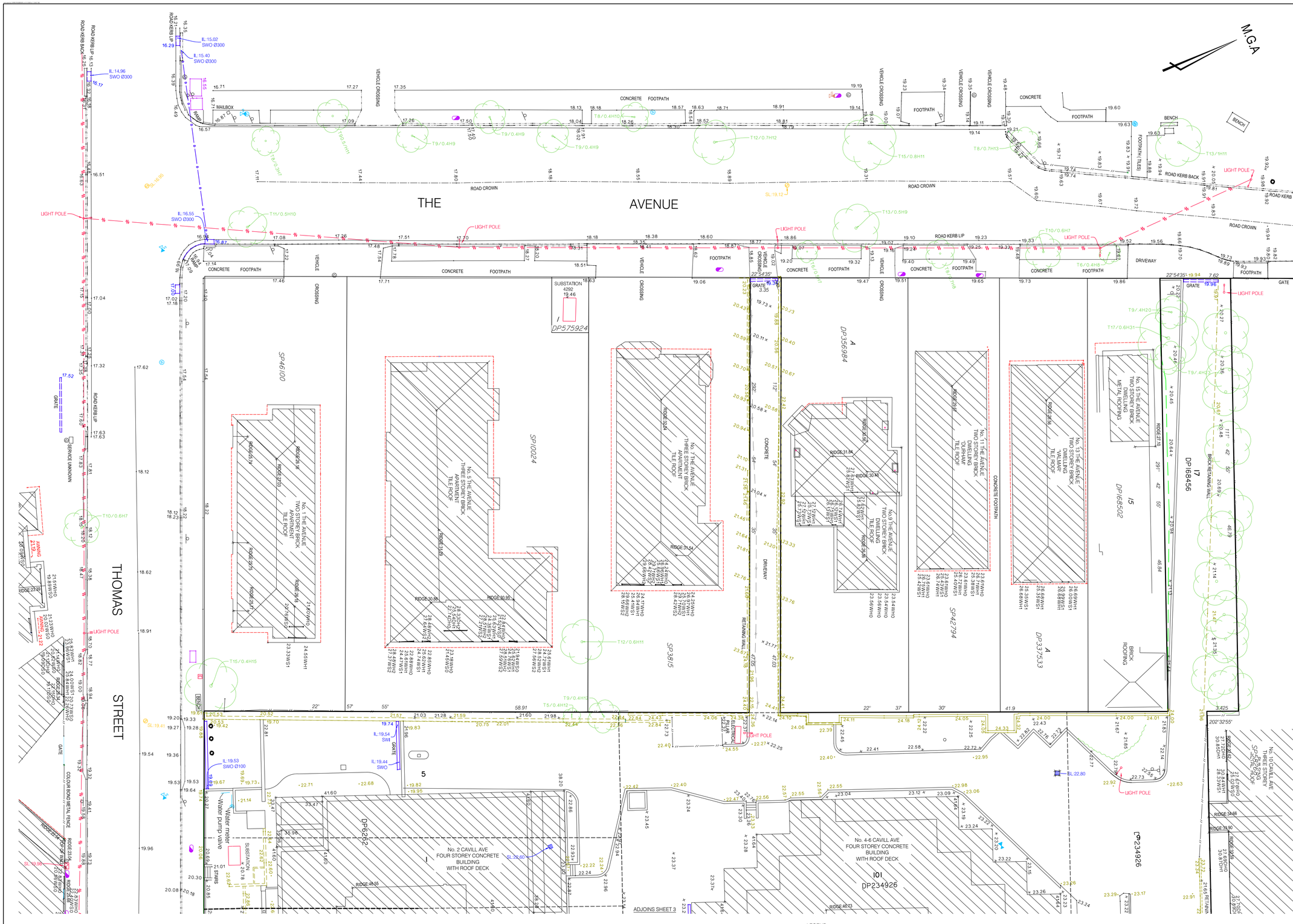
ISO 9001 Quality Management — ISO NO.: PL10063

LEVEL DATUM AHD D	LOCAL AUTHORITY INNER WEST COUNCIL
LEVEL ORIGIN SSM 125142 RL 31.34m	SCALE 1:300 (A1)
MERIDIAN MGA (Zone 56)	CONTOUR INTERVAL -
CO-ORD SYSTEM MGA (Zone 56)	DRAWN CMJ — DATE 16/01/2020
SURVEYOR BL/OE — DATE OF SURVEY 05/12/2019	CHECKED RL — DATE 21/01/2020
FIELD FILE SY074840-000-5-1	APPROVED RL — DATE 21/01/2020

UDN — SHEET 1 OF 6

SY074840-000-9-1

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TREE DETAIL

HEIGHT (m) ie 18 = 18m
TRUNK (m) ie 0.7 = 0.7m DIAMETER
SPREAD (m) ie 58 = 8m DIAMETER

TREE SYMBOLS ARE A TRUE REPRESENTATION OF THE SPREAD ie SYMBOL SIZE 2 (X - Y VALUE) = 2m SPREAD

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LEGEND

AWNING OR EAVE
BUILDING
BOTTOM OF WALL
CROWN OF ROAD
TREE EDGE
FENCE
GULLY PIT
KERB LIP
KERB AND CHANNEL INVERT
KERB TOP BACK
KERB TOP FRONT
LINE MARKING DOUBLE CONTINUOUS
LINE MARKING MISCELLANEOUS
ROOF RIDGE LINE
SURFACE LEVEL
STRUCTURE MISCELLANEOUS
TELECOMMUNICATIONS MANHOLE
TOP OF WALL
WATER PIPE ABOVE GROUND

DH DOOR HEAD
DS DOOR SILL
WH WINDOW HEAD
WS WINDOW SILL

2 0 4 8 14 20
SCALE 1:200

CLIENT

Shayher Alliance Pty Ltd

PROJECT

DETAIL SURVEY OF LOT 17 IN DP168456, LOT 9 IN DP940918, LOT 101 IN DP234926, LOTS 1, 2 & 5 IN DP6262, LOTS 1 & 2 IN DP556722 & LOT 1 IN DP971932

(No. 2-6 CAVILL AVENUE, ASHFIELD)

NOTES

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SYM	CODE	DESCRIPTION
	BM	BENCHMARK
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ECM		ELEC CABLE MARKER
	ELP	ELEC/LIGHT POLE
EM		ELECTRICAL PIT
	EP	ELECTRICITY POLE
	ESP	ELECTRICITY STAY POLE
FH		FIRE HYDRANT
FHP		FIRE HYDRANT PILLAR
	FP	FLAG POLE
GMH		GAS MANHOLE
GMK		GAS MARKER
GP		GUIDE POST
GS		GUIDE SIGN
GT		GULLY TRAP
GV		GAS VALVE
HB		HOSE BOX/REEL
HM		HYDRANT MARKER
MHU		MANHOLE UNKNOWN
PLM		PALM TREE
PIL		TELECOM PILLAR
PKM		PARKING METER
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SEV		SEWERAGE VENT
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SYM	CODE	DESCRIPTION
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	SN	STREET NAME SIGN
	SPR	SPRINKLER
	SPR	TREE
	SSV	STOP/SLUICE VALVE
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D	SW	STORMWTR. MANHOLE
	TAP	TAP
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T	TM	TELECOM MANHOLE
	TOH	TRANSFORMER O/HEAD
	TP	TELEPHONE POLE
	TRL	TRAFFIC LIGHTS
	TRP	TRAFFIC PIT
	WAV	WATER AIR VALVE
	WCU	WATER END CAP
	WM	WATER METER
W	WMH	WATER MANHOLE
	WPR	WATER REDUCER
	WRV	WATER REFLUX VALVE
	WSP	WATER SAMPLE POINT
SCV	WSV	WATER SCOUR VALVE
	WTE	WATER TEE JUNCTION
	WV	WATER VALVE
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DRAINAGE PIPE U/G
DRAIN
ELECT. CABLE A/G
ELEC. CABLE U/G
GAS PIPE
FENCE LINE
SEWERAGE PIPE
TELSTRA CABLE
WATER PIPE

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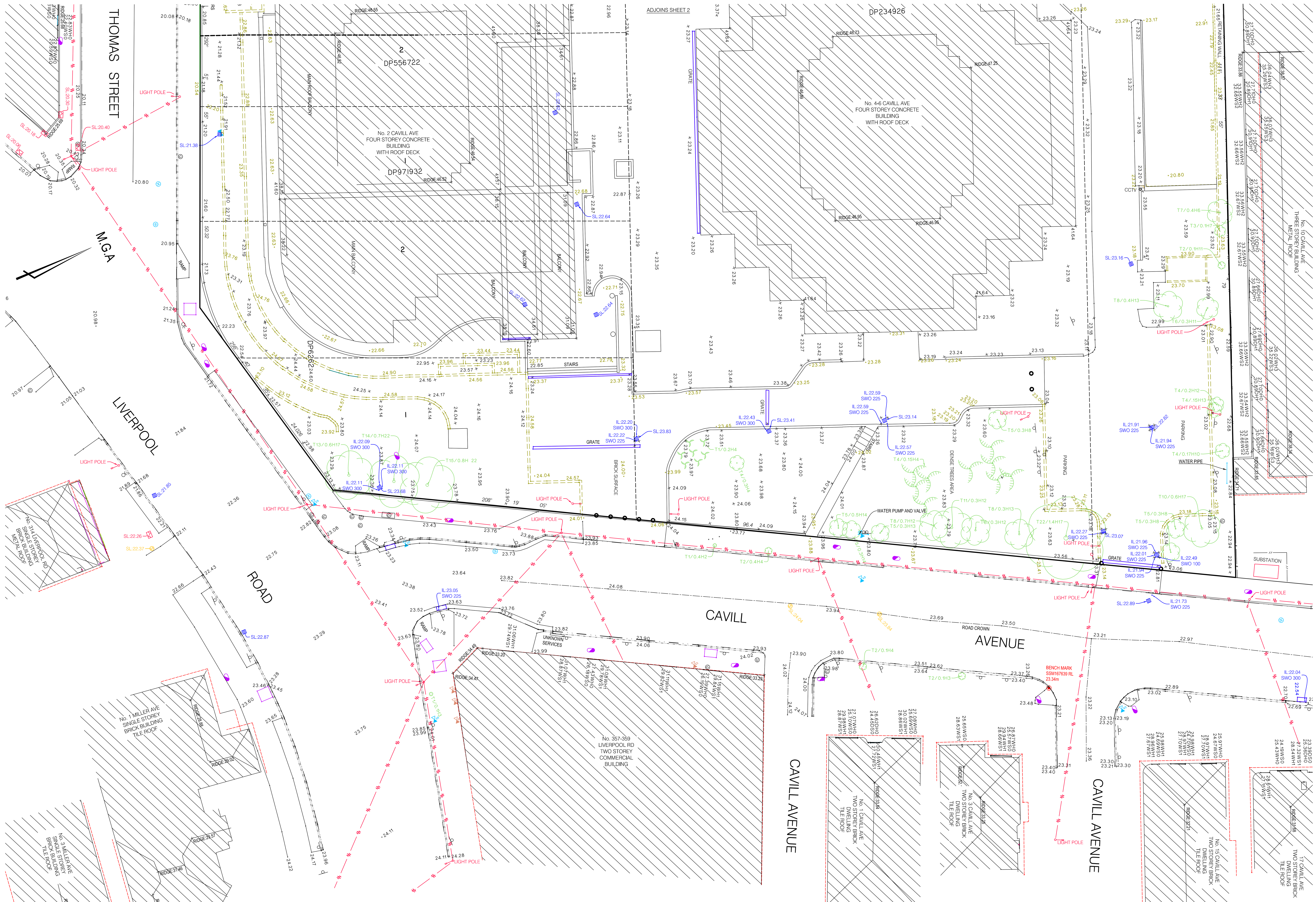
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ISO 9001 Quality Management ISO 9001: FS 72000

LEVEL DATUM AHD D	LOCAL AUTHORITY INNER WEST COUNCIL
LEVEL ORIGIN SSM 125142 RL 31.34m	SCALE 1:200 (A1)
MERIDIAN MGA (Zone 56)	CONTOUR INTERVAL -
CO-ORD SYSTEM MGA (Zone 56)	DRAWN CMJ / DATE 16/01/2020
SURVEYOR BL/OE / DATE OF SURVEY 05/12/2019	CHECKED RL / DATE 21/01/2020
FIELD FILE SY074840-000-5-1	APPROVED RL / DATE 21/01/2020
UDN	SHEET 2 OF 6

SY074840-000-9-1

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TREE DETAIL

T15/0.7/18
— HEIGHT (m) ie 18 = 18m
— TRUNK (m) ie 0.7 = 0.7m DIAMETER
— SPREAD (m) ie S8 = 8m DIAMETER

TREE SYMBOLS ARE A TRUE REPRESENTATION OF THE SPREAD
ie SYMBOL SIZE 2 (X - Y VALUE) = 2m SPREAD

2m DIAMETER SPREAD

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SHB	SHRUB	WVM	WATER VALVE MARKER

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ELECT. CABLE A/G
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FENCE LINE
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TELSTRA CABLE
WATER PIPE

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ISO 9001: FS 535063

LEVEL DATUM AHD D	LOCAL AUTHORITY INNER WEST COUNCIL
LEVEL ORIGIN SSM 125142 RL 31.34m	SCALE 1:200 (A1)
MERIDIAN MGA (Zone 56)	CONTOUR INTERVAL -
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FIELD FILE SY074840-000-5-1	APPROVED RL — DATE 21/01/2020

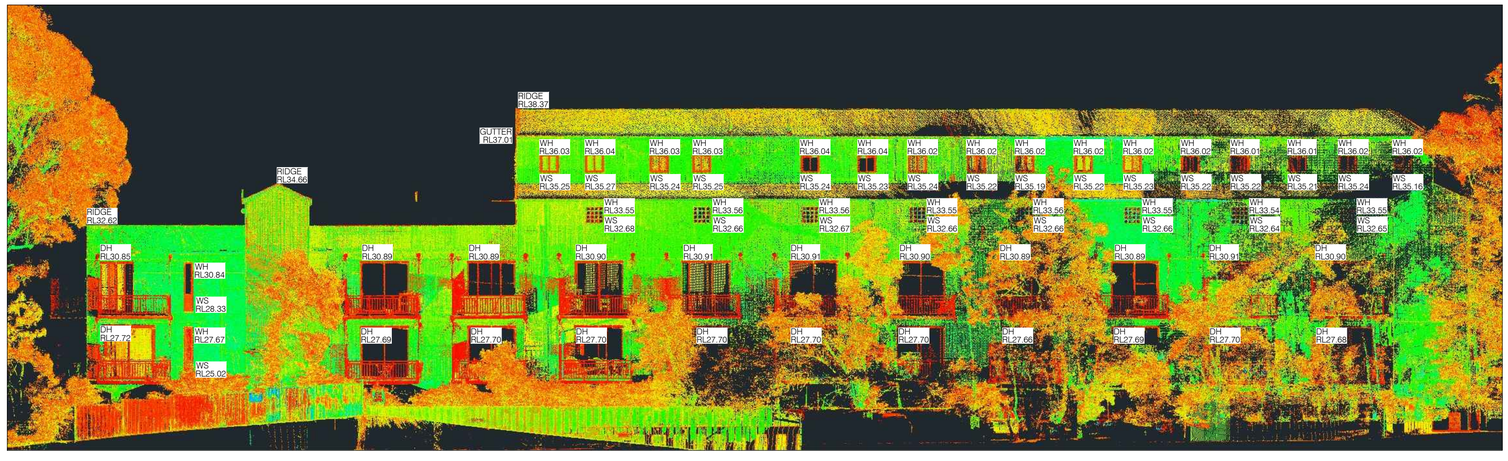
UDN
SHEET 3 OF 6
SY074840-000-9-1

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1, 3, 15 & 17 CAVILL AVENUE
(VIEW FROM CAVILL AVENUE)



8-10 CAVILL AVENUE
(VIEW FROM SOUTH)



CLIENT

Shayher Alliance Pty Ltd

PROJECT

DETAIL SURVEY
OF
LOT 17 IN DP168456, LOT 9 IN DP940918, LOT 101 IN DP234926, LOTS 1, 2 & 5 IN DP6262, LOTS 1 & 2 IN DP556722 & LOT 1 IN DP971932
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ELEC. CABLE U/G — E
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FENCE LINE
SEWERAGE PIPE — S
TELSTRA CABLE — T
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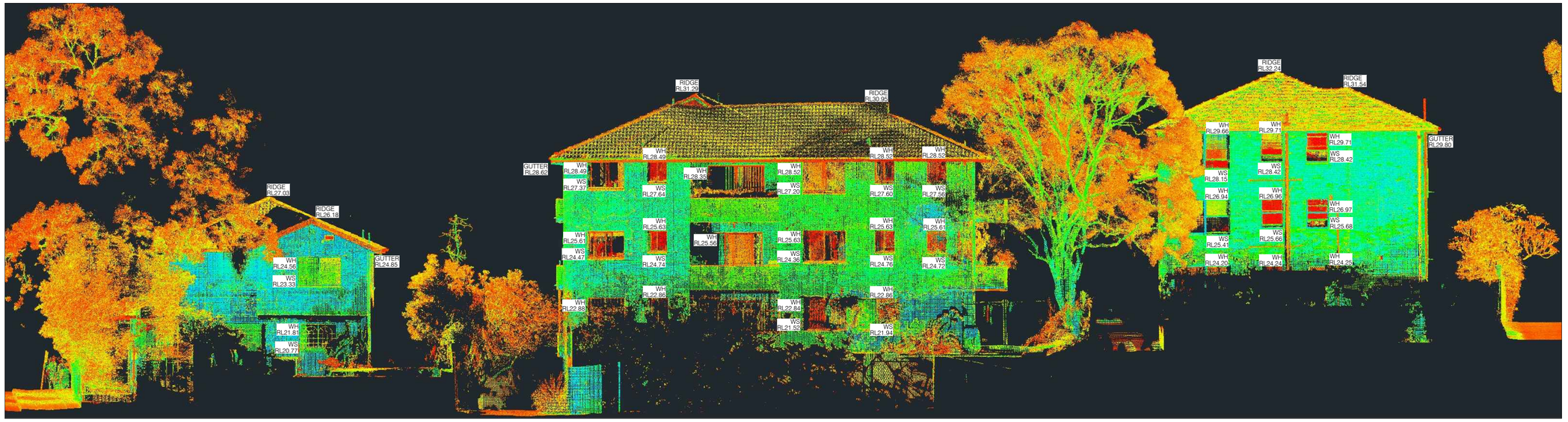
ISO 9001 Quality Management
SAI Global ID No. AS 52843

LEVEL DATUM AHD D	LOCAL AUTHORITY INNER WEST COUNCIL
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UDN	SHEET 4 OF 6

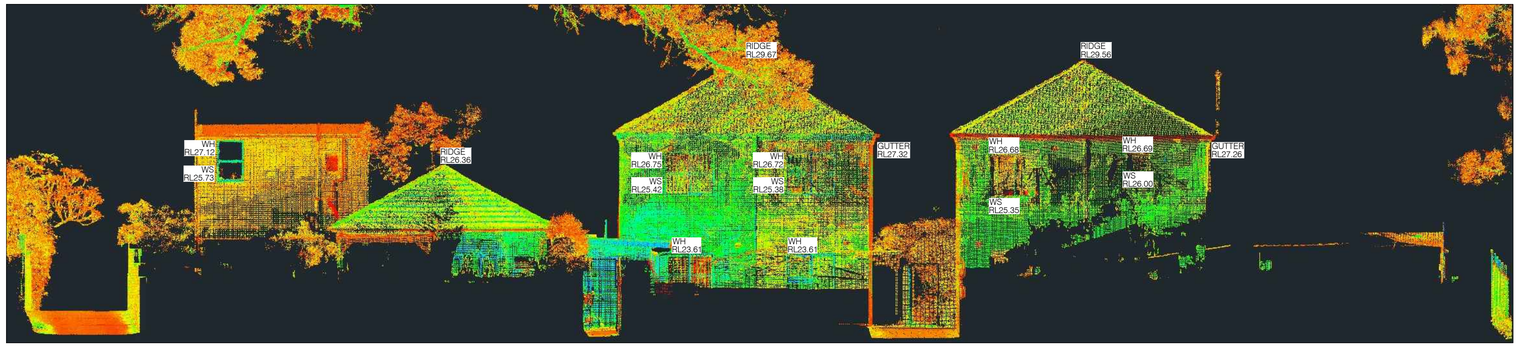
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1, 5 & 7 THE AVENUE
(VIEW FROM EAST)



9, 11, 13 & 15 THE AVENUE
(VIEW FROM EAST)



CLIENT

Shayher Alliance Pty Ltd

PROJECT

DETAIL SURVEY
OF
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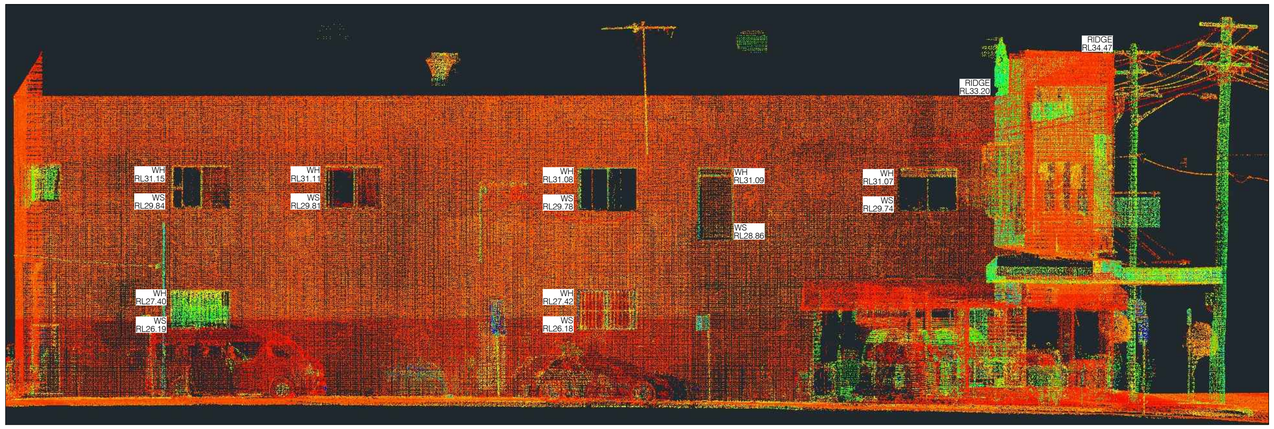
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SAI Global Pty Ltd

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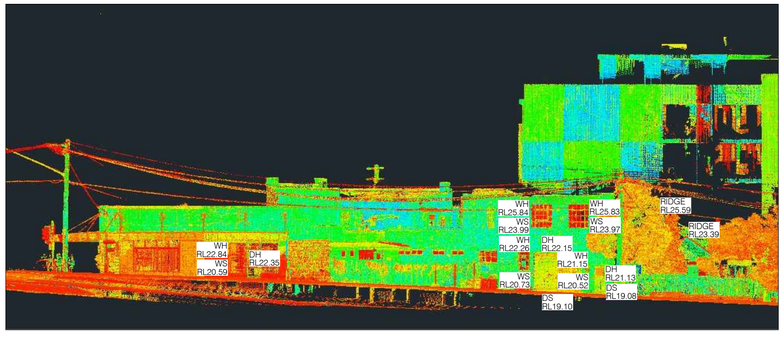
SY074840-000-9-1

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357 LIVERPOOL ROAD
(VIEW FROM CAVILL AVENUE)



361-365 & 367 LIVERPOOL ROAD
2B THOMAS STREET
(VIEW FROM THOMAS STREET)



CLIENT

Shayher Alliance Pty Ltd

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TELSTRA CABLE	T
WATER PIPE	W

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ISO 9001 Quality Management
ISO Nos. FS 528647

LEVEL DATUM AHD D	LOCAL AUTHORITY INNER WEST COUNCIL
LEVEL ORIGIN SSM 125142 RL 31.34m	SCALE
MERIDIAN MGA (Zone 56)	CONTOUR INTERVAL -
CO-ORD SYSTEM MGA (Zone 56)	DRAWN CMJ / DATE 16/01/2020
SURVEYOR BL/OE / DATE OF SURVEY 05/12/2019	CHECKED RL / DATE 21/01/2020
FIELD FILE SY074840-000-5-1	APPROVED RL / DATE 21/01/2020
UDN	SHEET 6 OF 6

SY074840-000-9-1

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Appendix XIV – Groundwater Well Development

LAWRENCE CONSULTING GROUP

03/11/2020

ADE Consulting Group Pty Ltd
Unit 6/7 Millenium Ct.
Silverwater, NSW 2128

Attention: **Syed Shah**

RE: Monitoring Wells Survey at 2-6 Cavill Ave, Ashfield NSW 2131

Please find below table of the monitoring wells and borehole that have been surveyed on 02nd November 2020 at 2-6 Cavill Avenue, Ashfield. The method used to acquire this information is through GPS (RTK) and Total Station (TS) and is based on the Map Grid of Australia (MGA 94) and the Australian Height Datum (AHD).

Monitoring Well/Borehole ID	Eastings	Northings	Top of Casing RL	Ground Surface RL
MW03 (BH20)	326270.075	6248835.621	22.942	22.939
MW01	326230.594	6248750.568	19.527	19.581
MW02 (BH13)	326312.850	6248775.389	24.099	24.056
BH19	326257.765	6248819.327		22.560

If further information is required, please do not hesitate to contact us.

Thank you.

Surveyed/Processed by:

CHRISTOPHER ATIENZA
Senior Surveyor

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Well Purging Field Data Sheet

Client: Shayher Group Job No. STC-1858-18526 Sheet 1 of 2

Location: 2-6 Carill Avenue/1-9 Thomas Street, Ashfield. Monitoring Well: MW1

SWL- 6.7m
Total Depth- 10.0 m
Water column- 3.3m

Well Purging - Field Parameter data	Purging Criteria								
Volume removed	-	5 L	10 L	15L	20L	25L	30L	35L	40L
Time	-	1010	1013	1019	1028	1035	1048	1055	1100
Dissolved oxygen (%)	± 10%	65.2	64.8	59.3	59.8	63.4	62.8	60.1	58.1
Electrical conductivity	± 3%	1451	1401	1440	1449	1453	1440	1445	1448
pH	± 0.05	5.91	5.8	5.9	5.9	5.8	5.7	5.9	5.9
Redox (add 199 to your reading as per YPS 90FLMV introductions - insde case lining)	± 10 mV	83.0	79.3	85.2	84.1	82.1	83.1	81.9	81.0
Temperature	-	18.1	18.1	18.0	18.0	17.9	17.8	17.9	17.9
Well Purging - Field Parameter data	**Purging Criteria**								
Volume removed	-								
Time	-								
Dissolved oxygen	± 10%								
Electrical conductivity	± 3%								
pH	± 0.05								
Redox (add 199 to your reading as per YPS 90FLMV introductions - insde case lining)	± 10 mV								
Temperature	-								
Observations									
Odour/sheen present?									
Colour of sediment in GW, if present									
Standing water level									
Depth of well									
LNAPL / DNAPL Phase (thickness)									
PID reading									
Conditions of gatic / box									

Well Purging Field Data Sheet

Client: Shrayher Group | Job No. STC-1858-18526 | Sheet 2 of 2

SWL - 5.43m
Total Depth - 7.90m
Water column - 2.47m

Location: 2-6 Covill Avenue / 1-9 Thomas Street, Ashfield. | Monitoring Well: MW2/BH13

Well Purging - Field Parameter data	Purging Criteria								
Volume removed	-	1300	1305	1310	1315	1320	1325	1330	1335
Time	-	5L	10L	15L	20L	25L	27L	30L	35L
Dissolved oxygen (%)	± 10%	62.1	64.8	71.6	77.6	72.3	75.0	71.6	68.9
Electrical conductivity	± 3%	737	520.2	480.2	300.3	299.9	321.1	390.2	892.7
pH	± 0.05	5.3	5.2	4.93	4.64	4.65	4.82	4.83	4.83
Redox (add 199 to your reading as per YPS 90FLMV introductions - insde case lining)	± 10 mV	134.4	116.0	116.2	157.4	160.0	165.9	167.1	167.8
Temperature	-	20	20.2	20.3	20.9	20.9	20.9	20.9	21.0
Well Purging - Field Parameter data	**Purging Criteria**								
Volume removed	-								
Time	-								
Dissolved oxygen	± 10%								
Electrical conductivity	± 3%								
pH	± 0.05								
Redox (add 199 to your reading as per YPS 90FLMV introductions - insde case lining)	± 10 mV								
Temperature	-								
Observations									
Odour/sheen present?									
Colour of sediment in GW, if present									
Standing water level									
Depth of well									
LNAPL / DNAPL Phase (thickness)									
PID reading									
Conditions of gatic / box									

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SOLUTIONS THROUGH INNOVATION

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