

INFORMATION REGARDING ENVIRONMENTAL AUDIT REPORTS

August 2007

VICTORIA'S AUDIT SYSTEM

An environmental audit system has operated in Victoria since 1989. The *Environment Protection Act 1970* (the Act) provides for the appointment by the Environment Protection Authority (EPA Victoria) of environmental auditors and the conduct of independent, high quality and rigorous environmental audits.

An environmental audit is an assessment of the condition of the environment, or the nature and extent of harm (or risk of harm) posed by an industrial process or activity, waste, substance or noise. Environmental audit reports are prepared by EPA-appointed environmental auditors who are highly qualified and skilled individuals.

Under the Act, the function of an environmental auditor is to conduct environmental audits and prepare environmental audit reports. Where an environmental audit is conducted to determine the condition of a site or its suitability for certain uses, an environmental auditor may issue either a certificate or statement of environmental audit.

A certificate indicates that the auditor is of the opinion that the site is suitable for any beneficial use defined in the Act, whilst a statement indicates that there is some restriction on the use of the site.

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Report executive summaries, findings and recommendations should be read and relied upon only in the context of the document as a whole, including any appendices and, where applicable, any certificate or statement of environmental audit.

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Web: www.epa.vic.gov.au/envaudit

Email: environmental.audit@epa.vic.gov.au



Environmental Audit Report

Lot 3 on PS802507
14 Hamlet Street,
Cheltenham, VIC 3192

28 February 2020

CARMS # 74971-2 / Service Order #8005307

Lot 3, 14 Hamlet Street, Cheltenham, VIC, 3192

Maple Auditing Ref: MA114.R02

Prepared for:

Chandos Bay Pty Ltd
144 Church Street
Brighton, VIC 3186

Prepared by:

Maple Auditing Pty Ltd
PO Box 7095, Upper
Ferntree Gully, VIC 3156

ABN 39624505086

Written by:



Timothy Kent Russell
Environmental Auditor
(Appointed Pursuant to the Environment Protection Act 1970)

Date: 28 February 2020
Report Status: Final
Report Ref: MA114.R02

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Abbreviations

ANZECC	Australian and New Zealand Environment and Conservation Council
ATMA	ATMA Environmental Pty Ltd
BaP	Benzo(a)pyrene
Bgl	Below ground level
BTEX	Benzene, Toluene, Ethyl benzene and Xylenes
C_6-C_{36}	Hydrocarbon chain length fraction
Coffey	Coffey Environments Pty Ltd
CUTEP	Clean Up to the Extent Practicable
1,1 DCE	1,1-dichloroethene
1,1 DCA	1,1-dichloroethane
1,2 DCE	1,2-dichloroethene
1,2 DCA	1,2-dichloroethane
EIL	Ecological Investigation Level
enRiskS	Environmental Risk Sciences
EPA Victoria	Victorian Environment Protection Authority
ESL	Ecological Screening Level
Groundwater SEPP	State Environment Protection Policy (Groundwaters of Victoria)
HIL	Health Investigation Level
HSL	Health Screening Level
IWRG	Industrial Waste Resource Guidelines
Land SEPP	State Environment Protection Policy (Prevention and Management of Contamination of Land)
LOR	Limit of Reporting
Maple	Maple Auditing Pty Ltd
µg/L	micrograms per litre
MoE	Maintenance of Ecosystems
mbgl	metres below ground level
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
mg/m3	milligrams per cubic meter

MW	Monitoring Well
NATA	National Association of Testing Authorities
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
OCP	Organochlorine Pesticide
OPP	Organophosphorus Pesticide
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethene
PCR	Primary Contact Recreation
PID	Photoionisation Detector
PW	Potable Water (Desirable)
QA	Quality Assurance
QC	Quality Control
RPD	Relative Percent Difference
RL	Reduced Level
SEPP	State Environment Protection Policy (Waters)
SW	Stock Watering
TCE	Trichloroethylene
TDS	Total Dissolved Solids
TRH	Total Recoverable Hydrocarbon
1,1,1 TCA	1,1,1-trichloroethane
VCH	Volatile Chlorinated Hydrocarbon

Executive Summary

Mr Timothy Kent Russell of Maple Auditing Pty Ltd (Maple), an Environmental Auditor (Contaminated Land) appointed pursuant to the Environment Protection Act 1970 (Section 53S, Part IXD), was requested by Mr Andrew Johnston of Chandos Bay Pty Ltd (Chandos) on 24 February 2017 to undertake an Environmental Audit of the parcel of land located at Lot 3, 14 Hamlet Street, Cheltenham, Victoria (the site).

The site was part of the larger former Nuplex site located at 222-228 Bay Rd, Cheltenham. The former Nuplex site was subdivided into 4 lots (Lots 1-4) for the purposes of site divestment and Environmental Audit works. The subject site for this Audit report is Lot 3 of the former Nuplex site. For the purposes of this Audit the site is known as Lot 3.

Chandos Bay were the owners of the site at the commencement of the Audit, however in December 2018 ownership passed to the current site owner, The Bare Button Pty Ltd. Responsibility for completion of the Environmental Audit was retained by Chandos.

ARC Environmental (ARC) were engaged by Chandos to complete environmental assessment works to support the audit.

This report has been prepared in accordance with Section 53X of the Environment Protection Act and other Victorian Environment Protection Authority (EPA) guidelines and should be read in conjunction with the existing environmental assessment report(s). Further details pertaining to the site are provided in Executive Table 1 below.

Executive Table 1 Summary of Audit Information

Auditor	Timothy Kent Russell
Auditor account number	75649
Auditor appointment end date	28 March 2019 to 27 March 2024
Auditor's appointment category	Contaminated Land
Audit Type	53X
Date EPA notified of audit	24 / 02 / 2017
Audit service order number	8005307 (CARMS 74971-2)
Name of person requesting audit	Andrew Johnston Chandos Bay Pty Ltd
Relationship of person requesting audit to site	Chandos Bay were the owners of the site at the commencement of the Audit, however in December 2018 ownership passed to the current site owner, The Bare Button Pty Ltd. Responsibility for completion of the Environmental Audit was retained by Chandos Bay.
Name of premises owner	The Bare Button Pty Ltd
Date of auditor engagement	21 / 02 / 2017
Completion date of the audit	28 / 02 / 2020
Reason for Audit	Current requirement of the Clean Up Notice (#90007752)

Audit Categorisation	Risk
Environmental Segments	Air, Land, Groundwater, Surface water
If the audit was required by an EPA notice, licence or other, please provide EPA reference number	As noted, the audit is current requirement of the Clean Up Notice (#90007752)
Current land use zoning	Commercial 2 Zone (C2Z)
EPA Region	Southern Metro
Municipality	Bayside Council
Dominant Lot on title plan	Lot 3 on Plan of Subdivision PS802507 (Volume 11973 and Folio 118)
Additional Lot on title plan(s)	N/A
Site/Premises name	N/A
Building/complex sub-unit/lot No.	Lot 3
Street/Lot – Lower No.	14
Street/Lot – Upper No.	N/A
Street Name	Hamlet
Street type (road, court, etc.)	Street
Street suffix (North, South etc.)	N/A
Suburb	Cheltenham
Postcode	3192
GIS Coordinate of Site centroid	GDA94 – Latitude/Longitude in decimal degrees
Latitude (GDA94)	-37.957398
Longitude (GDA94)	145.040744
Site area (in square metres)	1,137 m^2
Plan of site/premises showing the audit site boundary attached	Yes
Plan of site/premises showing the audit site boundary attached in a spatial data format	No
Members and categories of support team utilised	Michael Blackam from Coffey Environments - Hydrogeology and Fate and Transport Karen Teague of Coffey Environments - Human Health and Ecological Risk Assessment)
Further works or requirements	The site must be developed in accordance with the proposed development plans provided within Appendix C of this report.

	Any landscaped area or garden bed must be constructed and maintained with at least 0.5m thickness of soil below the finished surface, which is demonstrated to be suitable for the site and consistent with EPA Publication IWRG 621. Groundwater at the site is polluted and is not suitable for any beneficial use. Groundwater must not be used for any beneficial use without prior testing and review of results by a suitably qualified professional to confirm its suitability for the proposed use. It may be extracted for the purpose of environmental monitoring or remediation.
Nature and extent of continuing risk	Concentrations of cobalt, copper, lead, manganese, zinc, TRH F2, TCE and chromium VI were present in soil at the site which present a potential ecological risk. Concentrations of cobalt, lead, TRH F1, TRH F2 and TCE may also present a human health risk in an unrestricted use of the site. 'Aesthetics' is also considered to be precluded due to the presence of anthropogenic inclusions in fill and hydrocarbon odours and/or staining in soil at the site. The site in its current condition precludes or potentially precludes one or more beneficial uses of land in the context of unrestricted land use and therefore the Auditor is unable to issue a Certificate of Environmental Audit for the site. However, in the context of the proposed commercial development where the site is developed in accordance with the proposed development plans (provided within Appendix C) and with a requirement of a minimum of 0.5m of 'clean fill' be placed below the finished surface in all landscaped areas or garden beds directly over existing site soils, all relevant beneficial uses are considered to be protected. With the inclusion of Statement Conditions (see Appendix A), the site is considered to be suitable for the proposed commercial development. The Statement of Environmental Audit is provided in Appendix A. Groundwater at the site is polluted with benzene, ethylbenzene, arsenic (considered to be sourced from the site), and trichloroethene, tetrachloroethene, cis 1,2 dichloroethene, 1,1 dichloroethane, 1,1 dichloroethene, 1,2 dichloroethane, 1,1,2 trichloroethane, carbon tetrachloride, vinyl chloride, 1,2 dichlorobenzene, 1,4 dichlorobenzene, chloroform, dichloromethane, trihalomethanes, TRH C6-C10, cobalt, iron, manganese, nickel, mercury, lead, ammonia, nitrate, nitrite and fluoride considered to be sourced from an off-site source . Groundwater at the site is polluted and is not suitable for any beneficial use. Groundwater must not be used for any beneficial use without prior testing and review of results by a suitably qualified professional to confirm its suitability for the proposed

<table>
<tr><td></td><td>use. It may be extracted for the purpose of environmental monitoring or remediation.

The site has been declared to be within a Groundwater Quality Restricted Use Zone (GQRUZ) (as per the EPA GQRUZ Map attached to the Statement of Environmental Audit in Appendix A of this report).</td></tr>
<tr><td>Outcome of the audit</td><td>Statement of Environmental Audit</td></tr>
<tr><td>Has EPA determined CUTEP at this site?</td><td>Yes</td></tr>
<tr><td>Has the Auditor determined CUTEP at this site?</td><td>The Auditor agrees with EPA’s determination that CUTEP has been achieved.</td></tr>
<tr><td>Has a GQRUZ been identified at the site/beyond the site by EPA?</td><td>Yes – the site has been declared as being within a GQRUZ.</td></tr>
<tr><td>Does NAPL remain at the site?</td><td>No measurable NAPL has been observed in any well at the Lot 3 site. However, concentrations indicative of potential DNAPL considered to be sourced from off-site (i.e. from Lot 2) were reported within wells located on Lot 3.</td></tr>
<tr><td>Please indicate which of the Protected Beneficial Uses of groundwater are precluded due to pollution</td><td>e.g. including site-sourced and regional pollution.
<table>
<tr><th>Protected Use</th><th>Precluded?</th></tr>
<tr><td>Water Dependent Ecosystems and Species</td><td>Yes</td></tr>
<tr><td>Potable Water Supply (Desirable)</td><td>Yes</td></tr>
<tr><td>Potable Water Supply (Acceptable)</td><td>N/A</td></tr>
<tr><td>Potable Mineral Water Supply</td><td>N/A</td></tr>
<tr><td>Agriculture and Irrigation (irrigation)</td><td>Yes</td></tr>
<tr><td>Agriculture and irrigation (stock watering)</td><td>Yes</td></tr>
<tr><td>Industrial and commercial</td><td>Yes</td></tr>
<tr><td>Water based recreation (primary contact recreation)</td><td>Yes</td></tr>
<tr><td>Traditional Owner cultural values</td><td>Yes</td></tr>
<tr><td>Cultural and spiritual values</td><td>Yes</td></tr>
<tr><td>Buildings and Structures</td><td>No</td></tr>
<tr><td>Geothermal properties</td><td>N/A</td></tr>
</table></td></tr>
<tr><td>Historical land use</td><td>The site history review identified that the site (and the remainder of the former Nuplex facility) was owned by a grazier until the area was subdivided in the 1940s.</td></tr>
</table>

	Historical titles indicate that the site was owned by sheet metal workers in 1950 and was likely used for sheet metal works until approximately 1974. Between 1974 and 1983 the site appears to have been used for various commercial/industrial uses however no specific details are available. In 1981 the remainder of the wider Nuplex facility was purchased by Searle Australia, then to Clyde Industries in 1983. In 1983, ownership of Lot 3 was transferred to Sixteenth Eternity Pty Ltd. In 1992, Clyde Industries also acquired Lot 3 and consolidated the titles of the four lots. Asia Pacific Specialty Chemicals (APS) then owned the site between 1997-2017. It is noted that APS was acquired by Nuplex in 2002, hence reference of the wider site as the 'former Nuplex facility'. It is noted that operations of the site (and the wider Nuplex site) under Searle Australia, Clyde Industries, APS Chemicals and Nuplex was for the manufacture of a variety of chemicals, including lubricants, resins and polymer stabilisers. Most recently Nuplex used the wider Nuplex site for the storage and distribution of chemicals. The portion of the site known as Lot 3 was used as an office and for storage. It known that Lot 3 has historically been referred to as "the Button Factory" although the reason for this name is not known as no evidence is available to suggest use as such. Chandos Bay acquired the site in January 2017 and The Bare Button acquired the site in December 2018. The site has remained vacant since at least the commencement of the January 2017.
Current land use	At the commencement of the Audit the site was vacant with the infrastructure of the building remaining in place, but most below ground infrastructure and infrastructure within the building having been removed. One below ground TIT remained in place. At the completion of the Audit, the site remained vacant and unoccupied. The proposed development was occurring within the existing building structure. The below ground TIT had been removed and validated.
Proposed future land use	Commercial use (with a caretaker's residence on the first floor)
Surrounding land use – north	An electrical substation and Lots 1, 2 and 4 within the remainder of the former Nuplex Facility, beyond which is Bay Road with commercial properties on the northern side of Bay Road including the Rietmans Business Park (formerly a nursery) and a carwash facility (Ezy Bay Wash).
Surrounding land use – south	Commercial warehouse used as an Art Studio, DSK Engineering (steel fabrication with a UST onsite) and SK partitions (manufacturer).

Surrounding land use – east	MGB Hive (auto technician), WD Toolmaking and McLeod Trees (arboriculture business), beyond which is Chandos Street and the Laminex industrial facility on the eastern side of Chandos Street
Surrounding land use – west	Hamlet Street, beyond which are commercial and light industrial properties including Austral Injections (plastics injection moulding facility).
Proposed land use zoning	Commercial 2 Zone (no known proposed change to current zoning)
Nearest surface water receptor – name	Port Phillip Bay
Nearest surface water receptor – distance (m)	2,700
Nearest surface water receptor – direction	Southwest and west
Likely point of groundwater discharge	Port Phillip Bay
Site aquifer formation	Brighton Group Aquifer
Groundwater flow direction	West to southwest
Groundwater TDS range (mg/L)	184 – 3,853
Groundwater Segment	A1
Are there multiple aquifers impacted by pollution at the site	No
Perched groundwater depth – upper (metres below ground level (mbgl))	N/A
Perched groundwater depth – lower (mbgl)	N/A
Regional groundwater depth – upper (mbgl)	9.47
Regional groundwater depth – lower (mbgl)	10.69
Number of bores within 2 km	298
Closest extractive use (distance in m)	95 m south-east (domestic and stock)
Zone of groundwater plume influence (m from site boundary)	Unlikely to extend a distance greater than approximately 10m beyond the site boundary.
Year groundwater last monitored	2019

Have you attached electronic copies of Current Groundwater Analytical Results presented as a summary table?	Yes

1 Introduction

The site located at Lot 3, 14 Hamlet Street, Cheltenham, Victoria 3192, has been the subject of a Statutory Environmental Audit (Audit), by Mr Timothy Kent Russell of Maple Auditing, an Auditor appointed by the Environment Protection Authority (EPA) of Victoria under the 1970 Environment Protection Act (the Act) in the category of Contaminated Land. He was initially appointed as an Environmental Auditor on 15 September 2009 and is currently appointed from 28 March 2019 to 27 March 2024.

The site was part of the larger former Nuplex site located at 222-228 Bay Rd, Cheltenham. The former Nuplex site was subdivided into 4 lots (Lots 1-4) for the purposes of site divestment and Environmental Audit works. The subject site for this Audit report is Lot 3 of the former Nuplex site. For the purposes of this Audit the site is known as Lot 3.

The site owner, The Bare Button, is currently redeveloping the site for commercial use (with a caretaker residence also included on the first floor). Completion of the Environmental Audit is being conducted to meet requirements of CUN 90007752 (attached as Appendix A of 2019 ARC DSI, Appendix C of the CUTEP (Appendix D of the audit report)).

The Victorian Environment Protection Authority (EPA Victoria) was formally advised of the intended Audit on 24 February 2017, following the auditor's engagement on 21 February 2017 by Mr Andrew Johnston of Chandos Bay Pty Ltd, the site owner at the time of the commencement of the Audit. Site ownership transferred from Chandos Bay Pty Ltd to The Bare Button Pty Ltd in December 2018, however responsibility for completion of the Audit was retained by Chandos Bay.

ARC Environmental Pty Ltd (ARC) was engaged to conduct the environmental site assessment works in support of the Audit. Evolution Environmental Consulting (EEC) and HydroTerra also conducted certain environmental assessment works in the months leading up to the commencement of the Audit and during the Audit. Prior to the commencement of the Audit, environmental site assessment works were undertaken for the entire former Nuplex facility (i.e. Lots 1, 2, 3 and 4) between 2001 and 2015 by Environmental Resources Management (ERM), Kilpatrick & Associates (Kilpatricks), SMEC and GHD Pty Ltd (GHD).

It is also noted that works undertaken between 2007 and 2011 were completed as part of a 53V Environmental Audit Report undertaken by Lane Piper. Reference and consideration was given to the conclusions and recommendations within the 53V Environmental Audit Report where they relate to Lot 3.

As required under the Act, an Environmental Audit Report shall include the following:

- An evaluation of the environmental quality of the relevant segment of the environment (as per S53X (d) (i));
- An assessment of whether the condition of the site is detrimental or potentially detrimental to the beneficial uses of the site or any other segment of the environment;
- An assessment of whether any clean-up is required to that segment of the environment (as per S53X (d) (ii)); and
- If any clean-up is necessary, any recommendations relating to the carrying out of the clean-up (as per S53X (d) (iii)).

When evaluating the above, the Auditor must have regard to the following:

- Any relevant Regulations, State Environment Protection Policy (SEPP) or Industrial Waste Management Policy.
- Any guidelines issued by the EPA Victoria for the purposes of the Act.

- The National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1) (NEPM 2013).

Depending on the outcome of the Environmental Audit process, the Auditor is then required to issue a Certificate of Environmental Audit (S53Y of the Act), or if the Auditor considers that the site is detrimental or potentially detrimental to one or more beneficial uses of the site, issue a Statement of Environmental Audit (S53Z of the Act) indicating the beneficial uses for which the site is suitable, pending future clean-up to achieve a Certificate of Environmental Audit.

1.1 Purpose of the Environmental Audit

The Environmental Audit was required to meet requirements of CUN 90007752.

The purpose of this Audit is to determine if the site is suitable for 'any beneficial use' and in doing so, determining the site's suitability for the proposed commercial development.

1.2 Audit Area

The Audit area covers approximately 1,137 square metres (m^2) and comprises all of the property known as Lot 3, 14 Hamlet Street, Cheltenham, Victoria, 3192, defined as Lot 3 on Plan of Subdivision PS802507 (Volume 11973 and Folio 118).

The site is currently zoned Commercial 2 Zone (C2Z). A copy of the current Certificate of Title and available Planning Property Reports are presented in Appendix B of this report.

1.2.1 Site Condition at Commencement of Audit

At the commencement of the Audit the site was vacant with the infrastructure of the building remaining in place, but most below ground infrastructure and infrastructure within the building having been removed. One below ground TIT remained in place.

The entire site was covered by the footprint of the building with the exception of a grassed garden bed easement along the western side of the site.

1.2.2 Site Condition at Completion of Audit

At the completion of the Audit, re-development of the site for the proposed used was underway. The proposed development was occurring within the existing building structure. The below ground TIT had been removed and validated.

Figure 1 presents a site location plan and Figure 2 presents a site plan showing the site layout (and all sample locations).

1.3 Proposed Site Development

It is understood that the site owner, The Bare Button Pty Ltd, is redeveloping the site for a commercial land use comprising a gallery and café within the existing site building with no significant alterations to the existing building proposed. It is noted that a caretaker residence is also included on the first floor of the proposed development.

A copy of the proposed development plans is provided as Appendix C of this report.

2 Background

2.1 Site Details

A summary of the site details is provided in the Executive Summary.

2.2 Information Referenced by the Auditor

2.2.1 Legislation

In preparing this report the following legislation has been considered:

- Environment Protection Act 1970.
- Environment Protection (Industrial Waste Resource) Regulations 2009.
- State Environment Protection Policy (Prevention and Management of Contamination of Land), June 2002. ("the Land SEPP") (Variation No. G39 Gazette, 26 September 2013).
- State Environment Protection Policy (Waters), October 2018 ("the Water SEPP").

2.2.2 Guidelines, Standards and Codes of Practice

In preparing this report the following guidelines, standards and codes of practice have been considered:

- National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1), April 2013 ("the NEPM").
- EPA Victoria (2015) Environmental Auditor (Contaminated Land). Guidelines for Issue of Certificates and Statements of Environmental Audit, EPA Publication 759.3.
- Industrial Waste Resource Guidelines (IWRG) 701 – Sampling and Analysis of Waters, Waste Waters, Soils and Wastes, EPA Victoria June 2009.
- Industrial Waste Resource Guidelines (IWRG) 621 – Solid Hazard Categorisation and Management, EPA Victoria June 2009.
- Australian Standard AS 4482.1-2005 Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil. Part 1: Non-volatile and Semi-volatile Compounds, Standards Australia 2005.
- Australian Standard AS 4482.2-1999 Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 2: Volatile Substances, Standards Australia 1999.
- Management of asbestos in the non-occupational environment, Department of Health and Ageing and enHealth Council 2005.
- Australian Standard AS 2159-2009 Piling – Design and Installation, Standards Australia 2009.
- EPA (2006) Hydrogeological Assessment (Groundwater Quality Guidelines), EPA Publication 668, September 2006.
- EPA Victoria (2016) The Clean-Up and Management of Polluted Groundwater, EPA Publication 840.2.

2.2.3 Assessment Consultant Reports

In conducting this Environmental Audit pursuant to s53W of the Environment Protection Act 1970, the Environmental Auditor reviewed the reports and documents listed below:

- ARC Environmental (July 2017) *Preliminary Site Investigation, 322-328 Bay Road, Cheltenham, Victoria.*
- ARC Environmental (November 2018) *Summary Bore Completion and Soil Assessment Report, Lot 3 on Plan of Subdivision PS802507T, 14 Hamlet Street, Cheltenham, Victoria*.
- ARC Environmental (March 2019) *Detailed Site Investigation, Lot 3 on Plan of Subdivision PS802507T, 14 Hamlet Street, Cheltenham, Victoria*.

The Auditor has also made reference to the works completed within the following report completed prior to commencement of the Audit:

- GHD (June 2015) *Site Investigation Report, 18-22 Hamlet Street, Cheltenham, Victoria*.

A copy of each of the above reports are provide within Appendix C of the CUTEP report (provided as Appendix D of this report).

The Auditor has conducted a review of each of the above reports and has considered them suitable for the purposes of the audit.

The Auditor has also made reference to the following reports previously completed for the site:

- Lane Piper (September 2011) *Environmental Audit Report (53V) 18-22 Hamlet Street, Cheltenham.*
- GHD (March 2014) *18-22 Hamlet Street, Cheltenham, Victoria, Groundwater Monitoring 2014.*
- GHD (September 2016) *18-22 Hamlet Street, Cheltenham, Victoria, Remediation Action Plan.*

Copies of the above listed reports can be made available upon request.

The Auditor notes that reports were not available for works undertaken by ERM, Kilpatrick and Associates and SMEC between 2001 and 2006. Details of the works conducted between 2001 and 2006 were obtained from summaries provided in later reports.

It is noted that the Auditor also commissioned the following assessment for the purposes of supporting the Audit:

- Coffey Environments Pty Ltd (April 2019) *Lots 3 and 4, 322-328 Bay Rd, Cheltenham, Victoria – hydro assessment review.*
- Coffey Environments Pty Ltd (April 2019) *Lot 3, Former Nuplex Chemical Storage Facility, Cheltenham, VIC.*

A copy of the Coffey (April 2019) Hydro Assessment Review Report is provided within Appendix F and the Coffey (April 2019) Risk Review Report is provided within Appendix G of this report

2.3 Activities Conducted by the Auditor

In conducting this Environmental Audit pursuant to s53W of the *Environment Protection Act* 1970, the Environmental Auditor undertook the following activities:

- Reviewed the site history and historical site assessment works that had been undertaken by previous environmental consultants during the Audit.

- Conducted a site walkover on 23 January 2017 (prior to Audit commencement) to observe site layout and site features, as well as the positioning and layout of the site in relation to the wider Nuplex site and surrounding area. Conducted follow up site visits on7 June 2017 and 22 March 2018 to assess the condition of the site.
- Reviewed and commented on the proposed Sampling and Analysis Plans initially prepared by EEC for soil assessment and groundwater investigation works to be conducted as part of the Audit.
- Reviewed site assessment data including soil and groundwater analytical results, soil bore logs and monitoring well construction details provided by ARC.
- Reviewed and commented on the further proposed Sampling, Analysis and Quality Plans prepared by ARC for soil and groundwater assessment works.
- Reviewed and commented on the Soil Summary Report and the Detailed Site Investigation (DSI) prepared by ARC (ensuring that all matters covered in earlier review comments were being addressed).
- Engaged expert support to conduct a review and provide advice on the monitored hydrogeology and risk assessment components of the DSI report.
- Formed an opinion on the condition of the site, and the nature and extent of any harm or detriment, or the risk of any possible harm or detriment, to beneficial uses of the land caused by the site conditions.
- Sought EPA advice on 25 October 2018, and 13 December 2018 in relation to the strategy for completion of a CUTEP report.
- Received advice from EPA on 18 December 2018 in relation to completion of an EPA determined CUTEP for the site.
- Completed a clean up to the extent practicable (CUTEP) report for submission to the EPA on 25 April 2019 for EPA determined CUTEP.
- Communicated with EPA in September 2019 in regards to an implementation strategy for Groundwater Quality Management Plan (GQMP) for the site.
- Received approval from EPA in regards to CUTEP on 10 September 2019.
- Completed this Environmental Audit Report and Statement of Environmental Audit.

2.4 Geology and Hydrogeology

2.4.1 Hydrology

The site is elevated at approximately 38 mAHD. Immediately west of the site, the topography slopes downwards towards the west and south-west, whilst regionally there are topographic high points located south-west and south-east of the site. There are no surface water bodies on-site. The closest natural surface water body to the site is Port Phillip Bay located approximately 2.7 km south-west and 3.1 km west of the site.

2.4.2 Regional Geology

The 1:63,360 Geological Survey of Victoria Ringwood map sheet (No. 849, Zone 7) indicates that the site is underlain by Quaternary Age swamp deposits and sand hills and ridges, which overlies the Tertiary Age Brighton Group Formation. The swamp deposits comprise sands, silts and clays while the sand ridges are

recognised as a series of thin (up to several metres thick), discontinuous, longitudinal aeolian sand dunes. The underlying Brighton Group Formation comprises Red Bluff sands consisting of fine to coarse sands with minor poorly sorted gravels.

2.4.3 Site Specific Geology

The site-specific geology encountered by ARC during fieldwork generally comprised fill material to a maximum depth of approximately 1.3 metres below ground level (mbgl), overlying natural sandy clay/silty clay, underlain by clayey sand, underlain by sand to the maximum depth of investigation (20.7 mbgl). Deeper fill material up to 2.5 mbgl was encountered within the former UST tank pits.

The general lithology encountered during the site assessment works is summarised in Table 2.1 below.

Table 2.1 Generalised Site Lithology

Depth interval (mbgs)	Lithology
0.0 0.15	CONCRETE
0.15 – 1.3	FILL: Gravelly sand, clayey sand and sandy gravel, grey brown to brown, fine to coarse grained. Note: Deeper fill material up to 2.5 mbgl was encountered within the former UST pits.
1.3 – 4.0	SANDY CLAY/SILTY CLAY: Brown to red brown with dark red and light brown mottling, medium stiff to stiff, low to high plasticity.
4.0 – 9.5	CLAYEY SAND: Red brown, yellow brown and orange, soft to medium dense, fine to coarse grained. Sand content increasing from 7.0 mbgl.
9.5 – 20.7 (maximum depth of investigation)	SAND: Yellow brown and red brown, medium dense, fine to coarse grained.

Based on the Auditor's review of the bore logs and the Auditor's inspection of the site, the Auditor agrees with ARC's findings and assessment of the geological conditions observed on-site.

Bore logs are provided within Appendices C, D and E of the ARC (March 2019) DSI report (provided within Appendix C of the CUTEP report, provided as Appendix D of this report).

The geology of the site is presented on Figure 14 of this report (attached).

2.4.4 Regional Hydrogeology

The site is located in the East Port Phillip Bay groundwater catchment and groundwater beneath the site is likely to be encountered within the Upper Tertiary Aquifer comprising sand, gravel and clay.

A review of the information provided in the ARC DSI report and the Environmental Earth Sciences hydrogeological report indicates that in the vicinity of the site, the geology comprises Red Bluff Sands of the Tertiary Brighton Group, overlain by Quaternary aged dune sands and swamp deposits.

The Visualising Victoria's Groundwater online portal indicated that depth to groundwater beneath the site is likely to occur at a depth of 5 to 10 mbgl.

ARC reported the expected TDS at the site to be between 1,001 and 3,500 mg/L and classified groundwater as between Segment B. ARC's classification was based on a review of the Department of Environment, Land, Water and Planning (DELWP) Groundwater Resource Report which was based on the previous SEPP (1997) Groundwaters of Victoria. As noted above, the Auditor considered groundwater in the context of the SEPP Waters (2018) and therefore a TDS range of 1,001 and 3,500 mg/L now classifies the site between Segment A2 and C.

As discussed in Section 2.4.1 the closest natural surface water body to the site is Port Phillip Bay located approximately 2.7 km south-west and 3.1 km west of the site and is considered to be the point of groundwater discharge.

2.4.5 Surrounding Groundwater Users

A review of the Department of Environment, Land, Water and Planning (DELWP) Groundwater Management System Database and Visualising Victoria's Groundwater Online Tool was undertaken by ARC on 20 February 2018 which identified 280 registered groundwater bores (excluding bores associated with the assessment of the former Nuplex facility) within a 2km radius of the site.

ARC noted that the majority of bores were registered for investigation or observation use, with eleven bores registered for an extractive or unknown use within 500 m of the site as follows:

- Bore WRK059611 located approximately 95 m south-east of the site was registered for Domestic and Stock use, with a total bore depth of 65 m.
- Bore WRK979389 located approximately 180 m north-east of the site with no registered use. ARC noted that this bore is located within the car wash premises on the northern side of Bay Road and has a total depth of 100 m.
- Bore WRK079946 located approximately 200 m north-east of the site was registered for Industrial use, with a total bore depth of 28 m.
- Bores WRK986528 to WRK986533 located approximately 280 m south-west of the site were registered for Stock and Domestic use, with total bore depths of 2.5-5 m.
- Bore 80571 located approximately 300 m south-west of the site with no registered use. ARC noted that the bore was installed in 1984 with a total bore depth of 40 m and that the bore appeared to be located within Cheltenham Cemetery.
- Bore WRK039190 located approximately 460 m south-west of the site was registered for Irrigation use, with a total depth of 33.5 m.

The Auditor conducted a review of the DELWP Water Measurement Information System and Visualising Victoria's Groundwater database (http://vvg.org.au/) on 23 October 2018 and again on 8 November 2019 in order to verify ARC's findings and to identify any groundwater bores which may have been registered between February 2018 and November 2019. The Auditor's most recent review identified 387 registered groundwater bores within a 2 km radius of the site (including bores associated with the assessment of the former Nuplex facility), 89 of which were identified within 500 m of the site. Of the 89 bores identified within 500 m of the site, 74 are registered for observation or investigation use and 15 are registered for extractive or unknown use (five of which are noted to be listed as "not used". The greater number of bores identified by the Auditor are considered to be due to additional bores being installed in the surrounding area (as well as at the Nuplex facility) since those within the database at the time of the previous review which did not include any bores with completion dates from 2017 onwards.

Registered uses of the identified groundwater bores are summarised in Table 2.2 below.

Table 2.2: Summary of Registered Groundwater Bores within 2km

Use	No. of Bores
Groundwater Investigation/Observation	258
Irrigation	28
Domestic & Stock	23
Domestic	10
Underground Disposal	11
Industrial	2
Miscellaneous	6
Stock & Miscellaneous	1
Unknown	48

The closest known extractive use bore (WRK059611) is located approximately 124 m south of the site and is registered for Domestic and Stock use. This bore was completed in 2011 and had a total depth of 65 m. No other information was available for this bore.

Information for registered groundwater bores identified by ARC is provided within Section 2.2.7 and Appendix G of the ARC (March 2019) DSI report presented in Appendix C of the CUTEP report (Appendix D of this report).

Results of the Auditor's registered groundwater bore search are provided within Appendix E of this report, and locations of registered bores within 2km of the site are presented on Figure 4 of this report.

In May 2017 and February 2018 ARC also conducted a survey of properties in the vicinity of the site to determine current groundwater use and to investigate possible extractive uses of groundwater from unregistered bores. The survey comprised provision of a groundwater bore survey questionnaire to the current occupants/owners of properties located on Chandos Street, Hamlet Street, Philip Street, Bay Road and Graham Road. No unregistered bores were identified from the survey. The owner of the car wash at 1 Graham Road confirmed that the registered groundwater bore WRK979389 is used for extracting groundwater to wash cars. During the survey, ARC also attempted to locate and confirm the presence and use of bore WRK059611, registered for Domestic and Stock use and located approximately 95 m south-east of the site. ARC reported that property owners/occupants within the vicinity of bore WRK059611 indicated that there were no groundwater bores on their properties. Details of the survey conducted by ARC are provided within Section 2.2.7 and Appendix G of the ARC (March 2019) DSI report.

2.4.6 Local Hydrogeology

Groundwater investigation works undertaken at the site comprised the installation of eight on-site groundwater monitoring wells (MW02A, MW17A, MW17B, MW23A, MW50A - MW50C and CMW1) as well as sampling of historically installed onsite wells (MW23 and MW33R).

Several historical wells had also been installed on surrounding properties (adjacent sites to the north (BMW2), northeast (MW24AR, MW24BR, MW24CR), east (MW25, MW26, MW34, MW34A), south (MW29, MW40) and southwest (MW30)) which were gauged and/or sampled during the Audit.

Groundwater monitoring wells installed as part of the Lot 3 Audit were drilled to varying depths with groundwater generally stabilising between 9.47 and 10.69 mbgl (28.14 and 27.78 mAHD). Groundwater in two onsite monitoring wells stabilised at a notably shallower depth of between 5.65 mbgl in MW17A (not surveyed) and 5.07 and 5.26 mbTOC (32.65 and 32.46 mAHD) at MW17B.

Off-site down-hydraulic gradient wells MW29 and MW30 reported groundwater levels between 9.04 and 9.91 mBTOC (28.22 and 27.95 mAHD). The groundwater level in a third down-hydraulic gradient well (MW40) was slightly shallower between 8.42 and 8.86 mBTOC (28.78 and 28.34 mAHD). Historically MW40 was noted to have been as shallow as 7.43 mBTOC (29.77 mAHD) in 2011.

The 53V Audit report (Lane Piper, 2011) notes that groundwater flow direction across the larger Nuplex site over a three year period (based on gauging between 2008 and 2011) showed a variable groundwater flow to the west, south and east, specifically noted to be influenced by groundwater mounding at a number of locations associated with below ground structures (i.e. TIT, USTs or sumps) or leaking water mains or features.

Subsequent groundwater monitoring undertaken by GHD and ARC has also identified a general southerly flow with radial groundwater flow patterns in localised areas of the site attributed to mounding, particular in the western portion of the Site (around MW17B) and off-site to the south (in the vicinity of MW30 and MW40). Based on the variations in groundwater flow, ARC sought advice from a hydrogeologist from Environment and Earth Sciences who prepared a hydrogeological review (provided in Appendix F of the ARC DSI, Appendix C of the CUTEP report).

The Auditor also sought his own advice from his expert in hydrogeology (Mr Michael Blackam of Coffey Environments) who prepared a hydro assessment review (Appendix F). All information was considered and incorporated (where required) into this report.

The groundwater hydraulic gradient across the site is considered to be is relatively flat (i.e. 0.001-0.01 m/m) and as a result is sensitive to any influences (i.e. former tank pits, leaking water mains or sewers and areas of potential recharge).

The reasons for the influences on groundwater depths (as noted above) as encountered on and in close proximity to the Lot 3 site are considered to be a result of the following:

- MW17A (on site adjoining the western boundary) was installed within a former UST pit in close proximity to the western boundary. Based on the shallower than expected depth to groundwater the installation of MW17A resulted in a submerged screen. Subsequently, MW17B was installed to the west of the tank pit (and MW17A). Prior to installation of MW17B, a second well location (MW17C) was attempted within the tank pit, however shallow perched water was encountered and therefore the location was terminated with MW17B subsequently installed to the west of the former UST pit. The 'perched water' identified at MW17C (and affecting MW17A and to a lesser extent MW17B) was confirmed to be a result of a leaking terracotta water pipe identified during the drilling of these locations. This was further supported by the lower localised average TDS of 193 mg/L when compared to an average site wide TDS of 1,469 mg/L. Subsequently, the shallower water levels were considered to have been locally influenced by the leaking pipe and not representative of the potentiometric level within the regional aquifer. The leaking service in this location is considered to have had very little influence on the broader Lot 3 flow direction.
- MW40 (off site to the south to southwest) was installed in March 2010 at which time groundwater was encountered at a depth of 7.92 mBTOC (29.28 mAHD). As noted above, the groundwater level during the audit remained consistent (albeit slightly deeper) than historical measurements between 8.42 and 8.86 mBTOC (28.78 and 28.34 mAHD). The differences in groundwater levels and the subsequent influence on groundwater flow direction are illustrated on Figures 5A and 5C. The mounding at MW40 has had an influence on the broader groundwater flow direction (particularly offsite) but its influence does not extend onto Lot 3 to the extent that it would influence the distribution of the contaminant plume sourced from Lot 3. The reason for the mounding at MW40 is not specifically known, however, ARC considered the mounding to possibly be due to leaking

underground services and/or localised preferential recharge from service trenches. Based on the average TDS of 218 mg/L and the sodium bicarbonate water type (also representing a mixed water type) in MW40 (as opposed to an average site wide TDS of 1,469 mg/L and generally sodium chloride water type), ARCs conclusion that the difference in water level being attributed to leaking service(s) would appear to be supported.

- In addition to the above, it is noted that groundwater levels measured in November 2017 presented a very different groundwater flow direction (across the broader Nuplex site) than had been previously recorded. As evidenced on Figure 5B, there is a very notable groundwater depression offsite centred on the south eastern corner of Lot 2 (to the north east of Lot 3). The groundwater depression in the south eastern corner of Lot 2 occurred during the operation of the air sparge remediation system on Lot 2 (centred on offsite wells MW24AR, MW24BR and MW24CR). Therefore, it appears that the change in groundwater flow is attributed to the operation and subsequent effect of the remediation system on groundwater levels. The groundwater levels shown in Figure 5C (January 2018) show that the effect on groundwater from the remediation system was temporary and only present during operation of the system.

Further to the above, where potential sources of leakage are removed from the groundwater flow diagrams (as noted on Figure 5 in Appendix F of the ARC DSI), groundwater flow direction would be expected to flow to the south to southwest across and in the immediate vicinity of Lot 3. This conclusion was further considered in the context of groundwater flow directions determined on nearby audit sites. Specifically, Lot A, 9-41 Charlton Avenue, Cheltenham (550m south) and 33 Jack Road, Cheltenham (400m south) were reviewed. A summary of these audit sites is provided in Table 3.2 below which shows that the groundwater flow direction across both sites was concluded to be south to southwest in the Brighton Group aquifer.

In conclusion, based on measured water levels during the audit (i.e. between early 2017 and late 2018) groundwater across Lot 3 (when localised groundwater mounding in MW17B and MW40 and the short-term effects of the groundwater remediation on Lot 2 are discounted) is generally flat with a regional south to south westerly flow. As previously discussed, some groundwater mounding is present in off-site well MW40 and on-site well MW17B which have resulted in localised radial flow patterns which are not considered to have largely affected regional groundwater flow and the ability to draw conclusions with regard to contaminant distribution trends on the site.

2.4.6.1 Total Dissolved Solids

The TDS concentrations reported at the site were considered by the Auditor when classifying groundwater at the site in accordance with the SEPP (2018) Waters:

- TDS concentrations for on-site wells ranged between 184 mg/L (Segment A1) to 3,853 mg/L (Segment C), with an average of 1,469 mg/L (Segment B).
- TDS concentrations for off-site and hydraulically up-gradient wells (BMW1, BMW2, MW24AR, MW24BR, MW24CR and MW26) ranged between 774 mg/L (Segment A2) to 4,588 mg/L (Segment C), with an average of 2,356 mg/L (Segment B).
- TDS concentrations for off-site and hydraulically down-gradient wells (MW29, MW30 and MW40) ranged between 169 mg/L (Segment A1) to 481 mg/L (Segment A1), with an average of 279 mg/L (Segment A1).
- Low TDS concentrations (<600 mg/L) were reported in on-site well MW17B located adjacent to the western boundary of the site and Hamlet Street. It is noted that off-site wells MW29, MW30 and MW40 located adjacent to Hamlet Street also reported low TDS concentrations (169 mg/L to

481 mg/L), and it was considered that the low TDS reported was due to leaking services along Hamlet Street (supported by elevated groundwater levels and the chemistry of the groundwater).

- TDS concentrations in the range of Segment A1 to A2 were reported in on-site wells MW2A (501 mg/L to 540 mg/L), MW23/MW23A (514 mg/L to 663 mg/L) and MW33R (852 mg/L to 1,067 mg/L). Well MW2A is located within a former UST tank pit; well MW23/MW23A is located adjacent to the western boundary of the site (and Hamlet Street); and well MW33R is located in the south-eastern corner of the site. Given that well MW23/MW23A is located adjacent to Hamlet Street, the low TDS reported for this well is also considered to be associated with leaking services along Hamlet Street.
- Minor occurrences of perched water were observed in the vicinity of the former UST tank pit along the western site boundary (at well MW17B), and in the vicinity of the former UST tank pit in the central portion of the site (at well MW2A). The presence of perched water in the vicinity of wells MW17B and MW2A appears to be artificially influencing groundwater TDS in these two wells.
- A review of surrounding Audit sites indicates groundwater is expected to be classified as Segment A1, A2 or B, with the majority of the sites reporting groundwater within Segment A1 or A2.

Given the above, the Auditor considers that groundwater beneath the site is conservatively classified as Segment A1 in accordance with SEPP (2018) Waters.

3 Potential Contaminants Sources and Types

This section of the Audit Report summarises the potential contaminant sources, transport pathways and receptors that were considered as part of the Audit.

3.1 Scope of Site History Review

Information pertaining to the site's history was gathered by ARC in 2017. Findings are summarised below and are detailed in the ARC (July 2017) Preliminary Site Investigation (PSI) Report, provided within Appendix C of the CUTEP report (provided as Appendix D to this report).

The site history investigation included the review of the following sources of site history information:

- Documentation relating to site ownership including historical certificates of title;
- Council zoning and planning information;
- Historical aerial photographs;
- Royal Historical Society of Victoria and the Sands and MacDougall Directories;
- South East Water trade waste records and property sewer plans;
- Energy Safe Victoria Cathodic Protection System database;
- WorkSafe Victoria dangerous goods licensing information
- EPA Priority Sites Register; and
- Audits completed in the vicinity of the site and nearby Groundwater Quality Restricted Use Zones.

Site inspections were also completed by ARC as summarised in Section 3.2 below to assist in their conceptual understanding of the site and the site's history.

The Auditor has reviewed the completeness of the site history review and has concluded that the site history investigation undertaken is adequate to identify the contaminants of potential concern for the site (refer to Section 6 of this report for the Auditor's quality and completeness review of the assessment consultant's report).

3.2 Summary of Site History

The site history review identified that the site (and the remainder of the broader former Nuplex facility) was owned by a grazier until the area was subdivided in the 1940s.

Aerial photography from 1957 indicates that a small building had been constructed in the area now occupied by the current warehouse building in Lot 3. The building appeared to have been expanded by 1960 but did not appear in its current configuration until 1968. The site is anecdotally referred to as the 'Button Factory' however there is no evidence available to confirm whether or not it was historically used for this purpose.

Historical titles indicate that the site was owned by sheet metal workers in 1950 and was likely used for sheet metal works until approximately 1974. Between 1974 and 1992 the site appears to have been used for various commercial/industrial uses however no specific details are available.

In 1981 the remainder of the wider Nuplex facility was purchased by Searle Australia, then by Clyde Industries in 1983. In 1983, ownership of Lot 3 was transferred to Sixteenth Eternity Pty Ltd. In 1992, Clyde Industries acquired Lot 3 and consolidated the titles of the four lots. Asia Pacific Specialty Chemicals (APS) then owned the site between 1997-2017. It is noted that APS was acquired by Nuplex in 2002, hence

reference of the wider site as the 'former Nuplex facility'. It is noted that operations of the site (and the wider Nuplex site) under Searle Australia, Clyde Industries and APS Chemicals was for the manufacture of a variety of chemicals, including lubricants, resins and polymer stabilisers. The wider site was most recently operated by Nuplex as a chemical storage and distribution facility.

Chandos Bay acquired the site in January 2017 and The Bare Button acquired the site in December 2018. The site has remained vacant since at least the commencement of January 2017. It is however understood that since the transfer of ownership to The Bare Button, construction works have commenced towards completion of the proposed development.

Two USTs were removed from the site in March 2003 by Kilpatrick and Associates. Kilpatrick and Associates stated that the tanks contained petroleum hydrocarbon products, however GHD (2015) reported that anecdotal evidence suggests acetone and methanol may also have been stored in USTs. (It is noted that findings of the investigations conducted prior to and during the audit support the likely former presence of petroleum hydrocarbons as residual contamination was found to be associated with petroleum hydrocarbons and no evidence of acetone or methanol contamination was identified).

ARC conducted an initial site inspection on 24 March 2017. ARC noted that no chemicals were being stored at the site at the time of the site inspection. Some corrosion of the concrete pavement in the central eastern portion of the site and oil staining on the concrete in the north eastern portion of the site was observed. In addition, concrete filled trenches were observed in the central southern portion of the site appearing to infill a previous feature which ARC noted could have comprised drainage or machinery footings. A triple interceptor trap was observed in the south western corner of the site.

The Auditor and/or his support conducted a site inspection on two separate occasions (23 January 2017 and 22 March 2018) and concurred with ARCs findings.

Figure 2 presents the site layout and location of the above infrastructure/potential sources of contamination as well as soil, groundwater and soil vapour sampling locations.

3.3 Surrounding Land Uses

The site history assessment undertaken by ARC (including review of historical Certificates of Title, historical aerial photographs, Sands and McDougall Directories, South East Water trade waste records and property sewer plans and historical environmental assessment reports, including anecdotal evidence obtained from interviews with former Nuplex employees) indicated that the area in the vicinity of the site historically comprised grazing land prior to subdivision of the area in the 1940s and subsequent use for a mix of commercial and industrial land uses including the following notable site uses (and potential off-site sources of contamination) in the vicinity of the site:

- Lots 1, 2 and 4 of the former Nuplex facility located immediately north and north-east of the site. Lot 1 was purchased by a builder in 1945, and later owned by a furniture manufacturer between 1960 and 1974. Lots 2 and 4 were purchased by Standard Laboratories Pty Ltd in 1949, and later owned by Ajax Chemicals between 1970 and 1983. In 1983 all lots were consolidated under the ownership of Searle Australia. Subsequent owners of the former Nuplex Facility were Clyde Industries (1992-1997) and Asia Pacific Specialty Chemicals (APS) (1997-2002). Searle Australia, Clyde Industries and APS Chemicals are known chemical manufacturing companies. Nuplex acquired APS Chemicals in 2002.
- Electrical substation at 18 Hamlet Street located adjacent to the north-western corner of the site.
- Underground bulk fuel storage and use at 7 & 10 Hamlet Street located approximately 20 m south and south-west of the site, respectively.

- Oil storage and use at 15 Chandos Street (MGB Hive auto electrician) located immediately east of the site.
- Laminex manufacturing facility at 332 Bay Road located approximately 50 m east, northeast and southeast of the site.
- Former nursery on the north side of Bay Road approximately 150 m north of the Audit site.

Current land uses directly adjacent to the site are summarised in Table 3.1 below.

Table 3.1: Surrounding Land Uses

Description	Land Uses
North and North-East	An electrical substation and Lots 1, 2 and 4 within the remainder of the former Nuplex Facility, beyond which is Bay Road with commercial properties on the northern side of Bay Road including the Rietmans Business Park (formerly a nursery) and a carwash facility (Ezy Bay Wash).
East	MGB Hive (auto technician), WD Toolmaking and McLeod Trees (arboriculture business), beyond which is Chandos Street and the Laminex industrial facility on the eastern side of Chandos Street.
South	Commercial warehouse used as an Art Studio, DSK Engineering (steel fabrication with a UST onsite) and SK partitions (manufacturer).
West	Hamlet Street, beyond which are commercial and light industrial properties including Austral Injections (plastics injection moulding facility).

No current or historical landfills or backfilled quarries were identified within 500 m of the site.

Figure 3 shows the location and current use of the surrounding sites.

3.4 Environmental Audits from Surrounding Sites

Reference to the list of Issued Certificates and Statements of Environmental Audit on the EPA website indicates there have been nine environmental audits completed within 1 km of the site. ARC undertook a review of three of the nine audits (refer to Section 2.2.10 of the ARC (July 2017) PSI report – Appendix C of the CUTEP report).

The Auditor also conducted an independent review of these three audit reports to verify ARC's review, and the Auditor also conducted a review of the audit reports for the other six environmental audits completed within 1 km of the site.

A summary of the findings of these nine audits is provided in Table 3.2 below.

Table 3.2 Surrounding Audit Reports

Site Address, CARMS and Year Completed	Distance and Direction	Historical Site Use	Depth to Groundwater (mbgl)	TDS (mg/L)	Segment	Inferred Flow	Relevant Details
Stage 1, 7-13 Graham Road, Highett 36024-1 1999	250m north-east	Vehicle detailing by Ken Morgan Toyota who installed a UST and TIT at the site Furniture and white goods storage	Not assessed	Not assessed	Not assessed	Not assessed	Contaminants in soil – Petroleum hydrocarbon contaminated soil was removed from the site. Groundwater was not assessed. A Certificate of Environmental Audit was issued.
Stage 2, 7-13 Graham Road, Highett 36024-2 1999	250m north-east	Screen printer Electronic circuit board manufacturer	Not assessed	Not assessed	Not assessed	Not assessed	Contaminants in soil –Metals (arsenic, chromium, copper, zinc), sulphate and acidic conditions (low pH). Groundwater was not assessed. A Statement of Environmental Audit was issued.
1136 Nepean Highway, Highett 37308-1 2006	800m north-east	Gasworks Scientific Services Department and Training Centre for the Gas and Fuel Corporation	5.5 – 10.0	130 – 6,200	A2	West South-West towards Port Phillip Bay	Contaminants in soil – Metals (arsenic, nickel), pH, benzo(a)pyrene (BaP), Total PAH, cyanide remain following remediation works. Contaminants in groundwater – Background (copper, nickel and zinc). Off-site source (nitrate and ammonia). Sulphate and arsenic isolated with no significant on-site source identified. A Statement of Environmental Audit was issued.
1144-1148 Nepean Highway, Highett 69746-1 2012	800m north-east	Commercial printing facility, rain coat manufacturing, poultry farming	12.7 (reported average)	54 - 300	A1	South West	Contaminants in soil – vanadium, aldrin and dieldrin. Contaminants in groundwater – Regional (ammonia and nitrate). Chloride considered to be representative of the natural salinity of groundwater. Naturally occurring (cadmium, cobalt, copper, iron, lead, nickel and zinc). A Statement of Environmental Audit was issued.

Site Address, CARMS and Year Completed	Distance and Direction	Historical Site Use	Depth to Groundwater (mbgl)	TDS (mg/L)	Segment	Inferred Flow	Relevant Details
Lot A, 9-41 Charlton Avenue, Cheltenham 69782-1 2013	550m south	Market gardening Manufacturing of paint and lude products.	Perched Quaternary Aquifer (0.5 – 2.0) Brighton Group Aquifer (9.0 – 12.0)	Perched Quaternary Aquifer (200 – 3,020) Brighton Group Aquifer (258 – 2,300)	A1 (Perched Aquifer) B (Brighton Group Aquifer)	Perched Quaternary Aquifer (North-east) Brighton Group Aquifer (South-west)	Contaminants in soil – Metals (arsenic, beryllium, cadmium, cobalt, copper, lead, manganese, mercury, nickel, vanadium, zinc), total recoverable hydrocarbons (TRH), BaP, bis(2-ethylbexyl phthalate). Contaminants in Perched Quaternary Aquifer – Regional or background (arsenic, cobalt, copper, manganese, nickel and zinc). Site sourced (TRH). Upgradient source (formaldehyde and naphthalene). Contaminants in Brighton Group Aquifer – Regional or background (cobalt, copper, nickel and zinc). A Statement of Environmental Audit was issued. The site was designated as being a GQRUZ.
33 Jack Road, Cheltenham 72448-1 2014	400m south	Market gardens Carpet manufacturing Cabinet and furniture manufacturing, powder coating, furniture showrooms, office space, car storage, insulation distributor	Perched Quaternary Aquifer (0.5 – 1.7) Brighton Group Aquifer (7.4 – 9.8)	Perched Quaternary Aquifer (200 – 3,300) Brighton Group Aquifer (220 – 4,100)	A1	Perched Quaternary Aquifer (South) Brighton Group Aquifer (South/south-west)	Contaminants in soil – Metals (barium, manganese, vanadium, zinc) BaP, BaP toxic equivalence quotient (TEQ), TRH (>C_{16}-C_{34}) and pH. Contaminants in Perched Quaternary Aquifer – Naturally occurring (pH, aluminium and iron). Regional or upgradient source (copper, manganese, molybdenum, nickel, zinc and nitrate). Site sourced (TRH). The site was considered to be a source or co-source of trichloroethene (TCE) and perchloroethylene (PCE). Contaminants in Brighton Group Aquifer – Naturally occurring (pH, aluminium, iron and selenium). Regional or upgradient source (arsenic, total chromium, cobalt, copper, lead, manganese, nickel, zinc, nitrate, nitrite and fluoride). The site was considered to be a source or co-source of 1,1 DCA, 1,1 DCE, 1,2 DCA, vinyl chloride and TCE. A Statement of Environmental Audit was issued. The site was designated as being a GQRUZ.
257 Bay Road, Cheltenham 74276-1 2016	760m west	Mechanics workshop and service station	8.8	736 – 4,040	A2	South-southwest	Contaminants in soil – Metals (zinc, nickel) and asbestos. Contaminants in groundwater – copper, nickel, zinc and pH considered to be naturally occurring or regional. A Statement of Environmental Audit was issued.

Site Address, CARMS and Year Completed	Distance and Direction	Historical Site Use	Depth to Groundwater (mbgl)	TDS (mg/L)	Segment	Inferred Flow	Relevant Details
32-34 & 34B Tibrockney Street and 29-31 Beaumaris Parade, Highett 65236-1 2015	750m north-west	Agricultural/grazing Furniture manufacturer, basket makers, road contractors, enamelling works, ceramic manufacturer	6.5 – 7.9	350 – 4,400	A1	North-westerly to westerly	Contaminants in soil – Metals (copper, lead, zinc), BTEX, TRH, monocyclic aromatic hydrocarbons (MAH). Contaminants in groundwater – Background (arsenic, cobalt, copper, iron, selenium, zinc, sodium, chloride, pH, sulphate and TDS). Regional (nitrate). Site sourced (benzene, ethylbenzene, toluene, xylenes, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene and styrene). Co-sourced and potential off-site source (cis-1,2-dichloroethene, trichloroethene, vinyl chloride, 1,1,2-trichloroethane, 1,2-dichloroethane and 1,2-dibromoethane). A Statement of Environmental Audit was issued. The site and selected areas off-site were designated as being a GQRUZ.
32-24 Graham Road, Highett 75232-1 2018	560m north	Agricultural (grazing), Engineering (tool making), Manufacturing (television tubes and football boots), Painting, packaging and assembly of products.	3.1 – 3.5	480 – 1,000	A1	West/south-west	Contaminants in soil – Metals (arsenic, cadmium, copper, nickel, zinc), organochlorine pesticides (OCPs). None following remediation works. Contaminants in groundwater – Metals (copper, nickel, vanadium and zinc) and inorganics (TDS, pH and sodium) considered to be naturally occurring or consistent with background concentrations. A Certificate of Environmental Audit was issued.

In summary, Table 3.2 indicates that the following contaminants may be present within groundwater in the vicinity of the site:

- Metals including arsenic, aluminium, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, vanadium and zinc – these are considered to be typical of natural concentrations within the aquifer or representative of regional pollution.
- Sodium, sulphate, pH and chloride – these are considered to be typical of natural concentrations within the aquifer or representative of regional pollution.
- Ammonia and nitrate– these are considered to be representative of regional pollution.
- TRH, BTEXN, MAH and chlorinated hydrocarbons, were identified in groundwater at nearby audits, however the pollution was delineated and the potential for the identified pollution at these locations to impact on the subject site is considered to be low.

3.4.1 Groundwater Quality Restricted Use Zones

One GQRUZ was identified within 500 m of the site located at 33 Jack Road, Cheltenham (CARMS 72448-1), approximately 400m south of the site. The site is a GQRUZ restricting the use of groundwater for drinking water, livestock water supply, irrigation of crops (including domestic gardens) and parks, recreational purposes (e.g. swimming), and industrial purposes due to pollution by arsenic, total chromium, cobalt, copper, lead, manganese, nickel, zinc, nitrate, nitrite, fluoride, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, trichloroethene and vinyl chloride. The elevated 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, trichloroethene and vinyl chloride were considered to be co-sourced from the site and were delineated within the site boundary. The inorganics were considered to be representative of regional groundwater quality.

The next nearest GQRUZ was located at 9-41 Charlton Avenue, Cheltenham (CARMS 69782-1), approximately 550 m south of the site. The site is a GQRUZ restricting the use of groundwater for drinking water, livestock water supply, irrigation of crops (including domestic gardens) and parks, recreational purposes (e.g. swimming), and industrial purposes due to pollution by TRH, PAH and formaldehyde. The elevated TRH was considered to be sourced from the site and was delineated within the site boundary. The formaldehyde and PAHs were considered to be from an upgradient source.

The Auditor has considered the likelihood of groundwater pollution from the identified GQRUZ sites above to reach 14 Hamlet Street and notes site sourced pollution including TRH, and chlorinated hydrocarbons did not extend off-site at either of the sites. Furthermore, groundwater flow was reported to be south to southwest. Given this, it is unlikely that any pollution from the GQRUZ sites, which were identified to be located to the south, will reach the site. It is however noted that groundwater at surrounding audit sites were considered to be impacted by metals, nitrate, nitrite and fluoride considered to be naturally occurring background concentrations or representative of regional pollution.

Based on the above, the Auditor considers it unlikely that pollution from the GQRUZs at 33 Jack Road, Cheltenham or 9-41 Charlton Avenue, Cheltenham is impacting the site, noting that naturally elevated and/or regionally elevated concentrations of inorganics including metals nitrate, nitrite and fluoride may be within groundwater beneath the site.

3.5 Potential Sources of Contamination

Based on information provided in the ARC (July 2017) PSI report, Appendix J of Australian Standard AS4482.1 (2005), Section 3.1 to 3.4 above and the Auditor's own experience, the following main potential sources of contamination (based on the historical use of the site, and surrounding sites) were identified:

Table 3.3 Potential Contaminants of Concern (On-site and Off-site)

Land Use/Area	Potential Contaminants of Concern
On-Site	
Imported fill (entire site)	Heavy metals and polycyclic aromatic hydrocarbons (PAHs).
Chemical storage (range of chemicals most recently known-hazardous substances) and sheet metal manufacturing	Metals, acids/alkalis, silanes, sulphur, solvents (aliphatic and aromatic hydrocarbons, aldehydes, alcohols, ketones, carboxylic acids, esters, glycols, non-halogenated and halogenated), chloromethane, dichloromethane, phthalate esters, amines, polymers, resins, PAHs, polychlorinated biphenyls (PCBs), phenolic compounds, chlorinated hydrocarbons, cyanides, sodium salts, mineral acids.
Former USTs	TRH, BTEXN, lead, phenols.
Triple Interceptor Trap	Grease, oil, BTEXN, TRH, lead, phenols, methanol, ammonia, acetone, acids/alkalis, chlorinated solvents.
Off-Site	
Former Nuplex chemical manufacturing facility located immediately north and north-east of the site, including underground bulk fuel and chemical storage	Metals, acids/alkalis, silanes, sulphur, solvents (aliphatic and aromatic hydrocarbons, aldehydes, alcohols, ketones, carboxylic acids, esters, glycols, non-halogenated and halogenated), chloromethane, dichloromethane, phthalate esters, amines, polymers, resins, PAHs, PCBs, phenolic compounds, chlorinated hydrocarbons, cyanides, sodium salts, mineral acids. TRH, BTEXN, lead, phenols.
Electrical Substation located immediately north of the site	TRH, BTEXN, phenols, metals, PCBs.
Underground bulk fuel storage and use at 7 & 10 Hamlet Street, located approximately 20m to the south and south-west of the site	TRH, BTEXN, lead, phenols.
Oil storage and use at 15 Chandos Street, located immediately east of the site	TRH, BTEXN, lead, phenols.
Laminex manufacturing facility (adhesive resins, dyes and inks) located at 332 Bay Road, approximately 50 m east, northeast and southeast of the site.	Polyvinyl acetate, phenols, formaldehyde, phthalate esters, PCBs, solvents, metals, cresols, chlorinated hydrocarbons.
Former nursery on the north side of Bay Road, approximately 150 m north of the site.	OCPs, organophosphate pesticides (OPPs), herbicides, calcium salts, nitrates, ammonium sulfate, potassium, copper, magnesium, molybdenum, boron, cadmium.

An outline of works undertaken as part of the audit are summarised in Sections 8 to 10 below and a summary of the above potential contaminants of concern and how they were assessed in the soil and groundwater investigation is included in Table A (attached).

3.6 Contaminant Transport Pathways and Mechanisms

The following potential contaminant transport pathways and mechanisms have been identified for mobile contaminants that may be present at the site:

- Underground services - underground services have the potential to transmit contaminants given that they are usually backfilled with gravel which has a higher permeability than the surrounding aquifer lithology.
- Unsaturated zone and perched groundwater – i.e. solute transport of contaminants through the unsaturated zone and via perched groundwater.
- Groundwater.
- Vapour.

3.7 Potential Human and Environmental Receptors of Contamination

Based on the background information obtained, it is anticipated that exposure to potential contaminants from site soils (or groundwater) may occur through the following potential pathways (for sensitive site use):

- Ingestion of surficial soil by site users.
- Human contact with surficial and sub-surface soils.
- Plant uptake through garden cultivation in surficial and sub-surface soils and subsequent ingestion through consumption of the garden produce.
- Plants and soil fauna.
- Dermal contact with surficial and sub-surface soils by site workers (short-term construction or maintenance activity).
- Ingestion of soils by site workers (short-term construction or maintenance activity).
- Inhalation of airborne dusts by site workers (short-term construction or maintenance activity) with surficial and sub-surface soils.
- Off-site impact through dust inhalation resulting from on-site construction activity/disturbance of surficial soils.
- Vapour impact (indoor) to site users by volatilisation from site soils.
- Vapour impact to users of adjacent sites (indoor and outdoor) by volatilisation from site groundwater.
- Users of extracted groundwater.
- Off-site ecosystems, where groundwater may discharge.

It is noted that for the purposes of an Environmental Audit, consideration must be given to potential receptors in the context of unrestricted use. It is noted that not all of the above receptors are likely to be applicable under the proposed commercial development.

4 Relevant Segments of the Environment (Assessment of Beneficial Uses Relevant to the Site)

4.1 Beneficial Uses of Land

The protected beneficial uses of land are defined in the SEPP Prevention and Management of Contamination of Land (2002) (Variation No. G39 Gazette, 26 September 2013), which identifies the following beneficial uses that would need to be protected for unrestricted use of the site, including those beneficial uses in context with the proposed commercial development. Table 4.1 below identifies the beneficial uses of land.

Table 4.1 Protected Beneficial Uses of Land [1,2]

Beneficial use	Land use						
			Sensitive use				
	Parks and Reserves	Agriculture	High-density	Other	Recreation/ Open space	Commercial	Industrial
Maintenance of ecosystems							
Natural ecosystems	✓						
Modified ecosystems	✓	✓		✓	✓		
Highly modified ecosystems		✓	✓	✓	✓	✓	✓
Human health	✓	✓	✓	✓	✓	✓	✓
Buildings and structures	✓	✓	✓	✓	✓	✓	✓
Aesthetics	✓		✓	✓	✓	✓	
Production of food, flora and fibre	✓	✓		✓			

Notes:

1. The above table is a reproduction of Table 1 from the Land SEPP (June, 2002).
2. Shading denotes the beneficial uses required to be protected for the purpose of the proposed commercial development.

Based on the above table and with specific consideration to the Land SEPP (2002), the following beneficial uses would need to be protected for the proposed commercial use of the site:

- Maintenance of Highly Modified Ecosystems.
- Human Health.
- Buildings and Structures.
- Aesthetics.

In accordance with the Land SEPP, 'Maintenance of Natural Ecosystems' and 'Production of Food, Flora and Fibre' are not required to be protected for a commercial development however; cognisance is given to these beneficial uses in order to consider unrestricted use of the site.

4.2 Beneficial Uses of Groundwater

The protected beneficial uses of groundwater are defined in SEPP (2018) *Waters*, by the inherent capacity of the groundwater (i.e. TDS concentrations) at the site, to support specific uses.

As discussed in Section 2.4.6.1 above, based on TDS reported at the site, groundwater was classified within Segment A1 in accordance with the SEPP (2018) *Waters*.

The beneficial uses to be protected under Segment A1 are summarised in Table 4.2 below.

Table 4.2 Protected Beneficial Uses of Groundwater [1,2]

Beneficial uses	Segments (mg/L) TDS						
	A1	A2	B	C	D	E	F
	0 - 600	601 – 1200	1201 - 3100	3101 - 5400	5401 - 7100	7101 - 10000	>10000
Water dependent ecosystems and species	✓	✓	✓	✓	✓	✓	✓
Potable water supply (desirable)	✓						
Potable water supply (acceptable)		✓					
Potable mineral water supply	✓	✓	✓	✓			
Agriculture and irrigation (irrigation)	✓	✓	✓				
Agriculture and irrigation (stock watering)	✓	✓	✓	✓	✓	✓	
Industrial and commercial	✓	✓	✓	✓	✓		
Water-based recreation (primary contact recreation)	✓	✓	✓	✓	✓	✓	✓
Traditional Owner cultural values	✓	✓	✓	✓	✓	✓	✓
Cultural and spiritual values	✓	✓	✓	✓	✓	✓	✓
Buildings and structures	✓	✓	✓	✓	✓	✓	✓
Geothermal properties	✓	✓	✓	✓	✓	✓	✓

Notes:

1. The above table is a reproduction of Table 2 from the Water SEPP (2018).
2. Shading denotes the required beneficial uses to be protected.

Based on the Water SEPP (2018), the following beneficial uses would need to be protected for the TDS reported at the site:

- Water dependent ecosystems and species;
- Potable water supply (desirable);

- Potable mineral water supply. However, it is noted that Potable Mineral Water is not relevant as the site is not located in a mineral springs area;
- Agriculture and irrigation (irrigation);
- Agriculture and irrigation (stock watering);
- Industrial and commercial;
- Water-based recreation (primary contact recreation);
- Traditional Owner cultural values;
- Cultural and spiritual values;
- Buildings and Structures; and
- Geothermal properties. However, it is noted that geothermal properties are not relevant as the site is not considered to be within designated geothermal area.

4.3 Beneficial Uses of Surface Water

Surface water is not considered to be a relevant element to be audited as there are no surface water bodies within the site boundary.

The closest natural surface water body to the site is Port Phillip Bay located approximately 2.7 km south-west and 3.1 km west of the site. Based on the south/ south-westerly flow direction as discussed in Section 2.4.6, it is considered likely that the groundwater discharges to Port Phillip Bay.

4.4 Beneficial Uses of Air

Beneficial uses of air may be considered relevant in determining the outcome of the environmental Audit, where those beneficial uses may be adversely affected by the condition of other elements at the site. An assessment of Air Quality with respect to the protection of beneficial uses of air is considered in Section 11.3 of this report.

5 Adopted Assessment Criteria

5.1 Soil Screening Criteria

With respect to assessing the contamination status of soil at the site, the hierarchy (consistent with the objectives presented in Table 2 of the Land SEPP) of assessment criteria adopted for this Audit are detailed in the Sections below.

The adopted soil criteria are provided in Table B1 attached to this report.

5.1.1 Ecological/Environmental

The protection of the beneficial use 'Maintenance of Ecosystems' is assessed with reference to the NEPM Ecological Investigation Levels (EILs) and Ecological Screening Levels (ESLs) as provided within the National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No.1) (NEPM 2013). EILs are available for selected metals and organic substances and ESLs are available for selected petroleum hydrocarbon compounds (BTEX and benzo(a)pyrene and total recoverable hydrocarbon (TRH) fractions. Both EILs and ESLs are applicable for assessing risk to terrestrial ecosystems, depending on land use scenarios and generally apply to the top 2.0 m of soil.

As per methodology outlined with the NEPM 2013, the following guidelines were adopted to assess the impact on the beneficial use 'Maintenance of Ecosystems':

- Generic EILs are provided in NEPM (2013) for DDT, naphthalene, arsenic and lead. EILs were adopted for the 'commercial/industrial' land use for the proposed commercial development. Generic EILs for the "urban residential and public open space' were also adopted for the purposes of assessing the suitability of the site for unrestricted use.
- Site-specific EILs were calculated for arsenic, copper, chromium III, lead, nickel, zinc, DDT and naphthalene based on soil physicochemical properties including pH and cation exchange capacity (CEC), and % clay. It is noted that ARC adopted the same EIL for fill and natural material (calculated using the average reported pH, CEC, % organic carbon content and % clay content) result based on similar properties observed. For the purpose of the derivation of the site-specific EILs it was assumed that any copper, zinc, chromium III or nickel contamination present was aged, and that the site was located in a low traffic area. The Auditor has reviewed the rationale and calculations of site specific EILs by ARC and considers that the calculated site specific EILs to be appropriate for the Audit. The ARC EIL calculations have been provided within Appendix Q of the ARC (March 2019) DSI report provided in Appendix C of the CUTEP report (Appendix D of this report).
- ESLs are provided in NEPM (2013) for both coarse and fine-grained soil. Given the presence of sand at depths <2 mbgl at the site, the Auditor has adopted the ESLs for coarse grained soil for the purpose of assessing site condition at the completion of the Audit.
- In the absence of criteria from the NEPM 2013, international criteria were referenced including the Canadian Soil Quality Guidelines (Canadian Council of Ministers of the Environment, 2007) for the protection of Environmental and Human Health, and the US EPA Ecological Screening Levels.

5.1.2 Human Health

The protection of the beneficial use 'Human Health' is assessed with reference to the NEPM guidelines comprising Health Investigation Levels (HILs) and Health Screening Levels (HSLs). HILs are provided for a broad range of metals and organic substances and are applicable for assessing human health risk via all

relevant pathways of exposure. The HILs are generic to all soil types and apply generally to a depth of 3 m below the surface for residential use.

HSLs are available 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. They apply to different soil types, and depths below surface to >4 m.

Given the presence of sand beneath the site, the Auditor considers the adoption of HSLs for sand to be appropriate for the purpose of assessing the site condition for the Audit.

Both HILs and HSLs are provided for a range of site uses including standard residential (exposure setting A), residential with minimal soil access (exposure setting B), public open space (exposure setting C) and commercial / industrial (exposure setting D). HIL Level 'A' criteria are used to evaluate the potential impact to the protection of human health in the context of unrestricted site use. In accordance with the Land SEPP, the proposed development is defined as commercial use and therefore HILs for commercial / industrial land use (HIL D) have been adopted to evaluate the potential impact to the protection of human health in the context of the proposed use. In addition, the Auditor has assessed the site against other NEPM investigation levels to determine potential suitability for unrestricted site use.

In the absence of criteria from the NEPM 2013, international criteria were referenced including the US EPA Regional Screening Levels.

5.1.3 Buildings and Structures

The Land SEPP states that 'contamination must not cause the land to be corrosive to or adversely affect the integrity of structures or building materials'. Where structures are likely to come into contact with contaminated soils, criteria for pH, chloride and sulphate can be adopted from AS 2159-2009 Piling – Design and Installation (SAI Global 2009).

5.1.4 Aesthetics

The Land SEPP (2002) states that 'contamination must not cause the land to be offensive to the senses of human beings'. Currently there are no concentration based aesthetic criteria for soil however, while aesthetic observations are subjective, it is considered that if there is discolouration or noticeable odour from the soil, or if waste materials such as rubble, slag or similar wastes are present, then a potential aesthetic concern exists. The Auditor referenced Section 3.6 in Schedule B(1) in NEPM 2013 for general guidance in regard to the assessment of 'Aesthetics' for the purposes of the Audit.

5.1.5 Production of Food, Flora and Fibre

The Land SEPP (2002) states that 'contamination must not adversely affect the produce quality or yield or effect the level of any indicator in food, flora and fibre produced at the site (or that may be produced), such that the level of the indicator is greater than that specified by the Australia New Zealand Food Authority, Food Standards Code'.

The Food Standards Code sets out the maximum level of specified metal and non-metal and natural toxicants in nominated foods, maximum residue limits for a chemical to be present in a food, extraneous residue limits for a pesticide residue to be on a food and provides details with regard to permissible articles and materials.

In consideration of the above, the Auditor has primarily assessed the protection of the beneficial use 'Production of Food, Flora and Fibre' with reference to the phytotoxicity-based EILs. However, as the

potential for a specific soil contaminant to adversely affect the beneficial use 'Production of Food, Flora and Fibre' is also a function of the bioavailability of the contaminant, where appropriate, the Auditor has also assessed the protection of the beneficial use 'Production of Food, Flora and Fibre' with consideration to site-specific and/or published lines of evidence (such as the physical characteristics and mobility of the contaminant(s) of concern).

5.1.6 Asbestos

In considering the potential presence of asbestos at the site, the Auditor has referenced guidance in Schedule B(1) Section 4 of the NEPM 2013.

5.2 Groundwater Screening Criteria

The protected beneficial uses of groundwater are defined in the SEPP (2018) *Waters*, by the inherent capacity of the groundwater (i.e. TDS concentrations) at the site, to support specific uses.

Groundwater criteria used to assess whether groundwater conditions at the site precludes any of the relevant beneficial uses requiring protection have been adopted from the guidelines referenced below.

The adopted groundwater criteria are provided in Table B2 (attached). Where no specific criteria are available in the guidelines listed, alternative criteria have been adopted.

The Auditor has also given cognisance to the NEPM Groundwater HSLs in order to consider potential vapour risks to future occupants of the site from petroleum hydrocarbons should they be identified in groundwater.

5.2.1 Water Dependent Ecosystems and Species

SEPP (2018) *Waters* defines water dependent ecosystems and species as water quality that is suitable to protect the integrity and biodiversity of water dependent ecosystems.

The following guidelines were primarily adopted by the Auditor to assess the impact on the beneficial use Water Dependent Ecosystems and Species:

- SEPP (Waters) 2018
- Australian and New Zealand Environment and Conservation Council (ANZECC) (2000, revised Water Quality Guidelines 2018) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, 95% Level of Protection.
- US EPA 2003 Region 5 RCRA Ecological Screening Levels (ESLs) (US EPA 2003);
- Canadian Water Quality Guidelines for the Protection of Aquatic Life (2007) (CCME 2007) Freshwater;
- Netherlands (2009) Circular on Target Values and Intervention Values for Soil Remediation. Ministry of Housing, Spatial Planning and the Environment, Netherlands Government (Dutch Intervention Value); and

In the absence of available criteria from the above sources, other international criteria were referenced (as per Table B2 (attached)).

5.2.2 Potable Water Supply (Desirable)

SEPP (2018) *Waters* defines potable water supply (both acceptable and desirable) as groundwater quality that is suitable for raw/potable water supply. Specifically, groundwater (or the constituents of groundwater) must not be affected to the extent, or in a manner, that the level of any environmental quality indicator is greater than the health-related guideline value for that indicator as specified in the Australian Drinking Water Guidelines or that leads to an aesthetic guideline value being exceeded (also as defined in the Australian Drinking Water Guidelines).

Subsequently, the following guidelines were primarily adopted by the Auditor to assess the impact on the beneficial use Potable Water (both desirable and acceptable):

- NHMRC/NRMMC (2011, updated August 2018) Australian Drinking Water Guidelines – Health and Aesthetic Values;
- US EPA (November 2019) Regional Screening Levels – Tap water

In the absence of available criteria from the above sources, other international criteria were referenced (as per Table B2 (attached)).

5.2.3 Agriculture and Irrigation (Irrigation)

SEPP (2018) *Waters* defines agriculture and irrigation as water quality that is suitable for agricultural activities such as irrigation, as well as a range of other uses such as the irrigation of domestic gardens, commercial agriculture, parks and golf courses.

Specifically, for the purposes of agriculture and irrigation (irrigation), groundwater must not be affected to the extent that the level of any environmental quality indicator is greater than the level of that indicator specified for irrigation in the ANZECC Guidelines.

Therefore, the primary reference adopted for assessing impacts to the beneficial use agriculture and irrigation (irrigation) is ANZECC (2000) Australian Water Quality Guidelines for Fresh and Marine Water – Water quality for irrigation and general water use.

In the absence of available criteria from the above sources, other international criteria were referenced (as per Table B2 (attached)).

5.2.4 Agriculture and Irrigation (Stock watering)

SEPP (2018) *Waters* defines agriculture and irrigation as water quality that is suitable for agricultural activities such as stock watering and irrigation, as well as a range of other uses such as the irrigation of domestic gardens, commercial agriculture, parks and golf courses.

The primary reference adopted for assessing impacts to the beneficial use Agriculture and Irrigation (stock watering) is ANZECC (2000) *Australian Water Quality Guidelines for Fresh and Marine Water* – Livestock Drinking Water Criteria.

For organic analytes the NHMRC/NRMMC (2011, updated August 2018) *National Water Quality Management Strategy*, Australian Drinking Water Guidelines (Health/Aesthetic) criteria are adopted.

In the absence of available criteria from the above sources, other international criteria were referenced (as per Table B2 (attached)).

5.2.5 Industrial and Commercial

SEPP (2018) *Waters* defines industrial and commercial as water quality that is suitable for industrial and commercial use.

Schedule 3 (Environmental Quality Indicators and Objectives), sub section 7 (Groundwaters) of SEPP (2018) *Waters* refers to the beneficial use of industrial and commercial and notes that for the purposes of the beneficial use industrial and commercial, groundwater must not be affected to the extent that industrial or commercial water quality is impacted. Reference is made to the ANZECC Guidelines. It is noted that the ANZECC Guidelines do not currently provide specific guidance for industrial and commercial water use, therefore, in the event that any other extractive beneficial use is precluded due to the presence of pollution, it will be deemed that the beneficial use industrial and commercial is also precluded by the same contaminant(s).

5.2.6 Water-Based Recreation (Primary Contact Recreation)

Water-based recreation is defined in SEPP (2018) *Waters* as water quality that is suitable for primary contact recreation (e.g. swimming, diving, water skiing, caving and spas), secondary contact recreation (e.g. boating and fishing) and for aesthetic enjoyment.

Reference is made to the NHMRC/NRMMC (2008) *National Water Quality Management Strategy, Guidelines for Managing Risks in Recreational Waters* (Health/Aesthetic). It is noted that these Guidelines reference the NHMRC/NRMMC (2004) *National Water Quality Management Strategy, Australian Drinking Water Guidelines* (Health/Aesthetic), however given the more current NHMRC/NRMMC (2011, updated August 2018) Drinking Water Guidelines have been released, they have been referenced over the NHMRC/NRMMC (2004) Drinking Water Guidelines.

It is noted that in accordance with the NHMRC/NRMMC (2008) *Guidelines for Managing Risks in Recreational Waters*, non-volatile chemicals have been adjusted by a factor of 10.

Additional consideration has been given to the following guidelines where no criteria is available in the NHMRC/NRMMC (2008) Guidelines:

- ANZECC (2000) National Water Quality Management Strategy. Australian Water Quality Guidelines for Fresh and Marine Waters “Recreational Waters”.
- US EPA (November 2019) Regional Screening Levels – Tap water
- ANZECC (1992) Australian Water Quality Guidelines for Fresh and Marine Waters – Recreational Water Quality and Aesthetics. This reverts to the ANZECC (1992) Raw Water for Drinking Purposes criteria for organic analytes.

In the absence of available criteria from the above sources, other international criteria were referenced (as per Table B2 (attached)).

5.2.7 Traditional Owner Cultural Values

SEPP (2018) *Waters* defines traditional owner cultural values as water quality that protects the cultural values of Traditional Owners, having recognised primary responsibility for protecting the values of water for cultural needs, to ensure that Traditional Owner cultural practices can continue. Values may include traditional aquaculture, fishing, harvesting, cultivation of freshwater and marine foods, fish, grasses, medicines and filtration of water holes.

No specific environmental quality indicators or objectives are provided in SEPP (2018) *Waters* for this beneficial use. In lieu of specific criteria, groundwater quality objectives as per Water Dependent Ecosystems and Species, Potable Water Supply and Primary Contact Recreation have been adopted.

5.2.8 Cultural and Spiritual Values

SEPP (2018) *Waters* defines cultural and spiritual values as water quality that is suitable for cultural and spiritual needs and that will ensure that cultural, spiritual and ceremonial practices can continue. These include the cultural values held by communities (e.g. baptisms, water-based festivals and cultural celebrations).

No specific environmental quality indicators or objectives are provided in SEPP (2018) *Waters* for this beneficial use. In lieu of specific criteria, groundwater quality objectives as per Water Dependent Ecosystems and Species, Potable Water Supply and Primary Contact Recreation have been adopted.

5.2.9 Buildings and Structures

SEPP (2018) *Waters* states that '*introduced contaminants shall not cause groundwater to become corrosive to structures or building materials*. Currently there are no available concentration-based criteria for groundwater. However, field-based measurements including pH, redox and sulphate analytical results have been used to assess for the presence of any extreme conditions (i.e. acidity) that may have the potential to impact on buildings and structures. In addition, where any buildings or structures may come into contact with groundwater, criteria for pH, chloride and sulphate can be adopted from Australian Standard AS2159-2009 *Piling Design and Installation*.

5.3 Vapour

The Auditor has considered the beneficial uses of air where those beneficial uses may be adversely affected by the condition of land or groundwater at the site. Specifically, the potential human health risks to future users of the site associated with vapour intrusion and subsequent inhalation of organic contaminants in soil and groundwater was considered with cognisance given to the soil and groundwater HSLs provided in NEPC (2013).

6 Quality and Completeness of Assessment Consultant's Report

This environmental audit report provides an audit on the environmental quality of the segment of land at the subject site and relies upon site assessment works conducted by the assessment consultant (ARC). As part of the Audit, the work completed by ARC was reviewed by the Auditor in the context of its completeness in accordance with relevant Regulations and Guidelines. In addition, ARC provided scopes of work to the Auditor for review and comment prior to commencement of field works undertaken during the course of the Audit. The Auditor generally concurred with the proposed scopes of work and provided on-going guidance where appropriate, including specific written comment throughout the Audit.

6.1 Conformance with EPA Victoria requirements

The specific details of the assessment, including the nature and extent of soil contamination, are described in detail later in relevant sections of this Environmental Audit Report. This section reviews the quality and completeness of the environmental assessment works performed by ARC, assessing the attributes of ARC's work against the requirements of Appendix 2 of the *Environmental Auditor (Contaminated Land) Guidelines for Issue of Certificates and Statements of Environmental Audit* (EPA Victoria 2015) ['EPA Publication 759.3']. Conformance with other key requirements of the *National Environment Protection (Assessment of Site Contamination) Measure 2013* has also been included in this assessment.

The Auditor has considered the following aspects of the ARC site assessment report:

- The contents of the site assessment report.
- The scope of site investigations to support an Environmental Audit.
- The information required for contaminants of concern.
- The significance of site investigation results.

The review of the completeness of all ARC assessment works are summarised in Tables 6.1 - 6.4 (below). It is noted that

Table 6.1 Assessment of Content of Site Assessment Report

History of site uses	Information pertaining to the site's history was gathered by ARC 2017. Findings are detailed in the ARC (July 2017) PSI report provided within Appendix C of the CUTEP report (provided as Appendix D to this report). The site history review conducted by ARC included a review of documentation related to site ownership and certificates of title, council zoning and planning information, state and local government records, aerial photographs, groundwater database search, surrounding Audit reports and publicly available historical records. A summary of site history is provided in Section 3 of the ARC (July 2017) PSI report.
History of adjacent land uses	Details of surrounding site history, and storage of chemicals was obtained by ARC from various sources of information as far as practicable and is provided throughout the ARC (July 2017) PSI report provided within Appendix C of the CUTEP report (provided as Appendix D to this report). A summary of site history is provided in Section 3 of the ARC (July 2017) PSI report.

Identification and summary of previous environmental investigations	The ARC (July 2017) PSI report includes a summary of works completed at the site between 2001 and 2016 (prior to Audit commencement) by ERM, Kilpatrick and Associates, SMEC and GHD. This is provided as Table 3.4 in Section 3.1.8 of the ARC (July 2017) PSI report. As noted in Section 2.2.3, the Auditor has also made reference to the works completed within the *GHD (June 2015) Site Investigation Report which is provided* within Appendix C of the CUTEP report (provided as Appendix D of this report). The Auditor has also made reference to the *Lane Piper (September 2011) Environmental Audit Report (53V), GHD (March 2014) Groundwater Monitoring report, and the GHD (September 2016) Remediation Action Plan.* The Auditor notes that reports were not available for works undertaken by ERM, Kilpatrick and Associates and SMEC between 2001 and 2006. Details of the works conducted between 2001 and 2006 were obtained from summaries provided in later reports.
Identification of potential contaminants of concern	The site history review completed enabled a comprehensive list of potential contaminants to be identified as summarised in Table 4.1, Section 4.1 of the ARC (July 2017) PSI report (for each section of the Nuplex site located at 222-228 Bay Rd, Cheltenham) with contaminants pertaining to Lot 3 summarised in Table 2.7, Section 2.5 of the ARC (March 2019) DSI report.
Visual Inspections	ARC provided a description of their initial site inspection completed on 24 March 2017 in Section 3.1.9 of the ARC (July 2017) PSI report. At the time of the inspection the site was observed to comprise a number of vacant buildings, in a range of conditions, and the former operations areas were entirely enclosed either by fencing or building extents. The office was being partially used by an engineering consultancy company. Two stockpiles of soil and a large excavator, related to ongoing site remediation activities, were present in the north south driveway and SEC areas. In general, during the site inspections, observations were made pertaining to on-site features, condition of on-site buildings and site surface, and apparent former site use including any evidence of chemical storage at the site, as well as surrounding site uses. In addition to visual inspections performed by ARC, the Auditor and/or his representative performed a site inspection during fieldwork to provide additional assurance of the site condition.
Geology and hydrogeology	Details of the geology and hydrogeology of the area were based on regional geological and hydrogeological survey data (including a groundwater database search), as described in Section 2.2 of the ARC (July 2017) PSI report. Observations of local soil and groundwater at the site were undertaken during sampling and is summarised in Section 7 of the ARC (March 2019) DSI report.
Condition of site structures and watercourses	No watercourses were identified on-site. At the time of the initial inspection, the site comprised a number of vacant buildings, in a range of conditions, with the former operations areas were entirely enclosed either by fencing or building extents. The original two storey brick factory building, with original cement sheeting roof, covered the majority of the area. The north-east portion contained a former office and a small covered driveway (entrance to Hamlet Street). The western half had a second level which was observed to be dilapidated offices. The entire factory space was void of any equipment with the exception of a couple of empty drums and pallets. An old air extraction / conditioning unit was located centrally with associated ducting throughout the building. Two power boards existed, one adjacent to the air conditioner and one in the south-west corner.

	Anecdotally, two USTs had existed undercover within the Button Factory area. These had reportedly been removed by Kilpatrick in 2003, however ARC did not see any evidence of the exact locations during their site inspection. A more recent concrete patch was observed on the southern extent of the undercover driveway which considered to be the likely location. A TIT remained at the site. Further description of site condition at the time of the site inspection conducted by ARC is provided in Section 3.1.9 of the ARC (July 2017) PSI report. At the completion of the Audit, the site remained vacant. The proposed development was occurring within the existing building structure. The below ground TIT had been removed and validated.
Analytical detection limits	Standard laboratory detection limits were adopted for most analytes for soil sample analysis and were lower than the adopted assessment criteria. Low levels VOCs were requested for selected soil samples. Standard laboratory detection limits were adopted for all analytes for groundwater sample analysis with the exception of VOCs for which low level limits of reporting (LORs) were requested. Where analytes were reported with laboratory detection limits above criteria the Auditor has reviewed the data with the identified contaminants of potential concern in mind and considers that the limits of reporting for these contaminants are not of material relevance for the conclusions of the Audit.

Table 6.2 Assessment of Scope of Site Investigations to Support an Environmental Audit

Sampling and analysis program	Details of the soil and groundwater sampling and analysis works undertaken by ARC during the Audit are provided in Section 4 of the ARC (March 2019) DSI report and are summarised in Sections 8 to 9 below.
Compliance with approved methods/protocols	Soil sampling was undertaken in accordance with AS4482.1-2005 for non-volatile and semi-volatile compounds and in accordance with AS4482.2–1999 for volatile substances. The total number of test points advanced at the site was greater than the minimum number of sampling points required by AS4482.1-2005. The construction of groundwater monitoring wells was based on the techniques and recommendations established in the Groundwater Sampling Guidelines by the State Environment Protection Policy, and the Auditor considers the monitoring well network suitable for assessment of groundwater conditions for the purposes of the Audit. Soil and groundwater sampling were conducted in general accordance with EPA Publication 669 (Groundwater Sampling Guidelines) and EPA Publication IWRG 701 (Sampling and Analysis of Waters, Wastewaters, Soils and Waste).
Laboratory accreditation	ARC used ALS as their primary laboratory and Eurofins MGT as their secondary laboratory for independent check sample analyses. All analysing laboratories selected by ARC carry NATA accreditation for the analyses undertaken, and all laboratory reports were NATA endorsed.
Site plans and bore logs	Site plans/figures are provided as attachments to the ARC (March 2019) DSI report. The figures depict the site layout, site features, soil sample locations, groundwater monitoring well locations, and excavation extents.

	Bore logs are presented in Appendix C and Appendix D of the ARC (March 2019) DSI report and groundwater monitoring well construction logs are presented in Appendix E of the ARC (March 2019) DSI report.
Quality assurance	A quality assurance/quality control (QA/QC) program was adopted throughout assessment works and provides assurance of the quality/reliability of the data. A discussion of the QA/QC program adopted is presented in Section 7.8 of the ARC (March 2019) DSI report. The Auditor's review of the QA/QC programme is provided as Table C (attached), and a discussion is provided in Section 7 of this report.
Background samples	Off-site "background" data was obtained through a review of Environmental Audits previously conducted within the general vicinity of the site. The Auditor notes that extensive assessment works have occurred and have continued to occur on surrounding lots of the wider Nuplex site. As such, where relevant, results from adjacent lots have been incorporated in discussions provided in Sections 8 to 10 below.,
Soil screens/targeted chemicals	The soil analysis programme focused on the potential contaminants identified during the site history review (including results of previously conducted assessments). In addition, analysis of selected soil samples encompassed a broad range of contaminants with consideration given to the analytes detailed in the NEPM (2013), AS4482.1-2005 and AS4482.2-1999. Soil sample analytical suites are discussed in Section 4.3.1 of the ARC (march 2019) DSI report.
Other environmental hazards	No other environmental hazards were identified at the site during assessment works. No suspect asbestos containing material was observed within soil at any time during the soil assessment works undertaken by ARC during the audit. It is noted that an audit of asbestos containing materials (ACM) at the former Nuplex facility was historically undertaken by Integrated Risk Management (IRM) in 2011 which indicated that ACM was present within Lot 3 (the "J Store"). ARC have noted that there is no intention to alter the building with the Audit to be tied to the current configuration/structures. The (IRM, 2011) asbestos audit is provided within Appendix H of the ARC (March 2019) DSI report.

Table 6.3 Assessment of Information Required for Chemicals of Concern

Chemical properties	An interpretation of soil and groundwater results for the chemicals of concern has been provided in the relevant sections of the ARC (March 2019) DSI report. Where relevant, comments regarding the characteristics (i.e. mobility, availability, physical characteristics, species present, etc.), potential exposure pathways, potential harm to beneficial uses have been provided. A comparison with established guideline concentrations has been made in order to complete a preliminary assessment of the toxicity of the chemicals of potential concern.
Form/species	
Physical characteristics	
Potential exposure pathways	
Potential harm	
Detriment to beneficial uses	
Potential off-site effects	

Table 6.4 Auditor's Comments on Assessment of Significance of Site Investigation Results

Reference to Land SEPP	The significance of soil assessment results is assessed against the Objectives in the SEPP *Prevention and Management of Contamination of Land* 2002 (Variation No. G39 Gazette, 26 September 2013), as discussed in Section 9.6 of the ARC (March 2019) DSI report. The Auditor has assessed the significance of soil assessment results against the objectives in the SEPP *Prevention and Management of Contamination of Land* 2002 in Section 11 of this Audit report.
Evaluation of risk	An evaluation of risk was undertaken by comparison with the NEPM (2013) guidelines, as discussed in Section 9.6 and 9.7 of the ARC (March 2019) DSI report. The Auditor has discussed the nature and extent of contamination, and risk to beneficial uses in Sections 8 to 11 of this Audit report.
Compliance of risk evaluation with NEPM	Some contaminant concentrations in soil exceeded NEPM (2013) guidelines. Options for the management of potential risks (where required) have been implemented through a condition within the Statement of Environmental Audit and/or through the 'other related information' portion of the Statement of Environmental Audit.
Use of other guidelines	In some cases, other published guideline values have been used to evaluate risk. These have been referenced as appropriate. It is noted that where site specific EILs were not calculated, international criteria has been referenced.
Consideration of impact to all beneficial uses	The evaluation of risks presented by contamination included potential impacts on all beneficial uses of the site. The Auditor has provided additional comments regarding potential impacts to beneficial uses of the site in Section 11 of this Audit report.
Appropriate use of waste classification criteria	Approximately 40 kg of excavated soils (from removal of lead contamination which had been previously identified at BF_EEC_SB101) were transported and disposed of as 'drilling mud' to Toxfree's Laverton North licensed facility in July 2018. The Waste Transport Certificate is provided within Appendix N of the ARC (March 2019) DSI report. The stockpile classification report for the stockpiled soils used for backfilling the interceptor pit is provided within Appendix M of the ARC (March 2019) DSI report.

From an overall perspective, it is concluded that the dataset developed by ARC provides a reliable understanding of potential site contamination. It is therefore considered that the information provided by ARC provides an appropriate basis for use for the Environmental Audit Report.

The ARC report contains a Statement of Limitations (Section 12 of the ARC (March 2019) DSI report) which draws attention to the fact that, as with all site assessments, the data derived from the assessment was considered to be accurate at the time of issue in accordance with the current conditions of the site.

7 Quality Assurance of Assessment Data

This section of the Environmental Audit report focuses on the fieldwork and analysis undertaken as part of the environmental site assessment and the quality assurance/quality control (QA/QC) programmes implemented by ARC to ensure the reliability and traceability of samples collected. The key features were:

- Sampling procedures were undertaken using the guidance of AS4482.1-2005, AS4482.2-1999, Sampling and Analysis of Waters, Wastewaters, Soils and Wastes, IWRG 702 – Soil Sampling and NEPM guidelines.
- Decontamination of sampling equipment was conducted between samples to ensure cross contamination could not occur.
- Samples were collected in clean vessels provided by the assessor's primary analytical laboratory and unique sample identification (and other information relevant to the sample) was recorded on sample jars prior to them being placed in insulated containers for transport to the laboratory. Review of laboratory Sample Receipt Notices indicate that appropriate sample containers (preserved where applicable) were used and the samples were received by the laboratory appropriately chilled.
- Chain of custody sheets were used to track transport and analysis of the samples collected.
- During the course of fieldworks undertaken at the site, ARC collected quality control samples, including rinsates, trip blanks and replicate (intra- and inter laboratory) samples. The rinsate and trip blank samples were intended to indicate if cross-contamination of samples had occurred. The replicate samples were intended to assess the precision of the sample collection, transport, storage and analysis process.

The Auditor has completed an independent assessment of the QA/QC programme adopted by ARC (provided as Table C, attached). It is noted that in forming this opinion, the Auditor has also considered field observations made during assessment works.

The Auditor's review of the QA/QC program adopted by ARC concluded that:

- A sufficient number of QA/QC samples including duplicate and split duplicate samples, rinsate samples and trip blanks were analysed during soil and groundwater sampling works.
- Where relative percent difference outliers existed, ARC adopted the highest concentration for interpretive use as a conservative approach.
- All rinsate samples and trip blank samples collected and analysed during soil and groundwater sampling works reported all analytical results below the laboratory LOR.
- Sample analyses were completed within holding times with the exception of the following:
    - Analysis completed on soil sample MW17A_4.0 (which included analysis of MAHs, oxygenated compounds, sulfonated compounds, fumigants, halogenated aliphatic and aromatic compounds and trihalomethanes) which was completed 7 days outside of holding time. This was due to analysis of this sample (which had been originally placed on hold) being requested subsequent to receipt and review of initial results.
    - Analysis of soil samples NHS_ARC_SB203_0.5 and 1.0 for MAHs, naphthalene, VHCs and TRH was completed one day outside of holding time.
    - Analysis of glycols in groundwater samplesMW34B, MW32 and MW35 collected on 27 October 2017 was completed 1 day outside of holding time.

- Analysis of ferrous iron in groundwater sample MW53 collected on 16 January 2018 was completed 2 days outside of holding time.
- Analysis of aldehydes in groundwater samples MW28, MW45A and MW45B collected on 17 January 2018 was completed 1 day outside of holding time.

The Auditor has reviewed the results of the analyses completed outside of holding time with the remaining data set and does not consider the breaches of holding times to affect the overall acceptability of the data for interpretive use.

- Several laboratory QC outliers were reported in soil and groundwater laboratory reports including spike recovery outliers which were attributed to sample matrix interference. Several laboratory duplicate outliers were also reported. Upon review of the laboratory internal QC reports, and consideration of all analytical results reported over the course of soil and groundwater investigations at the site, the Auditor does not consider the reported laboratory quality control outliers to have impacted on the acceptability of the quality of the data for interpretive use.

Overall, the QA/QC program implemented is considered to be acceptable for the purpose of the Audit.

7.1 Auditor Verification Samples

No Auditor verification samples were collected as part of the Audit however the Auditor and the Auditor's representative visited the site during field works to observe and assess the appropriateness and acceptability of the sampling methodology and quality control procedures undertaken by ARC and conducted thorough inspections of the final site surface in order to provide assurance of the acceptability of the assessment results obtained during the Audit.

The Auditor notes that ARC was observed to adhere to appropriate sample collection procedures between each sample location. In general, ARC personnel followed the procedures outlined in the proposed sampling and analysis plans for assessment works undertaken as part of the Audit. Review of chain of custody (COC) documentation and laboratory sample receipts confirms that primary and QC samples were appropriately identified, placed on ice and received at the laboratory suitably chilled and in appropriate sample containers.

The Auditor concluded that the sample results obtained by ARC could be relied upon for the purposes of the Audit.

8 Summary of Soil Investigation

Soil and groundwater assessment works have been conducted at the site since 2001. Initially, works were completed as part of an assessment and 53V Environmental Audit of the larger Nuplex site. In early 2017, the site was subdivided for the purposes of Audit works (with separate CUNs issued for each lot). As such, all assessment works completed for the site following this date have been specific to Lot 3. Soil and groundwater works completed prior to the commencement of the Audit have been summarised and referenced as part of the consideration of the condition of the site. It is however noted that not all documentation and data pertaining to works completed prior to the Audit were made available for review. As such, this data has only been considered qualitatively to assist in directing works for the Audit.

In reviewing the extensive historical data available for the site at the time of the commencement of the Audit, it was noted that two USTs were historically present on the site. Historical groundwater investigation works reported groundwater pollution with respect to petroleum hydrocarbons, considered likely to be sourced from the former tanks. Information available from UST removal and validation works suggested that limited to no residual petroleum hydrocarbon pollution remained within the UST pits. However, it is noted that limited information was available for review.

It was also noted that Lot 2, of the wider Nuplex facility, had previously been identified as a source of groundwater pollution, (primarily chlorinated hydrocarbons, amongst several other contaminants). The source area of chlorinated hydrocarbons on Lot 2 had been defined through extensive soil, groundwater and vapour sampling. Lot 2 is located immediately up-hydraulic gradient of Lot 3. Groundwater sampling undertaken prior to the commencement of the Audit identified chlorinated hydrocarbons (and other contaminants) extending onto Lot 3.

Given the extensive historical data available upon commencement of the audit, works were completed to verify the historical findings, as well as determine current site status, and assess the extent to which the site may have contributed to the known groundwater pollution.

Based on the above and utilising all site history information, soil investigation works were completed to validate/investigate historical findings, address data gaps relevant for completion of the 53x Environmental Audit and characterise soil to determine the extent to which the former use of the site may have resulted in soil (and thus ultimately groundwater) pollution.

All soil works completed for the site under Audit have been considered by the Auditor for the purposes of this Audit (and have been deemed suitable).

The Auditor notes that assessment works have continued to occur on surrounding lots of the wider Nuplex site. As such, where relevant, results from adjacent lots have been incorporated in the below discussion.

8.1 Soil Assessment and Remediation Works

Sections 8.1.1 – 8.1.8 below provide a summary of soil investigation works completed for Lot 3 since 2001. Soil works comprised targeted and grid sampling over a number of phases of investigation. It is noted that Sections 8.1.1 – 8.1.4 summarise soil investigation works completed prior to the commencement of the current 53x Environmental Audit, and Sections 8.1.5 – 8.1.8 summarise soil investigation works completed during the current Environmental Audit

8.1.1 2001 - 2006

February -May 2001 – Review of historical reports suggest that three soil bores (BH4, BH5 and BH7) were drilled on Lot 3 (with conversion of BH7 to groundwater well MW2) by ERM in 2001. Information pertaining

to these works is limited to a brief historical account documented by GHD (2015), as well as borelogs and results tables provided within the LanePiper 53V audit report. BH4 was advanced to target the UST on the western side of the site, BH7/MW2 targeted the UST in the centre of the site and BH5 targeted the TIT. Review of the borelogs shows no odours, staining or elevated PIDs (all 0.0ppm) at all locations.

Samples were analysed for metals, TPH, MAHs, VOCs, OCPs, OPPs, phenols, PAHs, SVOCs, phthalates. All organics results were reported below laboratory limits of reporting (LORs). It was however noted that samples were composited and as such results for volatile contaminants were not considered sufficient. One composited sample from depth of 0.5m (assumed to be in fill) was noted to have reported copper of 240 mg/kg (this is consistent with copper concentrations reported in fill during the audit). The locations of BH4, BH5 and BH7/MW2 are presented on Figure 2.

It was however noted that ERM also collected PID and FID samples across the site (VP33-VP42 and VP47-VP50), concentrating primarily in the vicinity of the USTs (noting the USTs remained in place at the time of this investigation). Again, no information is available in regards to this investigation with the exception of one figure showing sample locations and one table listing the results provided within the appendices of the LanePiper 53V report. The maximum result was reported adjacent to the central UST with an FID concentration of 8,500ppm (noting it is unknown if the USTs contained any fuel at the time). The table showing results from VP33-VP42 and VP47-VP50 is presented as Table J (attached).

Notably, groundwater monitoring well MW2, which was installed immediately adjacent to the central UST reported elevated petroleum hydrocarbons (TPH C_6-C_9 fraction (7,300ug/L), benzene (max 16,100ug/L), ethylbenzene (max 2,300ug/L), xylenes (2,700ug/L) and naphthalene (380ug/L)). These dissolved phase concentrations were sufficiently high so as to be indicative of light non-aqueous phase liquid (LNAPL) (further discussions of groundwater findings are provided in Section 9.3.1 below). Groundwater concentrations reported in MW2 suggested the likely presence of groundwater contamination resulting from the UST in the centre of the site.

It is also noted that in May 2001, nested wells MW16-1, MW16-2, MW16-3 and MW17-1, MW17-2, and MW17-3 were reportedly installed on site. No borelog(s) are available for these nested wells and as such information with regards to any potential soil contamination was not able to be verified. In addition, information suggests that no soil samples were collected for analysis during the installation of these wells.

March 2003 – Removal of the two USTs on-site was undertaken by Kilpatricks. Information provided within GHD (2015) suggests that the USTs may have contained either petroleum hydrocarbons or methanol and acetone (noting that the consultant who removed the tanks (Kilpatricks) stated petroleum hydrocarbons were present in the tanks). Given the contamination identified in groundwater is consistent with petroleum hydrocarbons, it is reasonable to assume that the tanks contained petroleum hydrocarbons.

No information was available for review with regards to the UST removal and/or validation works. It is noted within the GHD (2015) DSI report that soil validation samples were analysed for TPH, BTEX, PAH, lead and phenols, with results (including samples from stockpiled soil) reported below LOR. No information was provided to support this and as such, additional works were completed (both pre audit and during the audit) to assess potential residual contamination within the former tank pits.

October 2006 – BH102-BH104, BH125 and BH126 were advanced to a maximum depth of 3.9m by SMEC in October 2006. Information pertaining to these works is limited to a brief historical account documented by GHD (2015). GHD state that samples all reported SVOCs and VOCs below LORs. No hydrocarbon contamination was identified. Metals were also all reported below HIL criteria relevant for commercial/industrial at the time, with one result of cobalt exceeding HIL A criteria and vanadium, zinc and mercury exceeding EIL criteria (based on the criteria current for 2006). The locations of BH102-BH104, BH125) are presented on Figure 2.

In October 2006, MW23 was noted to have been installed on Lot 3. No soil samples were collected during the drilling of this well. A borelog for this well produced by GHD shows no odours, staining or elevated PIDs for this bore.

8.1.2 May 2008

In May 2008, GHD advanced 11 soil bores via geoprobe across the site to a maximum depth of 3.5m. Results from these works were provided within the Lane Piper Audit Report (2011). The purpose of these works was primarily to assess potential residual contamination resultant from the former USTs, particularly given the limited information available to date in regards to the UST removal works (noting VP110 appears to have been advanced through the western most tank pit). Borelogs for VP101-VP111 are provided within Appendix D of the ARC 2018 DSI and locations are presented on Figure 2.

A total of 22 samples were collected for analysis of BTEX, TRH, VOCs, PAHs, metals and pH.

Results reported:

- Lead exceeding HIL D (VP101 (0.5m) at 1,540 mg/kg) (vertically delineated in the underlying natural sample to well below criteria) was reported in fill at one location, and one location marginally exceeding HIL A (VP105 (0.5m) at 308 mg/kg). (Lead exceeding HIL 'D' is discussed within Section 11.1 below.)
- Copper was reported in fill exceeding EIL criteria at two locations (vertically delineated in the underlying natural sample below criteria at one location).
- All concentrations of BTEX, TRH, VOCs, PAHs were below LOR.
- Review of the borelogs shows no staining and/or odours at all locations, with the exception of VP110 where slight odour was noted at 1.2 and 3.0m. TRH, BTEX and VOC results from samples analysed at 2.0m, 2.5m, and 3.5m were all below LOR. Further assessment at this location was also completed later by ARC in August and November 2017 and April 2018.

It is noted that although one location (VP105) reported copper (175 mg/kg) and lead (308 mg/kg) exceeding the EIL and HIL A criteria respectively, these concentrations were in line with other concentrations later identified across the site in fill, with all other locations vertically delineated in natural soil. As such, although this location was not specifically re-visited during the audit, the lack of a vertically delineating sample at this location is not considered to be relevant for the outcomes of the Audit.

Based on the above, it was concluded by GHD that the investigation did not identify the presence of residual soil contamination contributing to groundwater pollution.

8.1.3 March 2010

On 11 March 2010, MW33 was drilled on-site by GHD. This well was drilled via a combination of hand auger and hollow flight auger to a depth of 17 mbgs. On 15 March 2010 (four days later), MW33R appears to have been drilled immediately adjacent to MW33, also to a depth of 17 mbgs (with the same construction details as MW33). It is not known why MW33R was drilled days after MW33, however it is noted that MW33 was noted within the GHD (2016) RAP to be blocked. MW33 was decommissioned by ARC on 1 March 2018. No soil samples were collected for analysis during the drilling of these wells. It is noted that no staining or odours were observed during drilling, with PID readings all 0.0ppm.

8.1.4 February 2017

On 16 February 2017, EEC advanced one bore, CMW1, to a depth of 12.5m via solid flight auger, with conversion of this bore to monitoring well CMW1. No soil samples or PID readings were collected from this bore. Review of the borelog for CMW1 (provided within Appendix E of the ARC 2018 DSI) shows no staining or odours observed.

8.1.5 July and August 2017 (First phase of works following commencement of the Audit)

On 19 & 20 July and 2 August 2017 eleven soil bores (BF_EEC_SB101-SB105, MW50A, MW50B, MW50C, BF_EEC_OSB01-03) were drilled across the site. Bores BF_EEC_SB101 to BF_EEC_SB105 were drilled to a maximum depth of 1.6m, with bores BF_EEC_SB104 and BF_SB105 drilled within the former UST pits. MW50A to MW50C were drilled to a maximum depth of 20.7m for the purpose of conversion to monitoring wells. Of these three wells, soil samples were collected for analysis from MW50A. BF_EEC_OSB01 to BF_EEC_OSB003 were drilled to a maximum depth of 1.5m targeting a filled in trench/drain.

Select soil samples were analysed for TRH, BTEX, PAH, metals, solvents, VOCs, amino aliphatics, amino aromatics, anilines, cyanide, explosives, glycols, herbicides, MAH, OCPs, OPPs, nitroaromatics, PCBs, phthalates, phenols and SVOCs.

Results reported the following:

- Lead was reported in fill at two locations, one exceeding HIL A (BF_EEC_SB103 at 377 mg/kg) and one exceeding HIL D (BF_EEC_SB101 at 5,120 mg/kg), both vertically delineated in the underlying natural soil sample to below criteria). (Remediation works associated with the reported lead exceedance at BF_EEC_SB101 are summarised below in Section 8.1.7).
- The two samples collected within backfill material in the former UST pits reported manganese exceeding the EIL criteria (355 mg/kg and 385 mg/kg). These samples were not vertically delineated within the natural soil at the base of the UST pit. It is however noted that manganese concentrations reported were in line with manganese concentrations in fill across the site (all of which were delineated in natural soil and not indicative of potential groundwater pollution). As such it is considered that the lack of vertically delineating samples does not alter the outcomes of the CUTEP and/or Audit.

It is noted that the bores advanced through the former UST pits were terminated with fill material and as such, these locations were revisited on 20 November 2017 with bores advanced to the base of each UST pit. Natural soil was encountered at each location (2.0m and 2.2m). No odours or staining were encountered throughout the boreholes, including in natural soil at the base of each pit. Samples at the base of the pits were analysed for TRH, BTEX and VOCs. All concentrations were reported below LOR.

- Soil bores BF_EEC_OSB01 to BF_EEC_OSB03 were all drilled through fill material and into natural soil, and did not identify any evidence of potential contamination (i.e. no staining, odours or elevated PIDs). It is however noted that no samples were collected from any of these bores. As such, one additional soil bore (BF_EEC_SB106) was advanced on 20 November 2017, with one sample collected at 0.2m in fill and analysed for TRH, BTEX, VOCs, metals (and ASLP for metals), sulphate, pH, PAHs, cyanide, OCPs, OPPs, herbicides, nitroaromatics, PCBs, formaldehyde, phenols, phthalates amino aromatics and aliphatics, glycols and SVOCs. All concentrations were reported less than LOR, with the exception of metals, which (where detected) were all reported below criteria. All ASLP results were also reported less than LOR, with the exception of zinc, which reported a detectable concentration of 0.2 mg/L (well below 100x the drinking water criteria) and therefore not considered to have the potential to impact groundwater.

- Copper, manganese and zinc were reported in fill exceeding EIL criteria (vertically delineated in the underlying natural soil samples to below criteria, with the exception of the manganese in BF_EEC_SB104 and BF_EEC_SB105 as noted above).
- BF_EEC_SB102 reported minor PAHs in fill at 0.5m (vertically delineated in the underlying sample at 1m to less than LOR).
- Cobalt was reported in fill exceeding the HIL A criteria at two locations (vertically delineated in the underlying natural soil sample to below criteria).
- One concentration of vanadium marginally exceeding the EIL in natural soil.
- One detectable concentration of carbon tetrachloride in fill (0.41mg/kg, below criteria) (vertically delineated in the underlying natural soil sample). It is noted that due to the volatility of carbon tetrachloride, potential risks associated with this detectable concentration have been considered (see Section 11.3 below).
- A single concentration of di-n-butyl phthalate was detected in fill (1.2 mg/kg, exceeding the EIL) (vertically delineated in the underlying natural soil sample).
- All other concentrations of TRH, BTEX, PAH, solvents, VOCs, amino aliphatics, amino aromatics, anilines, explosives, glycols, herbicides, MAHs, OCP, OPPs, nitroaromatics, PCBs, phthalates, phenols and SVOCs were below LOR.

8.1.6 October 2017

On 25 October 2017 EEC removed of the Triple Interceptor Trap (TIT) located in the southwestern portion of the site. No soil was excavated as part of these works. Five validation samples (four wall samples (EEC_TIT2_1 to EEC_TIT2_4) and one base sample (EEC_TIT2_5)) were collected for analysis of TRH, BTEX, MAH, VOC and solvents. All results were reported below LOR. The location of the TIT excavation and validation samples are presented on Figure 6B.

It is noted that not all relevant contaminants of concern were considered to have been analysed within the validation samples collected from the TIT pit. As such, the TIT pit was re-visited by ARC on 5 July 2018. One soil bore was drilled to the base of the pit and into natural soil. One sample (ARC_TIT2_1.5) of natural soil was collected for analysis of lead, pH, ammonia, methanol and oil and grease. Results were all below relevant criteria with minor detectable concentrations of methanol (6 mg/kg) and oil and grease (150 mg/kg) were reported.

The TIT was backfilled with 1m^3 of soil sourced from a 200m^3 stockpile (SP10-1) created following excavation works completed on Lot 1. The stockpile was classified as fill material, as per the stockpile classification report provided within Appendix M of the ARC DSI report. It is noted that although the stockpile was classified as fill material (in accordance with the Industrial Waste Resource Guidelines (IWRG) 621), detectable concentrations of chlorinated hydrocarbons and hexavalent chromium were identified within the stockpile. Concentrations were identified as follows:

- TCE ranging from <0.02 to 0.43 mg/kg
- PCE ranging from <0.02 to 0.17 mg/kg
- One detectable concentration of Cis 1,2 -DCE ranging of 0.02 mg/kg
- Once detectable concentration of chromium VI just above the LOR at 0.6 mg/kg.

It is noted that only 1m^3 of SP10-1 was used to backfill the TIT, as such the volume is not considered sufficient to act as a future potential source of groundwater pollution. However, based on the detectable

concentrations reported within the material used, on 22 February 2018, one soil bore (TIT2 (backfill)) was placed through the backfill material within the TIT to further confirm its level of contamination. Three samples at depths of 0.2m, 0.5m and 0.8m were collected for analysis (to ensure sufficient variability of the material was captured). Samples were analysed for TRH C_6-C_{10}, BTEXN and a limited VOC suite (which included chlorinated hydrocarbons). All concentrations were reported less than LOR. Despite the samples collected from TIT2(backfill) being reported below detection limits (also noting that the action of moving the stockpile and backfilling the pit would likely have caused much, if not all, of the chlorinated hydrocarbons within the material to have volatilised), the Auditor has considered the potential risks associated with the possible presence of residual chlorinated hydrocarbons within the TIT pit (see Section 11.3 below).

8.1.7 February 2018

On 15 February 2018, lead contamination previously identified at BF_EEC_SB101 at 0.1m (5,120 mg/kg) was excavated and disposed off-site. The Auditor notes that although elevated lead had also been identified at three other locations in shallow fill across the site, the concentration reported at BF_EEC_SB101 was significantly higher than all other samples identified. It is also noted that BF_EEC_SB101 at 0.1m also reported di-n-butyl phthalate (1.2 mg/kg), cobalt (103 mg/kg), copper (701 mg/kg) and zinc (4,180 mg/kg) exceeding the EIL criteria. As such, it was considered to be a hotspot and removed accordingly.

Works involved the excavation of an area 0.5m x 0.5m to a depth of 0.3m. Five validation samples were collected (four wall samples, BF_EEC_SB101A- BF_EEC_SB101D and one base sample BF_EEC_SB101E) for analysis of lead. Although other contaminants reporting EIL exceedances weren't analysed within the validation samples, it was considered that analysis of lead was sufficient for validating removal of the hotspot reported at this location (noting all contaminants had been analysed in the original vertically delineating sample). The location of the excavation and validation samples is presented on Figure 6B.

Base validation sample BF_EEC_SB101E collected at a depth of 0.3m reported a lead concentration of 86 mg/kg. This was consistent with the understanding that elevated lead concentrations remained within the shallow fill material and did not extend deeper.

Wall validation sample results, as reported by ARC within their results tables appeared to range between 35 mg/kg and 1,290 mg/kg. From review of the results, it appeared that the excavations had successfully removed all lead concentrations above the HIL D concentrations. However, upon further review of the laboratory results the Auditor noted that sample BF_EEC_SB101A appeared to have been re-analysed by the laboratory, with the highest concentrations reported through re-analysis being 2,910 mg/kg. The Auditor therefore requested that ARC complete further excavations to remove potentially elevated lead at BF_EEC_SB101A.

On 6 June 2018, ARC conducted further excavations at BF_EEC_SB101A, extending the lead hotspot excavation to the north by 0.3m long and 0.5m width and 0.3m depth. Two validation samples were collected, one on the northern wall (BF_EEC_SB101F) and one on the base (BF_EEC_SB101G). Validation samples reported concentrations of 154 mg/kg and 12 mg/kg respectively. It is noted that the base validation sample again confirmed that the lead contamination was restricted to the shallow fill material.

Given the concentration remaining on the eastern side of the original lead excavation hotspot (i.e. 1,290 mg/kg at BF_EEC_SB101B), one borehole (BF_ARC_SB107) was also advanced in June 2018 to the east of the lead excavation to delineate in the direction of the eastern site boundary. BF_ARC_SB107 was advanced via hand auger to a maximum depth of 1.0m (into natural soil). Three samples were collected

BF_ARC_SB107_0.2, BF_ARC_SB107_0.5 and BF_ARC_SB107_1.0 for analysis of lead. Results reported concentrations ranging between 8 mg/kg and 19 mg/kg, well below all relevant criteria. It was therefore considered unlikely that the elevated lead extended off-site to the east.

The location of the extended excavation, validation samples and borehole BF_ARC_SB107 are presented on Figure 6B.

The lead hotspot excavation was re-instated with concrete.

It is noted that the Auditor's request for information in regards to classification and off-site disposal of the fill excavated as part of the lead hotspot removal works indicated from ARC that the excavation works resulted in 40kg of excavated material, of which was disposed of as "drilling mud". The Auditor was provided with a copy of EPA waste disposal documentation for "drilling mud" indicating it was disposed of at Toxfree Laverton North. The waste disposal certificate for "drilling mud" is provided in Appendix N of the ARC (March 2019) DSI report.

8.1.8 April – May 2018

On 4 April 2018, ARC drilled MW17A (through the former western most UST pit) and MW23A (adjacent to well MW23) in the south-western portion of the site. On 8 May 2018, ARC drilled MW02A (through the former central UST pit, adjacent to the former well MW02). On 21 May 2018, ARC drilled MW17B, to the immediate west of the former western most UST pit.

MW17A, MW17B and MW02A were to assess potential groundwater pollution from the former USTs. MW23A was advanced as a replacement well for MW23, as construction of MW23 was considered to have the potential to under report petroleum hydrocarbon concentrations (i.e. long screen and submerged screen) (further detail in regards to the purpose of re-installation of these wells with respect to groundwater is provided in Section 9.1 below).

Wells MW02A and MW23A were drilled via hand auger and solid stem auger to a maximum depth of 11.5 mbgl. No soil samples were collected for analysis during the drilling of these wells. It is noted that no staining or odours were observed during drilling, with the maximum PID reported of 0.1ppm in MW02A and 3.5ppm in MW23A.

MW17A was drilled via hand auger, solid stem auger and hollow stem auger to a maximum depth of 11.5 mbgl.

The borelog for MW17A identified hydrocarbon odour, grey staining and a maximum PID of 40.6ppm from 4.0 to 7.5m. Soil samples were collected from depths of 4.0m, 7.0m and 8.0m for analysis of TRH and BTEX, with the 4.0m sample also analysed for MAHs and VOCs. All results were reported less than LOR with the exception of the 4.0m sample which reported TRH F1 of 56 mg/kg and TRH F2 of 140 mg/kg (above HSL A/B however below HSL D, relevant for the proposed site use). The results confirmed very limited residual hydrocarbon contamination extending from the former tank pit at MW17, however also confirmed the contamination to be localised. This is noted to be consistent with the groundwater results reported along the eastern side of the site (as discussed below in Section 9.3.1).

It is noted that following the installation of MW17A, groundwater was observed to be significantly shallower than other locations, resulting in the well screen being submerged. As such, bores MW17B (to the immediate west of the former UST pit) and MW17C (a second location in the former UST pit) were drilled on 21 May 2018.

MW17C was abandoned at 2.0m due to the presence of shallow water. It is noted that no borelog was produced for MW17C (although the Auditor does not consider this to be of relevance for the audit given the number of bores advanced in this area, all of which had borelogs produced). One fill sample was

collected at MW17C at a depth of 2.0m for analysis of TRH, BTEXN, metals and a VOC screen. All concentrations were below LOR (with the exception of certain metals which were well below the relevant criteria). It is noted that further discussion of the nature of the shallow water and sampling results of the water from MW17C is provided in Section 9.3.1 below.

MW17B was drilled via hand auger and solid stem auger to a maximum depth of 7.5 mbgl. No soil samples were collected for analysis during the drilling of this well. It is noted that no staining or odours were observed during drilling, with the maximum PID reported of 5.4ppm.

The locations of MW17A, MW17B, MW23A and MW2A are located on Figure 2.

The findings of ARC's work are provided within the Summary Bore Completion and Soil Assessment Report; Lot 3 Plan of Subdivision PS802507T, 14 Hamlet Street, Cheltenham, Victoria; 16 November 2018 and the Detailed Site Investigation; Lot 3 Plan of Subdivision PS802507T, 14 Hamlet Street, Cheltenham, Victoria; 7 March 2019 provided within Appendix C of the CUTEP report (Appendix D of the audit report).

Figure 2 (attached to this report) provides the locations of all soil bores installed across the site.

8.1.9 Soil Works Summary

In summary, soil investigation works completed at the site identified elevated concentrations of metals (cobalt, copper, lead, manganese, vanadium and zinc), TRH (C_6 - C_{10} less BTEX, C_{10} - C_{16} less naphthalene, C_{16} - C_{34}) fraction, pH and di-n-butyl phthalate exceeding the adopted EIL/ESL and/or HIL/HSL criteria.

TCE and chromium VI above the relevant criteria were noted to have been backfilled into the TIT excavation.

In addition to the above listed contaminants, detectable concentrations of metals (antimony, arsenic, barium, beryllium, cadmium, total chromium, iron, mercury, nickel), sulphate, carbon tetrachloride, PAH (fluoranthrene and pyrene), methanol and oil and grease were also reported in soil at the site below the adopted criteria.

All other contaminants (metals (boron and selenium)) BTEX, solvents, VOCs, amino aliphatics, amino aromatics, anilines, cyanide, explosives, glycols, herbicides, MAH, OCPs, OPPs, nitroaromatics, PCBs, phenols and SVOCs were below laboratory detection limits.

Soil remediation works completed at the site (during the Audit) were limited to excavation and off-site disposal of one shallow lead hotspot and the removal of one TIT. The soil remediation works conducted during the Audit were not considered to be associated with any groundwater pollution reported at the site.

Prior to commencement of the Audit, removal of two USTs was undertaken by Kilpatricks in March 2003. As indicated in Section 8.1.1 above, limited information was provided in regards to tank removal and validation works completed from the Kilpatricks works. However, as noted throughout Sections 8.1.1 – 8.1.8 above, several phases of works were completed to determine if residual petroleum hydrocarbons remained in soil on-site which were considered to act as an on-going source of groundwater pollution. As per Section 8.1.8 above, works identified residual petroleum hydrocarbons (TRH F1 of 56 mg/kg and TRH F2 of 140 mg/kg) at a depth of 4.0m in the western most UST pit. No other sample locations identified detectable petroleum hydrocarbons on-site.

Based on the presence of only very limited residual petroleum hydrocarbons associated with the former USTs on-site. As such, no further soil remediation works targeting petroleum hydrocarbons were completed during the Audit. In addition, no active groundwater remediation was undertaken at the site, neither pre-Audit nor post-Audit.

Table A (appended) provides all soil contaminant concentrations reported across the site (noting the criteria adopted by the assessor in this table varies for manganese, vanadium and di-n-butyl phthalate).

Tables 1 and 2 of the ARC (March 2019) DSI Report (extracted and attached to this report as Table D) provides tabulated results for all soil contaminant concentrations.

Figure 2 (attached to this report) provides the locations of all soil bores installed across the site.

Figure 6A (attached) presents all soil exceedances reported across the site (prior to the on-site remediation works). Figure 6B presents all soil exceedances reported across the site following soil remediation works (i.e. excavation of the lead hotspot and removal and backfill of the TIT).

8.2 Soil Contamination and Extent – Final Soil Condition

Table D (appended) present a summary of all soil concentrations reported across the site.

Table E (attached) provides a summary of the residual soil exceedances (above the Auditor's criteria).

Figure 6B presents soil samples exceeding criteria remaining across the site (i.e. final soil condition).

Based on the soil exceedances reported across the site and in consideration of the historical site information, the following is noted:

- Two USTs were identified on-site, one in the central port of the site and one on the north-western side of the site. As noted above, the USTs were reportedly removed and validated by Kilpatricks in 2003. Multiple investigations have been conducted since that time to assess the potential for residual petroleum hydrocarbons to be present in, and in the surrounds of, the former UST pits. Historical PID/FID results and groundwater results from MW2 suggested that the UST in the centre of the site had resulted in pollution to groundwater. Two sampling locations were drilled through the western most UST pit (VP110 and MW17A) with MW17A reporting minor residual petroleum hydrocarbons remaining in the vicinity of the western most tank pit at a depth of 4.0m (above HSL A/B however below HSL D, relevant for the proposed site use). Results were vertically delineated by the underlying samples at 7.0m and 8.0m. The remainder of boreholes across the site reported petroleum hydrocarbons below the laboratory LOR, with no odours, no staining and no notable PIDs. The results confirmed very limited residual hydrocarbon contamination extending from the former tank pit at MW17, however also confirmed the contamination to be localised. Based on the former presence of the USTs on-site, results from MW17A (as well as the historical groundwater results reported in MW2 which was advanced through the central UST pit – as discussed further in Section 9 below), it was considered that the former USTs were the likely source of this residual hydrocarbon soil concentrations (and of the reported groundwater pollution as discussed within Section 9).
- Detectable concentrations, one of each of di-n-butyl phthalate (above EILs), PAHs and carbon tetrachloride (below criteria) were reported in fill material. All detectable concentrations were identified within shallow fill material, with vertically delineating samples in natural all reported below the laboratory LOR. Reported concentrations of these contaminants were considered to be highly localised and limited only to shallow fill material. The potential source of the di-n-butyl phthalate and carbon tetrachloride in fill material was considered likely to be associated with the industrial nature of the site use, such as likely minor incidental spillage, or the poor quality of imported fill material across the site. PAHs were considered to be associated with the fill material across the site. The identified presence of these contaminants in fill were not considered to have the potential to have resulted in groundwater pollution at the site. It is noted that remediation

works conducted at the site resulted in removal of the di-n-butyl phthalate, and as such it is not considered to be representative of the final site condition.

- One TIT was located on-site. The TIT was removed and validated in October 2017. All TIT validation samples were reported either below LOR or below the relevant criteria (noting no impacted soil around the TIT post removal was identified and/or excavated). One detectable concentration of methanol and 'oil and grease' was reported at the base of the former TIT pit. Based on the reported concentrations being below criteria, and the absence of staining or odours indicating potential leakage from the TIT, no further remediation works associated with the TIT was considered to be required. It is noted that no methanol was reported within groundwater monitoring wells on the western side of the site. The former TIT is considered unlikely to have resulted in groundwater pollution.
- Concentrations of TCE, PCE, 1,2-DCE and chromium VI were reported within material used to backfill the former TIT pit. TCE and chromium VI were reported above HIL and EIL criteria respectively. It is noted that only $1m^3$ of SP10-1 was used to backfill the TIT, as such the volume is not considered sufficient to act as a future potential source of groundwater pollution. In addition, one soil bore placed through the backfill in the TIT reported TCE, PCE and 1,2-DCE below LOR, noting movement of the material from its original location on Lot 1 to the TIT is likely to have resulted in the volatilisation of these low concentrations. Potential risks associated with the exceedances reported within the backfill material are discussed within Sections 11.1 and 11.3 below.
- Metals (cobalt, copper, lead, manganese, vanadium and zinc) were identified above criteria in soil at various locations across the site, with other metals detected at concentrations below criteria. As noted in Sections 8.1.1-8.1.8 above, all metals concentrations were restricted to the fill material, with relevant vertically delineating samples reported below criteria. Leachability results were also all reported below laboratory LOR or at concentrations sufficiently low so as to indicate that impact to groundwater was unlikely to have occurred. Metals exceedances reported in fill were considered to be associated with the quality of fill material across the site and unlikely to be associated specifically with activities that have historically occurred on-site. All metals exceedances in soil were not considered likely to be a potential source of groundwater pollution. However, certain metals were detected in groundwater at concentrations indicative of pollution. Further discussion is provided in Section 9 below.

As noted from the results of the soil investigation works, with the exception of the former UST pits, no on-site sourced were identified in soil which were considered likely to have contributed to groundwater pollution.

8.2.1 Other contaminants/observations

8.2.1.1 pH

The reported pH values in soil remaining at the site were in the range of 5.9 – 8.5 units, slightly wider in range than the Auditor's adopted acceptable pH range of 6-8 units. Reported pH in fill ranged between 6.6 to 8.5 units with an average of 6.7. Reported pH in natural soil ranged between 5.9 and 7.5 units, with an average of 6.9 units. No potential sources of pH impact were observed at the site, and it is noted that the pH range is generally consistent with that reported in soils at nearby Audit sites. The observed slightly acidic pH in the natural soil was considered to be associated with natural conditions of the Brighton Group.

8.2.1.2 Asbestos

An audit of asbestos containing materials (ACM) was undertaken by Integrated Risk Management in 2011 for the wider former Nuplex facility. This assessment indicated that ACM was present within the former "J Store" on Lot 3. The asbestos audit is provided within Appendix H of the ARC (March 2019) DSI Report, presented in Appendix C of the CUTEP report (Appendix D of this report).

The potential presence of ACM was monitored during soil assessment works. No ACM was noted on the site surface or during intrusive soil assessment works during any of the investigation and excavation works undertaken during the Audit.

Based on the identified presence of asbestos remaining within the "J Store" building on Lot 3, the Auditor considers the inclusion of a comment in "other related information" of the Statement of Environmental Audit (see Appendix A) which states that asbestos containing material has been reported on the site as part of the "J Store" building and that during any future development works where the structure is removed or refurbished, the works must be conducted in accordance with the Occupational Health & Safety Regulations 2007 (Part 4.3 Asbestos), including the use of an appropriately licensed contractor.

8.2.1.3 Aesthetics

Anthropogenic inclusions such as brick and concrete were observed within fill material across the site which remained at the conclusion of the Audit. In addition, soil containing odours and/or staining at some locations on the site may be present. As such, in the context of unrestricted use of the site, the beneficial use of Aesthetics is considered to be precluded.

However, in the context of the proposed development, where it is developed in accordance with the proposed development plans (provided within Appendix C), and with a requirement of a minimum of 0.5 m of 'clean fill' be placed below the finished surface in all landscaped areas or garden beds directly overlying existing site soils, the beneficial uses of 'Aesthetics' is considered to be protected.

9 Groundwater Investigation Works

9.1 Groundwater Assessment Works – Prior to Remediation

Groundwater investigation works completed for the site during the Audit included the installation and sampling of groundwater monitoring wells MW02A, MW17A, MW17B, MW23A, MW50A, MW50B, MW50C and CMW1, as well as sampling of historically installed wells MW23 and MW33R. (It is noted that CMW1 was installed eight days prior to the commencement of the audit as such, the Auditor did not oversee installation of this well, however has reviewed the installation details and considers the well suitable for use as part of the audit).

Historically (prior to the Audit) ten groundwater monitoring wells were installed on the Lot 3 portion of the Nuplex site. These wells are listed as follows:

- MW2, installed in February 2001 by ERM, adjacent to the centre UST;
- Nested well MW16/1, MW16/2 and MW16/3, installed in May 2001 by ERM, on the eastern side of the site;
- Nested well MW17/1, MW17/2 and MW17/3, installed in May 2001 by ERM; adjacent to the UST on the western side of the site;
- MW23, installed in October 2006 by SMEC, on the western site boundary to the north of the TIT and down hydraulic gradient from the USTs; and
- MW33/MW33R, installed in March 2010 by GHD, in the south-eastern corner of the site. It is noted that, according to available well construction logs, historical wells MW33 and MW33R were installed by GHD on 11 March 2010 and 15 March 2010 respectively at the same location with identical construction (i.e. same total depths and screened intervals). Reasons for installing MW33R are not provided within the available reports, however the 2011 53V Audit report (Lane Piper, 2011) makes reference to MW33R only, suggesting that MW33 was replaced by MW33R prior to any sampling of the well. It is noted that historical reports reference MW33 and MW33R interchangeably. In addition, the GHD (2016) RAP indicated that MW33 was blocked. For the purposes of the Audit, it has been assumed that all results reported as MW33 or MW33R pertain to MW33R. Given MW33 and MW33R are located within 1-2m of each other and construction details are the same, it is not considered to be of material difference which well the results pertain to. It is noted that on 1 March 2018 ARC decommissioned well MW33. On review of the construction of MW33R, it was considered appropriate to include this well in groundwater investigations during the current Audit.

Construction details for wells historically installed and sampled on Lot 3 are listed in Table F attached.

Groundwater sampling works commenced in 2001 by ERM. Limited information is provided in regards to earlier groundwater sampling rounds, completed between 2001 and 2008. Available results are limited to some historical tables provided within the appendices of the Lane Piper 53V Audit Report. The Auditor has reviewed available information and has referenced data where sufficiently comprehensive to provide a relevant understanding of historical site conditions (noting the relevant data is primarily limited to groundwater results for MW2 as noted below).

Wells MW2, MW16/1-3 and MW17/1-3 were decommissioned prior to Audit commencement. As such, works were completed during the Audit to assess the need for re-installation of replacement wells.

Subsequently, the following replacement wells were installed:

- MW2A, installed by ARC in May 2018, within the former central UST pit to replace MW2;

- MW17A and MW17B, installed by ARC in April/May 2018, within the former western UST pit, were installed as replacement wells for MW17/1-3. MW17A and MW17B were installed approximately 5m to the north-west of MW17/1-3, however are noted to be more ideally placed to address the purpose of this location (being the assessment of potential contamination from the western UST). As noted above in Section 8.1.8, MW17A was installed within the tank pit of the former UST near the western boundary of the site with a screened interval between 6.5 – 11.5 m, however groundwater was subsequently gauged at 5.8 mbgs indicating a submerged screen. As such, MW17A was not sampled and MW17B was installed to replace MW17A ensuring that the screen was not submerged. MW17B was installed to the west of the tank pit, with a screened interval between 4.5 - 7.5 m. It is noted that prior to installation of MW17B, a second well location (MW17C) was attempted within the tank pit, however perched water was encountered and therefore the location was terminated at 2.0 mbgl with MW17B subsequently advanced and installed to 7.5 mbgl immediately to the west of the former UST pit. A sample of the perched water was collected from the open soil bore (MW17C) (not a constructed monitoring well) at 2.0 mbgl via dedicated bailer in May 2018 (discussed in Section 9.3.1). The 'perched water' identified at this location was found to be resultant from a leaking terracotta water pipe identified at this location.
- Nested well MW16/1-3 was not replaced, however groundwater monitoring wells MW50A, MW50B and MW50C were installed by ARC in August 2017 (to assess the vertical profile of contaminants extending from Lot 2 to Lot 3) and are located approximately 5-8 m to the north of MW16/1-3. CMW1 was installed by EEC in February 2017, located to the west of MW16/1-3. The installation of MW50A-C and CMW1 was considered to provide sufficient coverage of the area previously assessed by MW16/1-3.

Groundwater monitoring well MW23 was sampled both prior to the Audit and during works under the current Audit. It was however noted that MW23 was constructed with a long screen length (8.1 m), which was also submerged. Based on the Auditor's concerns that concentrations in MW23 may be masked by dilution due to the screen length or under reporting petroleum hydrocarbons (the contaminant of which was being primarily targeted by this well) due to the submerged screen, a replacement well (MW23A) was installed. ARC installed groundwater monitoring well MW23A adjacent to MW23 in April 2018 with an appropriate screen length (3.0 m) for the purposes of continued monitoring of groundwater and petroleum hydrocarbons at this location.

It is noted that in on-site wells MW50A, MW50B, MW50C and MW33R and several off-site monitoring wells which have been considered to represent up-gradient or cross-gradient groundwater conditions for the purposes of the Audit (MW24A, MW24B and MW26), standing water levels were consistently historically gauged above the screened interval. However, given the primary contaminants of concern for the wider Nuplex site were chlorinated hydrocarbons (the contaminants for which these wells were primarily installed to target assessment of), the submerged screens were not considered to be of consequence when interpreting the results from these wells.

Off-site wells MW29, MW30 and MW40 were installed by GHD in 2008 - 2010 to provide an understanding of off-site, downgradient groundwater conditions as part of assessment of the wider Nuplex facility. These wells have been sampled as part of the Audit to characterise off-site down hydraulic gradient conditions from Lot 3. Please note that these wells have been referenced specifically as part of the well network for Lot 3 and as such all tables and discussions have been based on this consideration.

It is noted that groundwater monitoring works for the wider Nuplex site were undertaken by ARC at the same time as conducting groundwater sampling works for Lot 3. As such, sampling works also included wells from across the wider Nuplex site. Results from off-site wells in close proximity to Lot 3 have been

referenced as needed to provide an understanding of the distribution of contaminants up and cross-hydraulic gradient of Lot 3. Wells referenced include:

- MW24A/MW24AR, MW24B/MW24BR and MW24C/MW24CR on Lot 2,
- BMW2 on Lot 4 and;
- MW25, MW26, MW34 and MW34A, off-site to the east.

It is also noted that former off-site upgradient wells MW12/1, MW13/2, MW15/3, MW18 and MW32 have also been referenced in order to assist in the understanding of off-site upgradient contaminant concentrations. On occasion, results from additional wells across the wider Nuplex site have also been referenced where needed to provide a more comprehensive understanding of groundwater conditions.

Based on data from groundwater monitoring rounds undertaken between February 2017 and October 2018 (i.e. during the Audit), on-site groundwater levels (excluding MW17A and MW17B) stabilised between 9.47 and 10.69 mbgl (28.14 and 27.78 mAHD) with the uppermost aquifer at the site being identified as the Brighton Group Red Bluff sands. MW17B reported stabilised groundwater levels between 5.07 and 5.26 mbTOC (32.65 and 32.46 mAHD). MW17A reported a stabilised groundwater level of 5.65 mbgl (not surveyed). As noted above and in Section 8.1.8, a water leak was identified adjacent to MW17A and MW17B which was considered to have locally influenced the depth to water at these wells. Off-site down-hydraulic gradient wells MW29, MW30 and MW40 reported stabilised groundwater levels between 8.42 and 9.83 mBTOC (28.78 and 28.03 mAHD), as also noted in Section 2.4.6 above.

The locations of all groundwater monitoring wells on Lot 3 and in close proximity to Lot 3 are shown on Figures 9A-9C, 10A-10D, 11 and 12. Figure 8 shows the locations of all historical wells located across the site (as provided within the GHD 2015 ESA report). Table F (attached) presents a summary of well construction for all wells installed across the site (prior to and during the Audit). This table also includes well construction details for relevant off-site wells. Stabilised groundwater levels gauged in all wells over the course of the Audit is also provided in Table F.

The Auditor notes that all groundwater monitoring wells installed by ARC (and EEC) were installed in accordance with EPA Publication 669 (Groundwater Sampling Guidelines). The groundwater monitoring well network is considered to be adequate to assess the lateral and vertical extent of groundwater pollution within the site (with consideration of the Section 8.3 Delineating Groundwater Contamination of Schedule B2, NEPM (2013)). Additionally, sufficient data has been provided to enable a confident appraisal of groundwater flow directions (as discussed in Section 2.4.6).

A total of eight groundwater monitoring events (GMEs) were undertaken by ARC over the course of the Audit (August 2017 to October 2018). An additional GME was undertaken by HydroTerra in January 2017 (as directed by the client), just prior to Audit commencement has also been included within this data set (noting that it was not completed under the supervision of the Auditor). A summary of the January 2017 GME works were not included within the ARC 2019 DSI report, with only the results provided within Table 8 (extracted from the ARC report and attached as Table G1). The Auditor sourced the HydroTerra GME documentation and has provided in within Appendix F of the CUTEP report (Appendix D of this report).

As discussed further below, no groundwater remediation works were undertaken at the site during the Audit, and therefore all monitoring undertaken during the Audit is considered to be representative of post-remediation groundwater conditions. Prior to the Audit, a total of eight GMEs were conducted between 2008 and 2014, six of which were completed as part of the 53V LanePiper Audit Report. As noted above, data and supporting documentation for GMEs conducted between 2008 and 2014 has been reviewed as part of the Audit. Tabulated results from GMEs conducted between 2008 and 2014 have been extracted from the GHD (2015) ESA report and attached as Table G2 to this report. Prior to 2008, it is not specifically

known how many GMEs were conducted. What appears to be a complete data table is provided for one GME conducted in July 2001. Other tables provided within the 53V Audit Report showing data from GMEs between 2001 and 2008 are not sufficiently legible to reference and complete copies could not be obtained.

Groundwater monitoring wells were sampled using the 'low flow' (micropurge) technique during all GMEs conducted during the audit, with the exception of MW23 (January 2018) and MW33R (February 2018). MW23 was observed to be damaged in the January 2018 GME and was therefore sampled using a well-dedicated 'Hydrasleeve'. MW33R was sampled using a well-dedicated 'Hydrasleeve' in February 2018 to provide an indication of groundwater conditions (with no other wells sampled during this time). Groundwater monitoring well MW23 was subsequently replaced by MW23A and both MW23A and MW33R were sampled via 'low-flow' in subsequent GMEs.

During sampling, field measurements were recorded including purge rates, volumes purged, temperature, electrical conductivity, pH, redox, dissolved oxygen, standing water level as well as visual and olfactory observations. Groundwater samples were analysed for a range of analytes as shown in Table 9.1 below.

Table 9.1 Groundwater Monitoring Events

Date Sampling Undertaken	Wells Sampled	Analysis Undertaken (select wells)
30 January 2017	On-site: MW23, MW33R Off-site: MW29, MW30	TRH, BTEXN, CHCs
23-25 August 2017	On-site: CMW1, MW23, MW33R, MW50A, MW50B, MW50C Off-site: MW29, MW30, MW40	TRH, BTEXN, MAHs, PAHs, phenols, low level VOCs, solvents, metals, cations and anions, acidity and alkalinity, ammonia, nitrate, nitrite, ferrous/ferric iron, methane, ethene, ethane, glycols, volatile fatty acids, ethanol, methanol, cyanide, PCBs
23-24 October 2017	On-site: CMW1, MW23, MW33R, MW50A, MW50B, MW50C Off-site: MW30, MW40	TRH, BTEXN, MAHs, PAHs, phenols, low level VOCs, solvents, metals, cations and anions, acidity and alkalinity, ammonia, nitrate, nitrite, ferrous/ferric iron, methane, ethene, ethane, glycols, volatile fatty acids, ethanol, methanol, cyanide, PCBs
16-18 January 2018	On-site: CMW1, MW23, MW33R, MW50A, MW50B, MW50C Off-site: MW29, MW30, MW40	TRH, BTEXN, low level VOCs, metals, cations and anions, alkalinity, ammonia, nitrate, nitrite, ferrous/ferric iron, methane, ethene, ethane, glycols, volatile fatty acids, ethanol, formaldehyde
22 February 2018	On-site: MW33R	Low level VOCs
15 May 2018	On-site: CMW1, MW2A, MW23A, MW33R, MW50A, MW50B, MW50C	TRH, BTEXN, MAHs, PAHs, phenols, low level VOCs, solvents, metals, cations and anions, ammonia, nitrate, nitrite, ferrous/ferric iron, methane, cyanide
5 June 2018	On-site: MW17B	

Date Sampling Undertaken	Wells Sampled	Analysis Undertaken (select wells)
4-5 July 2018	On-site: CMW1, MW2A, MW17B, MW23A, MW33R, MW50A, MW50B, MW50C	TRH, BTEXN, MAHs, PAHs, phenols, low level VOCs, solvents, metals, cations and anions, ammonia, nitrate, nitrite, ferrous/ferric iron, methane, cyanide
3 October 2018	On-site: MW2A, MW17B, MW23A Off-site: MW30	TRH, BTEXN, methanol

No measurable LNAPL, DNAPL or surface sheen was observed in any of these wells during gauging or sampling, however 'sweet' odours were noted in MW50B and MW50C in January 2018 (generally synonymous with the presence of chlorinated hydrocarbons). It is noted that based on the presence of groundwater concentrations (i.e. TCE) exceeding 1% of aqueous solubility reported within MW50B and MW50C, a NAPL notification was provided to EPA on 23 January 2019.

For the purposes of this CUTEP submission, groundwater investigation works completed during the Audit are considered representative of groundwater conditions "post-remediation" with removal of the on-site USTs having been undertaken in 2003 (as discussed in Section 8.1.1).

As noted above, groundwater sampling was undertaken at MW2 by ERM in 2001. These results have been reviewed qualitatively and referenced as part of the Audit works to determine indicative groundwater concentrations in the vicinity of the historical UST in the centre of the site prior to removal.

For the purposes of providing an indication of "pre-remediation" groundwater conditions, a summary of contaminant concentrations in historical well MW2 located adjacent to the UST as reported by ERM in 2001 (prior to the removal of the USTs), is provided in Table 9.2 below. It is noted that in 2001 wells MW16 and MW17 were also installed, however no results for these wells from this time was provided in the available data. It is also noted that the concentrations provided have been based on analytical results tables within the 53V Audit Report (Lane Piper, 2011) and that no report for the ERM 2001 investigations, including a description of methodology, laboratory reports or QAQC information is provided. As such the below 'pre-remediation' concentrations have been referenced qualitatively and therefore assisted in guiding groundwater investigation works during the audit to characterise 'post-remediation' / current groundwater conditions. In addition, given the results listed below are limited to results from one well, they are not considered to provide a comprehensive understanding of groundwater conditions on-site.

Table 9.2 Pre-Remediation Contaminant Concentrations (MW2)

Contaminant	Concentration Range (ug/L)
TPH C_6-C_9	7,300
TPH C_{10}-C_{14}	1,700
TPH C_{15}-C_{28}	<400
TPH C_{29}-C_{36}	<100
Benzene	8,680 - 16,100
Toluene	230 - 360
Ethylbenzene	870 - 2,300

Contaminant	Concentration Range (ug/L)
m- & p- xylene	<400 - 2,400
o- xylene	<200 - 300
Styrene	<200 - 50
Isopropylbenzene	<200 - 46
n-propylbenzene	<200 - 320
1,3,5-trimethylbenzene	<200 - 210
1,2,4-trimethylbenzene	<200 - 310
Tert-butylbenzene	<200 - 26
p-isopropylbenzene	<200 - 24
n-butylbenzene	<200 - 11
Total MAHs	9,780 - 22,457
Naphthalene	87 - 380
2-methylnaphthalene	<2 - 18
Phenol	49 - 111
2,4-dimethylphenol	8 - 44
trans-1,2-dichlorothene	<200 - 4,100
Acetophenone	14
Arsenic	<10
Cadmium	<1
Chromium	<1
Copper	1
Nickel	4
Lead	2
Zinc	32
Mercury	<0.1

The Auditor also conducted a review of groundwater concentrations reported between 2008 and 2014, prior to the commencement of the Audit, to assist in guiding groundwater sampling works during the Audit. Table 8.1 of the ARC (March 2019) DSI report provides a summary of maximum contaminant concentrations reported over this period. Concentrations are summarised for historical on-site wells MW16/1, MW17/1, MW17/2, MW23 and MW33/MW33R, as well as off-site up-gradient wells MW12/1, MW15/3, MW24A, MW24B and MW24C, cross-gradient well MW26, and down-gradient wells MW29, MW30 and MW40.

The Auditor has also completed Table I (attached) which provides a summary of all groundwater contaminant exceedances reported on-site (against the Auditor's criteria) between 2008 and 2014.

As summarised in Table I (attached), the following contaminants were present in groundwater in on-site wells, above the Auditor's adopted screening criteria, prior to commencement of the Audit:

- pH;
- Inorganics (nitrate, nitrite, chloride, fluoride, sodium, sulphate)
- Cyanide
- Metals (arsenic, cobalt, copper, iron, lead, nickel and zinc);
- Trichloroethene, cis-1,2 dichloroethene, 1,1-dichloroethane, 1,2 dichloroethane
- 1,2-dichlorobenzene
- BTEX;
- TPH C_6-C_9, TRH C_{10}-C_{36}
- Naphthalene

The Auditor does also note that the following contaminants were analysed on-site with reported detection limits above criteria: mercury, dichloromethane, vinyl chloride, 1,4-dichlorobenzene, 1,1,2-trichloroethane. It is noted that all contaminants were analysed with sufficiently low detection limits during the audit and as such, the elevated detection limits during the 2008 - 2014 monitoring period are not considered to be of consequence to the audit.

In addition to the above, concentrations of 1,1 dichloroethene, m&p and o xylenes, isopropylbenzene and n-propylbenzene were also detected (below criteria).

The Auditor also notes that from review of the off-site up and cross-hydraulic gradient well results the following contaminants were also reported in off-site up gradient wells (primarily on Lot 2): nitrate, nitrite, chloride, sodium, sulphate, arsenic, cobalt, copper, iron, mercury, lead, nickel and zinc, trichloroethene, tetrachloroethene, cis and trans-1,2 dichloroethene, vinyl chloride, carbon tetrachloride, 1,1-dichloroethane, 1,1-dichloroethene, 1,2 dichloroethane, 1,1,2-trichloroethane, 1,1,1-trichloroethane, 1,2-dichlorobenzene, 1,4-dichlorobenzene, chlorobenzene, chloroform, bromodichloromethane, dichloromethane, acetone, 2-butanone (MEK), 1,3 dichloropropane, BTEX, TPH C_6-C_9 and TRH C_{10}-C_{36}.

All tabulated groundwater concentrations reported between 2008 and 2014 are presented in Table G2 (attached) (extracted from GHD 2015 DSI report). It is noted that Table G2 provides groundwater concentrations for all wells across the wider Nuplex site installed and sampled during this period.

Table H2 (attached) provides a summary of groundwater results reported above the Auditor's adopted screening criteria over the course of the Audit, noting this table also includes groundwater results reported during the January 2017 GME. Table H1 (attached) provides a summary of groundwater results reported above the Auditor's adopted screening criteria during the final GME. Tables 4 to 8 of the ARC (March 2019) DSI report, extracted and provided as Table G1 of this report, summarise all groundwater analytical results for sampling undertaken over the course of the Audit for all on-site and relevant off-site groundwater monitoring wells.

Figures 9A -12 present the location of all groundwater monitoring wells on and off-site included as the monitoring well networks considered relevant for the assessment of Lot 3. These figures also present concentrations of benzene, chlorinated hydrocarbons, metals (arsenic, cobalt, copper iron, lead, manganese, nickel and zinc), inorganics (ammonia, nitrate, nitrite, chloride and sulphate) reported between 2008 and 2018. It is also noted that Figure 8 presents the groundwater monitoring well network across the wider Nuplex site as reported in June 2015 (to demonstrate the location of some historical wells which have since been destroyed).

9.2 Groundwater Remediation Works

As noted in Section 8.1.9 above, no active groundwater remediation was undertaken at the site, neither pre-Audit nor post-Audit.

At the time of the Lot 3 audit works, soil and active groundwater remediation works had been occurring on the up-hydraulic gradient Lot 2 site, targeting the chlorinated hydrocarbon pollution. At the time of preparation of the audit report, it is understood that Lot 2 remediation works had been completed and that the site was in a period of groundwater monitoring to assess contaminant trends.

9.3 Final Groundwater Condition

The groundwater monitoring well network showing all wells on Lot 3 is shown on Figure 2.

Groundwater investigation works completed for the site included the installation and sampling of a total of seventeen on-site groundwater monitoring wells and three off-site down-hydraulic gradient groundwater monitoring wells (installed specifically for the purposes of assessing groundwater conditions associated with Lot 3).

In addition, a total of nineteen wells were installed as part of the Lot 2 and Lot 4 groundwater investigation works. Eight of these wells (one on Lot 4, three on Lot 2, and four installed to the south of Lot 2 (and east of Lot 3) as part of the Lot 2 investigations) were considered in the assessment of groundwater for the Lot 3 site. Results from a further five wells historically installed on Lot 2 (now destroyed) have also been referenced in order to assist in the understanding of upgradient sources of pollution.

As noted in Section 9.1 above, eight groundwater monitoring events spanning from August 2017 to October 2018 were conducted during the Audit (with one additional GME conducted just prior to the Audit in 2017). Eight groundwater sampling rounds were conducted between 2008 and 2014 (for which all supporting documentation was available for review and reliance). A number of groundwater sampling rounds were conducted prior to 2008 (exact number not known), one of which was completed in 2001 where tabulated results were available and have been referenced to indicate groundwater concentrations prior to remove of the USTs.

It is also noted that an additional GME was completed in January 2019 by ARC. This GME was completed as part of the works being conducted for Lot 2 (understood to have been done to satisfy GQMP requirements for Lot 2) and included sampling and analysis of wells MW50A, MW50B, MW50C, CMW1 and MW33R on Lot 3. Although the Auditor was not involved in the works conducted as part of this GME, the Auditor requested that this data be forwarded for reference. The Auditor has not included the on-site data from this round within groundwater summary tables (Tables H1 and H2) as supporting data for the GME was not provided (i.e. field sampling sheets, calibration certificates, etc.), however has included data from the off-site wells (on Lots 2, 4 and to the east of Lot 3) for indicative purposes. All results have been considered within the below groundwater discussion (see Sections 9.3.1 – 9.3.5 below) and results are provided within Appendix G of the CUTEP report (Appendix D of this report).

Results from all GMEs have been used to delineate and characterise groundwater contamination (with consideration of Section 8.3 Delineating Groundwater Contamination of Schedule B2, NEPM (2013)). It is noted that groundwater monitoring events spanned a period of more than twelve months, accounting for temporal and seasonal variations in groundwater.

Based on the above, the groundwater monitoring well network to assess the lateral and vertical extend of groundwater pollution within the site is considered adequate. Additionally, sufficient data has been provided to enable a confident appraisal of groundwater flow directions and to appraise aquifer hydraulic characteristics for estimation of groundwater flow and contaminant migration rates.

Summaries of groundwater contaminant ranges reported above criteria during all rounds completed during the Audit (August 2017 – October 2018; and including the January 2017 GME) are provided in Table H2 and groundwater contaminant ranges reported above criteria in the final round of sampling are provided in Table H1 (appended).

It is noted that no sheen (and no measurable LNAPL or DNAPL) was observed in any on or off-site well during all GMEs (noting this does not include Lot 2 wells). As noted above however, a NAPL notification was provided to EPA on 23 January 2019 to notify EPA of the presence of groundwater concentrations (i.e. TCE) exceeding 1% of aqueous solubility in MW50B and MW50C.

Based on the final groundwater sampling round (as summarised within Table H1 attached), the beneficial uses Water Dependent Ecosystems and Species, Potable Water Supply (desirable), Agriculture and Irrigation (irrigation), Agriculture and Irrigation (stock watering), Water-based Recreation (primary contact recreation), Traditional Owner Cultural Values, Cultural and Spiritual Values, Industrial and commercial are precluded on and/or off-site (down-gradient) by concentrations of pH, metals (arsenic, cobalt, copper, iron, manganese, nickel, zinc, mercury, lead), inorganics (ammonia, nitrate, nitrite, chloride, fluoride, sodium, sulphate), chloroform, dichloromethane, trichloroethene, tetrachloroethene, cis-1,2-dichloroethene, vinyl chloride, 1,1-dichloroethane, 1,1-dichloroethene, carbon tetrachloride, 1,2-dichloroethane, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,1,2-trichloroethane, trihalomethanes, benzene, ethylbenzene and/or TRH C_6-C_{10}.

It is also noted that concentrations of xylenes, toluene, naphthalene and TPH C_{10}-C_{36} were reported as pollution on Lot 3 during one or more GMEs completed prior to the final GME.

Figures 9A - 12 present groundwater exceedances above relevant criteria during all sampling rounds.

It is also noted that the following contaminants were detected at concentrations below the relevant criteria on Lot 3 during one or more groundwater sampling rounds conducted during the Audit: acetone, isophorone, n-propylbenzene, 2 nitrophenol, 2-methylnaphthalene, trans 1-2 dichloroethene, bromochloromethane, bromodichloromethane, chlorobenzene and isopropylbenzene.

It is also noted that one concentration of iodomethane (1ug/L) was reported in MW50A during the groundwater sampling round conducted in January 2019 by ARC. Detectable iodomethane was not identified during any other groundwater sampling round in any on or off-site wells. Although the Auditor has not identified any available criteria for iodomethane, consideration of potential risks associated with this detectable concentration was conducted in Section 11.3 below (and Appendix G). It is noted that the Auditor considers that the detectable concentrations may be anomalous given it has been reported at a concentration equal to the LOR and iodomethane has never been reported on or off-site.

It is also noted that the following contaminants have been reported as pollution and/or detected in up and/or cross gradient wells (primarily on Lot 2), but have not been detected on Lot 3: MEK, 4-methyl-2-pentanone, carbon disulphide, ethanol, 1,1,1,2-tetrachloroethane, 1,1,1-trichloroethane and 1,3–dichloropropane. Although, extensive groundwater sampling conducted over many years has never identified these contaminants on Lot 3, the Auditor has considered any potential risks to on-site receptors in the event that these contaminants did extend to Lot 3 in the future (see Section 11.3 below and Appendix G). It is noted that risks associated with these contaminants to the proposed development were considered to be low and acceptable.

As noted in the preceding sections of this report, the two former USTs on-site are considered to be the source of the petroleum hydrocarbons reported in groundwater at the site. In addition, an off-site source of petroleum hydrocarbons and chlorinated hydrocarbons is present to the north east and east of the site.

Sections 9.3.1 – 9.3.5 below provide a discussion on the nature, extent and likely source of each contaminant identified as pollution in all on and off-site wells.

9.3.1 Petroleum Hydrocarbons

Based on the results reported during the final groundwater sampling round, the beneficial uses Potable Water Supply (desirable), Agriculture and Irrigation (stock watering) and Water-based Recreation (primary contact recreation) are precluded on-site by benzene in wells MW2A, MW23A, MW33R, MW50A, MW50B and MW50C.

The beneficial uses Water Dependent Ecosystems and Species, Potable Water Supply (desirable), Agriculture and Irrigation (stock watering), Water-based Recreation (primary contact recreation), Traditional Owner Cultural Values and Cultural and Spiritual Values are precluded on-site by ethylbenzene in MW23A.

Detectable TRH C_6-C_{10} (maximum 100 ug/L in May 2018 in MW02A) has also been reported in wells MW02A, MW23/MW23A, considered likely to be associated with residual petroleum hydrocarbons reported in these wells. It is however noted that where TRH C_6-C_{10} reported in MW02A and MW23/MW23A is not reported at concentrations indicative of pollution.

TRH pollution (TRH C_6-C_{10}; maximum 64,400 ug/L in MW50B in October 2017) was reported in on-site wells MW50A, MW50B, MW50C and MW33R. TRH C_6-C_{10} pollution reported in these wells is considered to be primarily associated with chloride hydrocarbons (as per Section 9.3.2 below), although noting a small portion of it would be contributed by petroleum hydrocarbons reported in these wells.

As noted above, former USTs present in the centre of the site (at MW02A) and in the north-west of the site (at MW17A/B) are considered to be the source of benzene and ethylbenzene pollution observed at MW02A and MW23A (noting MW23A is located immediately down-hydraulic gradient of MW02A and cross-gradient of MW17A/B). The Auditor however considers that the benzene pollution observed at MW50A/B/C and MW33R are likely to be resultant of off-site source(s) to the northeast and east (as discussed further below). It is noted that well CMW1, located to the east of MW02A reported benzene <LOR in all GMEs conducted during the Audit (with the exception of one GME in January 2019, as discussed below).

As noted in Section 9.1 above, groundwater sampling at the site has occurred since 2001. At this time, elevated concentrations of petroleum hydrocarbons (indicative of LNAPL) were observed in MW02. The earliest available groundwater results (i.e. 2008) for MW17/1-3, located at the UST on the western side of the site, reported elevated petroleum hydrocarbons, however to a much lesser extent than those reported in MW02 (i.e. maximum benzene concentration reported was 9 ug/L from MW17/2 in October 2008). Well MW23 was also installed on-site in 2006, immediately down-hydraulic gradient of MW02A, along the western site boundary. Elevated petroleum hydrocarbons were reported in MW23 (i.e. maximum benzene concentration of 442 ug/L in July 2008 and maximum ethylbenzene of 59 ug/L in March 2010). It is also noted that elevated naphthalene was also reported during this period, with a maximum concentration of 30 ug/L in July 2008. Based on the positioning of this well in relation to MW02A (i.e. immediately down-hydraulic gradient), and the magnitude of pollution at MW02A compared to the pollution at MW17/1-3, it was considered that the pollution observed at MW23 was a result of the central UST and unlikely to have extended from the western UST.

Between 2008 and 2010 off-site down-hydraulic gradient wells MW29, MW30 and MW40 were installed to the southwest of the site to assess potential off-site impact, noting MW17 and MW23 were located immediately adjacent to the western site boundary. MW29, MW30 and MW40 have reported all petroleum hydrocarbon concentrations below LOR during all sampling rounds between 2008 and 2018.

Soon after installation and sampling of MW02 in 2001, MW02 was destroyed and no groundwater results were available in this location until re-installation of MW02A during the Audit. MW02A was installed in May 2018, with three GMEs completed between May 2018 and October 2018. Benzene concentrations were reported in MW02A during each of the three GMEs between concentrations of 3 ug/L and 8 ug/L. All other petroleum hydrocarbons were reported below LOR in MW02A. It was therefore concluded that the petroleum hydrocarbon pollution originally reported at MW02 had significantly decreased since it was first observed in 2001. This conclusion is consistent with the observation that no residual secondary source remained within the former UST pit (based on soil sampling works).

Although MW02 was destroyed in the early 2000's and therefore no historical data over time showing the progression of the decrease in concentrations is available for this location, on-going monitoring of MW23 continued over a long period of time, with seven GMEs conducted between July 2008 and January 2014, prior to commencement of the Audit. Over this period of time, concentrations of benzene, ethylbenzene and naphthalene were observed to steadily decrease in MW23, from 442 ug/L to 11 ug/L for benzene, 59 ug/L to <1 ug/L for ethylbenzene and 30 ug/L to <1 ug/L for naphthalene.

Sampling of MW23 was also conducted during the Audit over the course of four sampling rounds between January 2017 and January 2018. Results in MW23 were noted to be below LOR in three of the four rounds, with the October 2017 round reporting benzene of 4 ug/L and ethylbenzene of 10 ug/L. It is also noted that one concentration of naphthalene was also reported during this round with a concentration of 23 ug/L.

The Auditor considers that review of the results in MW23 over the course of the sampling between July 2008 and January 2018 provides sufficient evidence to support that the petroleum hydrocarbon plume originating from MW02 (the central UST) having attenuated significantly since removal of the USTs in March 2003. However, the Auditor does specifically note the construction of MW23. MW23 was constructed to a depth of 20.1 mBTOC, with a screen interval from 12-20.1 mBTOC. Further, the groundwater level was reported in this well between 8.38 and 9.59 mBTOC (2008-2018) (i.e. with a submerged screen of up to approximately 3.5m). Based on the construction of MW23, it was considered that results reported within this well may have been under-reported. It should however be noted, that, despite potential under-reporting of concentrations, results still clearly demonstrated a significant reduction in concentrations.

Given the potential for MW23 to be under-reporting petroleum hydrocarbon concentrations, the Auditor requested a replacement well to be installed to assess actual concentrations remaining at this location. In May 2018, MW23A was installed immediately adjacent to MW23. MW23A was installed to a depth of 11.5 mBTOC, with a screen interval of 8.5-11.5 mBTOC, which was considered adequate to assess potential residual petroleum hydrocarbons. Three GMEs were conducted on MW23A between May 2018 and October 2018, reporting low concentrations of benzene and ethylbenzene remaining in MW23A (maximum benzene 11ug/L and ethylbenzene 38 ug/L). Detectable concentrations of TRH F2 (120 ug/L), isopropylbenzene (maximum 3 ug/L) and n-propylbenzene (maximum 3 ug/L) (below criteria) were also reported in MW23A.

Based on results reported within replacement well MW23A, it was considered by the Auditor that residual benzene and ethylbenzene pollution sourced from the former central UST remained at this site on the western site boundary. Based on the proximity of MW23A to the site boundary, it was considered that benzene and ethylbenzene may extend marginally outside of the site boundary, however given no

detectable petroleum hydrocarbons have ever been detected in down-hydraulic gradient wells MW29, MW30 and MW40, the plume is not considered likely to extend more than 10m off-site.

As noted above, lower concentrations of benzene pollution were reported in MW17/1-3 during sampling conducted between July 2008 and January 2014 (maximum 9 ug/L). MW17/1-3 was decommissioned in March 2013, after its final sampling round in 2011. The reason for it having been decommissioned is unknown, however information provided within the LanePiper 2011 53V Audit Report suggest that the nested well was compromised and recommended that it be decommissioned. To assess potential residual concentrations remaining at MW17, a replacement well was installed during the Audit in May 2018. As noted in Section 9.1 above, MW17B was installed and sampled to replace MW17/1-3. Three GMEs were completed at MW17B between June 2018 and October 2018, with all petroleum hydrocarbon results reporting concentrations below LOR, with the exception of total xylenes (5 ug/L) in June 2018. As per the discussion in Section 8.1 above, minor hydrocarbon odours and detectable TRH F1 and F2 (well below criteria for commercial/industrial use) were detected in soil at 4.0m at MW17A. Based on the results reported in groundwater, the Auditor considers the residual hydrocarbons in soil at MW17A to be consistent with the very low detectable concentrations of xylenes in groundwater at MW17B, although noting the xylenes were not reported as pollution.

It is also noted (as per Section 9.1 above) that shallow water was observed in the vicinity of this location. The shallow water was considered to be associated with a leaking near surface water pipe that was identified during the drilling works (as per the photograph provided within Appendix J of the ARC January 2019 DSI report). A sample of the shallow water was collected by bailer from an open soil bore (MW17C). No detectable concentrations of petroleum hydrocarbons were reported, however, detectable concentrations of chloroform (0.61 ug/L) and bromodichloromethane (0.32 ug/L) (below relevant criteria), were considered to be consistent with a municipal water source. Although the sample collected from MW17C was not collected from an appropriately constructed groundwater monitoring well, the Auditor considers that given the nature and source of the water being assessed, the sample was sufficient to provide an indicative result. Based on the results reported at MW17B and MW17C, it was considered that no residual petroleum hydrocarbon pollution sourced from the site remained at this location.

Other wells across the site which have also reported detectable petroleum hydrocarbons are MW50A, MW50B, MW50C and MW33R. MW50A-C are located up-hydraulic gradient of MW02A, in the north-eastern corner of the site adjacent to Lot 2. These wells were installed specifically to assess potential contamination extending on to Lot 3 from Lot 2. MW33R is also located on the eastern side of the site, and immediately down-gradient of the offsite mechanics workshop and the tool makers to the east of Lot 3 (noting the mechanics and tool makers are also considered to be a potential source of petroleum hydrocarbons).

Wells MW50A-C have consistently reported concentrations of benzene (maximum concentration of 10 ug/L) during all five groundwater sampling rounds conducted on these wells, between August 2017 and July 2018, with detectable concentrations of TRH F3 and F4 also reported during the July 2018 sampling round. MW50B and MW50C have also reported concentrations of toluene, ethylbenzene and xylenes in certain sampling rounds. It is noted that over the same period, off-site up-gradient wells MW24AR, MW24BR and MW24CR have also reported concentrations of BTEX (with the maximum benzene reported as 27 ug/L). Historically, former wells MW13 and MW15 (located on Lot 2) also reported benzene concentrations, with a maximum of 52 ug/L (reported in MW13/2 in January 2011). In addition, off-site well MW26 (located up hydraulic gradient of Lot 3 immediately adjacent to the mechanics workshop and tool makers reported a maximum concentration of benzene of 19 ug/L and ethylbenzene of 136 ug/L). MW33R is located immediately downgradient of MW26 and has reported a maximum benzene

concentration of 1 ug/L and below LOR for TEX. Historically, (i.e. in 2011) MW33R reported one concentration of TRH >C_{10}-C_{40} of 660 ug/L.

It is noted that well BMW2 (located to the north of Lot 3, on Lot 4) has also reported low concentrations of petroleum hydrocarbons (maximum benzene 1 ug/L and toluene of 5 ug/L in October 2017). The Auditor also notes that historical well MW12 (on Lot 4), located to the north of MW17 (and the former UST on the western side of Lot 3) consistently reported petroleum hydrocarbons <LOR during monitoring of the well (between July 2008 and January 2011), with the exception of two detectable concentrations of toluene (5 ug/L in July 2008 and 11 ug/L in March 2010), both below criteria.

It is noted that no on-site source of petroleum hydrocarbons has been detected on the eastern side of the site in the vicinity of MW50A-C or MW33R. In addition, historical documentation states that three USTs were previously located in the southern portion of Lot 2 (i.e. immediately up hydraulic gradient of MW50A-C. Two of the three USTs were stated to have contained acetone and ammonia, with one UST containing petroleum hydrocarbons (e.g. toluene). Detectable concentrations of benzene (maximum 0.3 mg/kg), ethylbenzene (maximum 86.1 mg/kg), toluene (maximum 13.8 mg/kg) and xylenes (maximum 94.9 mg/kg) were also reported in soil across the southern portion of Lot 2. As such, it is considered that Lot 2 is also likely to be a contributing source of petroleum hydrocarbon pollution to wells located on the central to eastern side of Lot 3 (as well as to the north of Lot 3, on Lot 4). It is also considered likely that a secondary source of petroleum hydrocarbons is present immediately to the east of Lot 3, on the mechanics and/or tool makers. Based on the contributing sources up and cross gradient of Lot 3, it was not considered practicable to delineate the benzene plume observed on the eastern side of Lot 3 (to the north, northeast, south or south-east). It is considered that the site sourced benzene and ethylbenzene is delineated down gradient of the site (i.e. to the south and southwest).

It should also be noted that due to matrix interference from elevated concentrations of chlorinated hydrocarbons within wells located on Lot 2 and off-site to the south of Lot 2, many samples were reported with elevated LORs (i.e. with some LORs as high as 5,000 ug/L). As such, the understanding of the potential source of these petroleum hydrocarbons in off-site up hydraulic gradient wells is not able to be fully characterised. However, given LORs have been sufficiently low within wells on Lot 3, with a number of sampling rounds completed over time, there is considered to be sufficient data to characterise contamination on Lot 3 from the off-site up-gradient sources.

As notes above, data from one additional GME was provided to the Auditor just prior to the preparation of the CUTEP report. This data was collected during GME works completed for ongoing audit works being undertaken on Lot 2. The data included sampling and analysis of on-site wells MW50A-C, MW33R and CMW1. Results from this GME have been provided within Appendix G of this report. The Auditor reviewed the data to confirm that findings were consistent with what has been reported during the Lot 3 audit. General consistency in regards to the petroleum hydrocarbon results was found for all wells and contaminants, with the exception of CMW1. In January 2019, CMW1 reported concentrations of benzene (15 ug/L), toluene (23 ug/L), ethylbenzene (21 ug/L), xylenes (97 ug/L), 1,2,4-trimethylbenzene (18 ug/L), 1,3,5-trimethylbenzene (6 ug/L), isopropylbenzene (2 ug/L) and n-propylbenzene (3 ug/L). All five GMEs previously completed at CMW1 (August 2017 to July 2018) reported petroleum hydrocarbon concentrations below LOR (with the exception of one concentration of toluene (1 ug/L) in July 2018). Based on the composition of contaminants reported in this well (i.e. comprising predominantly xylenes which have not characteristically been observed in Lot 3 wells reporting site sourced pollution), and based on the on-going remediation works occurring on Lot 2 which are likely to have resulted in movement of contamination within proximity to the radius of influence of the remediation works (see Section 9.3.2 below for further discussion), it is considered likely that the increase in concentrations at CMW1 is sourced from Lot 2 or from the mechanics or tool makers to the south of Lot 2. Although it is considered likely that this

increase is temporary and concentrations in CMW1 are not expected to continue to increase from the off-site source (primarily based on review of all historical data for on and off-site over the years), it is noted that CMW1 is proposed for on-going monitoring in the GQMP for Lot 2 (which covers Lots 3 and 4) and is provided in Appendix J.

In summary, based on the above discussion the following was noted:

- Residual benzene and ethylbenzene pollution in MW23/MW23A and MW2A are considered to be site sourced pollution. Pollution at MW23/MW23A is considered to extend marginally off-site, by a distance of less than 10m.
- Benzene (and TRH C_6-C_{10}) pollution reported in MW50A, MW50B, MW50C and/or MW33R are considered to be resultant of one or more off-site up-gradient sources.

Figure 9A (attached) presents benzene concentrations reported over time (2008-2018). Figure 9B presents ethylbenzene, toluene and xylene concentrations reported during the Audit (2017-2018). Figure 9C presents TRH C_6-C_{10} and TRH >C_{10}-C_{40} concentrations reported during the Audit (2017-2018).

The Auditor has assessed the potential risk posed to beneficial uses of the land (or other use of the land) by the presence of volatile contaminants present in groundwater (refer to Section 11.3).

9.3.2 Chlorinated Hydrocarbons, Trihalomethanes and TRH C_6-C_{10}

Based on the results reported during the final groundwater sampling round, the beneficial uses Water Dependent Ecosystems and Species, Potable Water Supply (desirable), Agriculture and Irrigation (stock watering), Water-based Recreation (primary contact recreation), Traditional Owner Cultural Values and Cultural and Spiritual Values are precluded on-site in wells MW50A, MW50B, MW50C, MW33R, CMW1 and MW02A by one or more of trichloroethene, tetrachloroethene, cis 1,2 dichloroethene, 1,1 dichloroethane, 1,1 dichloroethene, 1,2 dichloroethane, 1,1,2 trichloroethane, carbon tetrachloride, vinyl chloride, 1,2 dichlorobenzene, 1,4 dichlorobenzene, chloroform, dichloromethane, trihalomethanes and TRH C_6-C_{10}.

Figures 10A-10D (attached) present concentrations of trichloroethene, tetrachloroethene, cis 1,2 dichloroethene, 1,1 dichloroethane, 1,1 dichloroethene, 1,2 dichloroethane, 1,1,2 trichloroethane and carbon tetrachloride, vinyl chloride, 1,2 dichlorobenzene, 1,4 dichlorobenzene and chlorobenzene (noting Figures 10A, 10C and 10D show concentrations reported during the Audit and Figure 9B shows concentrations for the period 2008-2018). It is noted that Figures 10A and 10B have been extracted from the ARC report, with ARC having referenced different criteria. As such the highlighting showing exceedances of criteria are not consistent with the Auditor's nominated exceedances. The figures have however been included to present contaminant concentrations and distribution. The Auditor has referenced his criteria when drawing conclusions with respect to CUTEP and the Audit.

As noted above, a source of chlorinated hydrocarbons and trihalomethanes has been identified on Lot 2, located immediately to the northeast of Lot 3. The Auditor has reviewed the distribution of contamination reported on Lot 3 to determine if all chlorinated hydrocarbons and trihalomethanes are likely to be sourced from off-site or if the site may have also contributed to the observed concentrations.

It is noted that detectable TRH C_6-C_{10} was considered to be a contributing source, with a portion of it represented by site sourced benzene and ethylbenzene (in wells MW02A and MW23/MW23A), with the bulk of it comprising chlorinated hydrocarbons (although as noted in Section 9.3.1 above, TRH C_6-C_{10} in wells MW02A and MW23/MW23A was not reported at concentrations exceeding the relevant criteria). As noted above, a small component of the TRH C_6-C_{10} reported in wells MW50A, MW50B, MW50C and MW33R was likely to comprise petroleum hydrocarbons. However, given the disproportionate concentration of chlorinated hydrocarbons within these wells compared to petroleum hydrocarbons, for

the purpose of this Audit the TRH C_6-C_{10} pollution will be addressed as comprising chlorinated hydrocarbons.

As noted in Section 8.1 above, concentrations of all chlorinated hydrocarbons and trihalomethanes analysed in soil on Lot 3 were reported below LOR, noting a total of 43 samples were analysed across Lot 3 for chlorinated hydrocarbons and relied upon for the Audit. One exception was a concentration of carbon tetrachloride (0.41 mg/kg) reported below criteria in shallow fill material, vertically delineated in the immediately underlying natural soil. Based on the isolated soil result, the site was not considered likely to be a source of chlorinated hydrocarbon contamination.

It is noted that extensive soil sampling undertaken across Lot 2 has identified elevated concentrations of chlorinated hydrocarbons in soil, including concentrations of trichloroethene, cis-1,2-dichloroethene, 1,1-dichloroethane, 1,1,2-trichloroethane, tetrachloroethane, carbon tetrachloride, dichlorobenzenes and chlorobenzene. The Auditor notes that concentrations of trichloroethene have been reported in soil on Lot 2 up to 8,180 mg/kg.

A review of the distribution of chlorinated hydrocarbon and trihalomethane concentrations over time shows that wells MW50A-C, located in the north eastern corner of the site (i.e. on the up hydraulic gradient side of the site) have reported the highest concentrations of all chlorinated hydrocarbon and trihalomethane concentrations across Lot 3, with results in off-site up gradient wells on Lot 2 having reporting the maximum concentrations for all chlorinated hydrocarbons and trihalomethanes, much higher than those detected on Lot 3 (e.g. MW13 reported TCE of 791,000 ug/L in March 2010; MW15 reported dichloromethane of 179,000 ug/L in December 2009).

It is also noted that wells MW50A, MW50B and MW50C were installed to assess the vertical distribution of chlorinated hydrocarbons within the aquifer. As reported in MW50A-C, the lowest concentrations were reported at the shallowest depth, MW50A (as would be expected for chlorinated hydrocarbons). It is also noted that concentrations of trichloroethene were reported in MW50B and MW50C at concentrations exceeding 1% of aqueous solubility (i.e. 14,720 ug/L) with concentrations in MW50B and MW50C having ranged between 12,700 and 77,200ug/L (concentrations indicative of the potential proximity of DNAPL). No measurable DNAPL has been observed in any well at the Lot 3 site. Concentrations indicative of potential DNAPL in MW50B and MW50C are delineated onto the site (i.e. down hydraulic gradient of MW50B and MW50C and away from the source area on Lot 2) by MW02A, CMW1 and MW33R.

Review of chlorinated hydrocarbon concentrations in wells extending across Lot 3 (from up hydraulic gradient to down hydraulic gradient) show decreasing concentrations, with results reported below LOR in wells along the western boundary (MW17 and MW23).

As noted in Section 9.3.1 above, detectable trihalomethanes (chloroform and bromodichloromethane) below criteria were reported in shallow water analysed at MW17C. Trihalomethanes reported in the shallow water at this location were considered to be associated with a leaking near surface water pipe identified by ARC during the drilling works and not considered to be related to the source of trihalomethanes identified on Lot 2.

Historically (March 2010), MW23 reported one detectable concentration of TCE (42 ug/L) above the relevant criteria. This concentration was not replicated in later GMEs and is not considered to be representative of TCE concentrations within this well. It is noted that for several GMEs conducted between 2008 to 2014, wells MW17 and MW23 reported TCE and vinyl chloride laboratory detection limits that were higher than the relevant criteria and as such low concentrations of TCE and or vinyl chloride may have at times been reported in these wells, albeit masked by the laboratory LORs. This is however not considered to alter the conclusions drawn with respect to distribution and/or source of chlorinated hydrocarbons.

In 2017, active remediation works were undertaken on Lot 2, targeting the chlorinated hydrocarbons located in the southern portion of Lot 2. In March-April 2017, soil remediation works targeting comprising excavation and validation works to a depth of 5.0m occurred in the southern portion of Lot 2. Active groundwater remediation works were then conducted from August to December 2017, comprising soil vapour extraction and air sparge. Results from the remediation works appear to have reduced concentrations in the centre of the chlorinated hydrocarbon plume on Lot 2, as represented through review of concentrations presented in Table H1 (final GME), Table H2 (all rounds during the audit) and Figures 10A-10D (attached). As such, in order to obtain the most accurate understanding of groundwater contaminant distribution and concentrations representative of the source area, review of the concentrations summarised as 'upgradient' within Table I should be considered. Table I presents groundwater contaminant concentrations prior to the 2017 remediation works on Lot 2. Review of chlorinated hydrocarbon concentrations in Table I, shows all chlorinated hydrocarbons reported as pollution on Lot 3 to be have reported significantly higher concentrations on Lot 2.

It is also noted that Table I does present groundwater concentrations on Lot 3 prior to the installation of MW50A-C. Wells MW50A-C, although located on Lot 3, are located in the up-hydraulic gradient corner of Lot 3, and considered to be representative of concentrations extending from Lot 2 on to Lot 3.

As previously discussed, some contaminant concentrations in upgradient off-site wells were not able to be fully characterised due to elevated laboratory LORs associated with matrix interference. However, review of Table I does provide sufficient data supporting the presence of an off-site source on Lot 2.

Further to the above, the Auditor notes that the co-mingling effect of the chlorinated hydrocarbon plume from Lot 2 and the petroleum hydrocarbons, whereby the petroleum hydrocarbons may act as a source of organic carbon to in-situ microbial species facilitating the degradation of chlorinated hydrocarbons. This process however occurs under anaerobic conditions, with elevated dissolved oxygen (i.e. >1 mg/L) being toxic to anaerobic microbes. The dissolved oxygen has however been observed during both the 53V LanePiper Audit and more recent groundwater monitoring events to be primarily indicative of aerobic aquifer conditions (as discussed in Section 9.4 below). Sporadic evidence of anaerobic conditions has been observed, however does not appear to be sustained for any length of time to result in long term facilitation of anaerobic hydrocarbon degradation processes. It was noted in the LanePiper 53V report, that reductive chlorination was observed to be occurring to some extent across the wider Nuplex site (as evidenced through the production of degradation products, cis 1,2 DCE and vinyl chloride, primarily within the source zone). However, the rate at which it was occurring was likely to be inhibited given that ORP conditions were reported as generally oxidising (with DO concentrations generally greater than 0.5 mg/L).

The off-site source located on Lot 2 of the wider former Nuplex site is currently being addressed through a separate 53x Environmental Audit (in accordance with a Clean Up Notice issued for Lot 2). However, the Auditor notes that at the time of writing the CUTEP, remediation of groundwater pollution on, and extending from, Lot 2 was still being undertaken. It is understood that two stages of remediation had been undertaken comprising the excavation of a residual chlorinated hydrocarbon soil source and the implementation of air sparge and soil vapour extraction to remediate soil and groundwater in the same area (i.e. southern end of Lot 2). The ongoing remediation works on Lot 2, have inhibited the Auditor's ability to comment on whether current site conditions (i.e. without the effects of active remediation) are likely to be conducive to reductive dichlorination. The need to draw such conclusions is however considered to be outside of the scope of this Audit, noting responsibility of the Audit being conducted on Lot 2 to draw such conclusions. At the time of preparation of the audit report it is noted that the remediation works on Lot 2 had been completed and that ongoing groundwater monitoring was being undertaken to assess groundwater contaminant trends.

As previously discussed, concentrations of chlorinated hydrocarbons extending onto Lot 3 from Lot 2 are indicative of potential DNAPL. As such, discussions between the Auditor and EPA resulted in email communication from EPA (dated 18 December 2019) notifying that the chlorinated hydrocarbon pollution on Lot 3 would also result in the need for completion of an EPA determined CUTEP for the site.

The Auditor notes that operation of the active remediation work on Lot 2 has resulted in temporary measurable changes in both groundwater flow and the distribution of contaminants (from Lot 2) in groundwater in the vicinity of Lot 2. The reported concentrations in groundwater have fluctuated and have the potential to continue to fluctuate as the aquifer re-equilibrates. Changes in concentrations in groundwater across Lot 3 (as a result of the Lot 2 remediation) were considered as part of the risk assessment review in Section 11.3 and Appendix G.

Based on the above, the Auditor considers that trichloroethene, tetrachloroethene, cis 1,2 dichloroethene, 1,1 dichloroethane, 1,1 dichloroethene, 1,2 dichloroethane, 1,1,2 trichloroethane, carbon tetrachloride, vinyl chloride, 1,2 dichlorobenzene, 1,4 dichlorobenzene, chloroform, dichloromethane, trihalomethanes and TRH C_6-C_{10} are considered to be sourced from an off-site upgradient source on Lot 2 and are not considered to be sourced from Lot 3.

The Auditor has assessed the potential risk posed to beneficial uses of the land (or other use of the land) by the presence of volatile contaminants present in groundwater (refer to Section 11.3).

9.3.3 Metals

Metals concentrations reported in groundwater across Lot 3 and in wells in the immediate vicinity of Lot 3 between 2008 and 2018 are presented on Figure 11 (attached). It is noted that not all historical wells are included within Figure 11 (i.e. MW13, MW18, MW25, MW32 and MW34 are not shown). Figure 8 (attached) presents the location of historical wells across the wider Nuplex site and includes MW13, MW18, MW25, MW32 and MW34.

9.3.3.1 Arsenic and Iron

Based on the results reported during the final groundwater sampling round, the beneficial uses Water Dependent Ecosystems and Species, Potable Water Supply (desirable), Agriculture and Irrigation (irrigation), Water-based Recreation (primary contact recreation), Traditional Owner Cultural Values and Cultural and Spiritual Values are precluded by arsenic and iron in on-site wells MW2A, MW23/MW23A and off-site well MW40.

No elevated concentrations of arsenic were reported in soil (either fill or natural soil) across the site. Limited soil analysis for iron was completed on-site, however where iron was analysed concentrations were not reported above criteria. Based on the soil results, the site was not considered likely to be a source of arsenic or iron contamination.

The Auditor considered the potential for arsenic and iron pollution to be resulting from the degradation of petroleum hydrocarbons sourced from the former USTs (i.e. arsenic to have been mobilised in wells where elevated petroleum hydrocarbons were present and elevated iron as a result on biodegradation of petroleum hydrocarbons).

Review of the distribution of arsenic concentrations from current and historical GMEs shows the highest concentrations of arsenic to correlate well with wells which have also reported the highest concentrations of petroleum hydrocarbons (i.e. MW02A and MW23/MW23A), with concentrations of arsenic in MW23 up to 224 ug/L (March 2010). Historically, MW17 also reported elevated arsenic, with concentrations up to 258 ug/L in March 2010. Elevated arsenic reported in MW02A and MW23 are delineated off-site

downgradient by wells MW29 and MW30, as well as within surrounding wells CMW1 and MW50A-C. (It is noted that Figure 11 incorrectly shows arsenic in MW29 to be highlighted as an exceedance.)

Review of the distribution of iron from current and historical GMEs shows that iron pollution was consistently reported in historical well MW17 (maximum 3,290 ug/L ferrous iron in January 2011), noting the reported iron in MW17 was primarily reported as ferrous iron, and as such likely to be representative of anaerobic degradation occurring at this location. It is also noted that dissolved methane was observed in MW17 (historically up to 39 ug/L) consistent with the occurrence of anaerobic degradation. Most recently iron and ferrous iron have reduced to below LOR in MW17B, with low dissolved methane reported as 16 ug/L (consistent with the petroleum hydrocarbon concentrations within this well).

Review of historical iron and ferrous iron within well MW23 shows little correlation, with total dissolved iron reporting a maximum of 240 ug/L in July 2018 and ferrous iron remaining <50 ug/L during all sampling rounds. No correlation between the reported iron / ferrous iron and hydrocarbon degradation appears to be identified. Although evidence of iron reduction does not appear to be occurring in MW23, elevated dissolved methane was reported in MW23 (maximum 69 ug/L) and MW23A (most recently reported at 20 ug/L), providing evidence of some anaerobic degradation, consistent with the decrease in petroleum hydrocarbon concentrations reported within this well.

Downgradient of MW23/MW23A, well MW30 has reported elevated total dissolved iron during two GMEs (February 2013 – 520 ug/L and October 2017 – 510 ug/L), with detectable ferrous iron reported only during the February 2013 round at a concentration of 140 ug/L.

MW02A has only been analysed for arsenic and iron during two sampling rounds, May and July 2018, with arsenic and iron have both reporting maximum concentrations of 155 ug/L and 1,870 ug/L respectively. Arsenic is considered to be associated with the petroleum hydrocarbons reported at this location and as such, sourced from the site. The reported total dissolved iron however (1,870 ug/L) does not translate to the reported ferrous iron (180ug/L), and as such is not considered to be associated with site sourced petroleum hydrocarbon degradation.

It is noted that total dissolved iron and ferrous iron have been reported in off-site upgradient wells, MW24B and MW24C, on Lot 2, as high as 46,100 ug/L of total dissolved iron and 57,900 ug/L of ferrous iron in MW24C (February 2013). Concentrations within these wells have fluctuated considerably over time, however results do indicate a likely source of iron in the southern section of Lot 2. The source is not known, however may be a result of mobilised iron within the Brighton Group aquifer due to alterations in the geochemistry as a result of the significant chlorinated hydrocarbon concentrations within this area, noting that later fluctuations (i.e. 2017-2018) are likely to be a result of remediation occurring within this area.

It is however noted that dissolved oxygen (DO) in wells across the site (as well as across the wider Nuplex site) has been reported to be consistently elevated (i.e. generally >2 mg/L), thus providing a consistent source of available oxygen electron acceptors for degradation of the petroleum hydrocarbons, which does not appear to have been depleted within the aquifer. It is considered that localised transient anaerobic conditions appear to have historically occurred (the source of which is unknown), thus resulting in temporary elevated ferrous iron and dissolved methane in select wells. However, highly oxygenated aquifer conditions have resulted in a return to steady state, whereby aerobic degradation prevails as the primary mechanism for petroleum hydrocarbon degradation and elevated ferrous iron and methane concentrations do not persist (see Section 8.5.2 of the Auditor's CUTEP report in Appendix D for further discussion).

Notably the Auditor highlights concentrations of arsenic and iron reported in MW40. Concentrations reported at this location have ranged between 392 ug/L - 92 ug/L (arsenic) and 13,100 ug/L - 4,950 ug/L (total dissolved iron). Iron appears to be predominantly reported as ferrous iron. Wells up hydraulic

gradient of MW40 (MW29 and MW30, located in between the site at MW40) have not reported arsenic or iron concentrations to the extent that they have been reported in MW40, during any sampling rounds. Based on the distribution of arsenic and iron across the site and extending off-site, it is considered that the concentrations of both arsenic and iron in MW40 are likely to be a result of an off-site source. It is noted that potential off-site sources in the vicinity of MW40 include a UST (known to be present just upgradient of MW40), as well as the sewer running along Hamlet Street. It is also noted that negative redox has been observed in MW40 (ranging from -24.6 mV to -74.0 mV), whereas a positive redox has been observed in virtually all other wells across the site (with the odd exceptions such as negative redox of -8 mV and -9 mV reported in MW50B and MW50C respectively in January 2018). The exact source of the contamination (and reducing conditions) at MW40 is not known, however as the source is not considered to be a result of activities on Lot 3, the identification of this source is considered to be outside of the scope of this audit.

In summary, based on the above, the Auditor considers that arsenic in on-site wells MW02A and MW23/MW23A is sourced from the site. Iron concentrations in on-site wells MW02A, MW23 and off-site well MW40 are considered to be from an off-site source.

Figure 11 presents arsenic and iron concentrations reported across the site.

9.3.3.2 Mercury

Based on the results reported during the final groundwater sampling round, the beneficial uses Water Dependent Ecosystems and Species, Traditional Owner Cultural Values and Cultural and Spiritual Values are precluded by mercury in MW50A.

Mercury was reported below criteria in all fill and natural samples on-site. Based on the soil results, the site was not considered likely to be a source of mercury contamination.

Mercury was reported below LOR in all wells across the site, with the exception of one concentration (0.6 ug/L) in MW50A in the final sampling round. Review of the current and historical mercury concentrations reported in groundwater shows that mercury was reported in the off-site upgradient wells MW13 and MW15 on Lot 2 up to 98 ug/L in December 2009.

It is therefore considered that the mercury pollution observed in MW50A was a result of an off-site source located on Lot 2 and not considered to be sourced from the site.

9.3.3.3 Lead

The beneficial use Water Dependent Ecosystems and Species, Potable Water Supply (Desirable), Traditional Owner Cultural Values and Cultural and Spiritual Values are precluded by lead in MW02A. The beneficial uses Water Dependent Ecosystems and Species, Traditional Owner Cultural Values and Cultural and Spiritual Values are also precluded by lead in off-site down-hydraulic gradient well MW29.

As noted in Section 8.1 above, lead concentrations exceeding HIL D criteria were observed in shallow fill material on Lot 3. Lead was reported below criteria in all natural soil samples and was therefore considered to be limited to the shallow fill. One sample analysed for lead leachability (ASLP) was reported below LOR. Based on the soil results, the site was not considered likely to be a source of lead pollution to groundwater.

Review of the distribution of lead pollution shows that lead has been reported in on and off-site wells during several groundwater sampling rounds over the course of the Audit and during pre-Audit GMEs. In order to gain an understanding of lead pollution, the Auditor has drawn on results from wells installed across the wider Nuplex site as review of these results shows lead pollution to be widespread across the area. Groundwater monitoring wells referred to in this section are presented on Figure 8.

On-site (Lot 3), lead pollution has been reported in wells CMW1 (maximum 6 ug/L), MW33R (maximum 10 ug/L), historical well MW16 (maximum 15 ug/L), historical well MW17 (maximum 7 ug/L), MW02A (maximum 15 ug/) and MW50B (maximum 5 ug/L).

As noted above, lead pollution has been reported in off-site down-gradient well MW29 at a maximum concentration of 8 ug/L. It is noted that the three preceding GMEs conducted at MW29 reported lead concentrations ranging from <1 to 1 ug/L (well below criteria). Further, off-site down-gradient well MW42 (located on Phillip Street, approximately 120m to the south) has historically reported lead at a maximum concentration of 11 ug/L.

Off-site up-hydraulic gradient lead pollution has been reported in several wells across the wider Nuplex site, including (but not limited to) the following: MW3 (maximum 19 ug/L), MW5 (maximum 20 ug/L), MW7 (maximum 1,070 ug/L), MW11 (maximum 385 ug/L), MW13 (maximum 9 ug/L), MW15 (maximum 44 ug/L), MW31 (maximum 89 ug/L), MW32 (maximum 44 ug/L), MW33 (maximum 7ug/L), MW37 (maximum 31 ug/L).

From a review of the results, it appears that lead pollution has primarily been centred on Lot 1 and in the central northern portion of Lot 2 (potentially extending off-site or originating from off-site to the east based on the results reported in MW7).

It is noted that lead concentrations have fluctuated significantly over the sampling period. The reason for the fluctuations is unknown, however based on the soil results on Lot 3 (i.e. with lead shown to be limited to the shallow fill material), and the distribution of lead pollution in groundwater across the wider Nuplex site and extending off-site up gradient, the Auditor considers the lead pollution on Lot 3 to be the result of an off-site source and not considered to be site derived pollution.

9.3.3.4 Cobalt

Based on the final groundwater sampling round, the beneficial uses Water Dependent Ecosystems and Species, Potable Water Supply (Desirable), Traditional Owner Cultural Values and/or Cultural and Spiritual Values are precluded by cobalt in on-site wells MW50A-C, CMW1, MW33R and MW23. The beneficial uses Water Dependent Ecosystems and Species, Agriculture and Irrigation (irrigation), Water-based Recreation (primary contact recreation), Traditional Owner Cultural Values and Cultural and Spiritual Values are also precluded off-site by cobalt in MW40.

It is noted that cobalt was not analysed by ARC in MW23A, MW02A or MW17B.

As per Section 8.1 above, cobalt was reported in soil across the site at concentrations exceeding the HIL A criteria. All elevated concentrations were reported in fill, but delineated with the underlying natural soil. One sample analysed for cobalt leachability (ASLP) was reported below LOR (although the Auditor does note the sample selected for leachability analysis was not considered to be ideally selected given the primary result was reported to be only just above the detection limit). Based on the soil results, the site was not considered likely to be a source of cobalt contamination.

Review of the distribution of cobalt in wells across the site shows that the highest concentrations have been reported in off-site wells MW12 (maximum 125 ug/L), MW13 (maximum 101 ug/L), MW15 (maximum 89 ug/L), MW32 (maximum 117 ug/L), MW34B (maximum 74 ug/L). Each of these wells is located up-gradient of Lot 3 (either on Lot 2, or down gradient of Lot 2).

Wells MW50A-C reported the highest concentrations on Lot 3, up to a concentration of 27 ug/L (MW50B), noting that MW50 is located immediately downgradient of the highest reported concentrations on Lot 2. Concentrations across the remainder of Lot 3 ranged from <1-5 ug/L.

Based on the soil results on Lot 3 (i.e. with cobalt shown to be limited to the shallow fill material, with the exception of one EIL exceedance reported in natural soil), and the distribution of cobalt pollution in groundwater in up-gradient wells, the Auditor considers the cobalt pollution on Lot 3 to be the result of an off-site source and not considered to be site derived pollution.

Off-site downgradient well MW40 reported the highest concentration of cobalt across the whole of the Nuplex site, with a maximum concentration of 471 ug/L reported in August 2017. Wells MW29 and MW30, located in between Lot 3 and MW40 reported cobalt below LOR.

It is thereby considered that the elevated concentration reported in MW40 is likely to be sourced from an off-site source.

9.3.3.5 Nickel

Based on the final groundwater sampling round, the beneficial uses Water Dependent Ecosystems and Species, Potable Water Supply (Desirable), Traditional Owner Cultural Values and/or Cultural and Spiritual Values are precluded by nickel in on-site wells MW50A-C, CMW1, MW02A and MW23A. The beneficial use Potable Water Supply (Desirable) is precluded off-site by nickel in MW29.

Nickel was reported below criteria in all fill and natural samples on-site. Based on the soil results, the site was not considered likely to be a source of nickel contamination.

Review of the distribution of nickel concentrations in groundwater on and off-site up gradient shows nickel concentrations to vary widely across the Nuplex site, including across Lot 3. The highest nickel observed has been reported in MW50A (175 ug/L) in July 2018. It is noted that nickel in MW50A-C was reported at concentrations ranging from 6-13 ug/L during the first GMEs conducted on these wells, in August -October 2017. Commencing in August 2017, remediation works (soil vapour extraction and air sparge) occurred in the southern portion of Lot 2. It is considered likely that remediation works have resulted in the mobilisation of nickel. Similarly, it appears that the highest nickel concentration on Lot 2 (in MW24C, 103 ug/L) was reported in August 2017. Prior to that date the highest nickel reported on Lot 2 was 78 ug/L. Further up-gradient, across the wider Nuplex site, nickel was reported at a maximum concentration of 134 ug/L in MW3 (located on Lot 1). Across Lot 3, nickel has only been reported at concentrations representative of pollution post the commencement of remediation activities conducted on Lot 2 (with the exception of one concentration reported at MW23 in August 2008 of 22 ug/L).

It is noted that one concentration of nickel was reported in CMW1 in July 2018 at a concentration of 1,100 ug/L. Prior to this concentration, nickel in CMW1 ranged from 12-98 ug/L (reported between August 2017 – May 2018). Although nickel was not analysed again in CMW1 as part of the Audit works, analysis of nickel in CMW1 was included within the analytical suite for the GME conducted in January 2019 as part of the Lot 2 (as presented within Appendix G of the CUTEP report (Appendix D of this report)). As noted within this data, nickel was reported at a concentration of 38 ug/L in January 2019, returning to within the range it was reported at prior to the July 2018 sampling round. The Auditor therefore considers the nickel concentration in July 2018 to be anomalous.

Based on the soil results (i.e. no nickel exceedances reported in fill or natural across the site) and the distribution of nickel pollution in groundwater across the site, it is considered that nickel pollution reported at the site is from an off-site source (i.e. caused by remediation works on Lot 2) and not site derived pollution.

9.3.3.6 Manganese

Based on the final groundwater sampling round, the beneficial uses Potable Water Supply (desirable), Agriculture and Irrigation (irrigation) and Water-based Recreation (primary contact recreation) are precluded by manganese in on-site wells MW50B and MW50C.

Earlier groundwater sampling rounds also reported manganese pollution in MW50A and off-site well MW40.

As per Section 8.1 above, manganese concentrations exceeding the EIL criteria were reported in fill material, however all concentrations in natural were reported below criteria. Based on the soil results, the site was not considered likely to be a source of manganese contamination.

Review of the distribution of manganese pollution on Lot 3 shows it to be limited to within wells located on the far up-hydraulic gradient side of the site (MW50A-C). Manganese within MW24A (on Lot 2 and immediately up gradient of MW50) was reported at concentrations ranging from 223 ug/L and 664 ug/L between October 2008 and January 2018. In addition, manganese in MW26 (off-site to the west of Lot 3 at the mechanic workshop) has reported manganese concentrations ranging between 177 ug/L and 1,190 ug/L between October 2008 and January 2018.

As noted above, petroleum hydrocarbon degradation appears to be primarily occurring through aerobic degradation due to the highly oxygenated aquifer conditions at the site. As such, production of manganese through anaerobic degradation of the site sourced petroleum hydrocarbons has not been observed across Lot 3.

Manganese observed in MW50 is considered likely to be a result of an off-site source and not site derived pollution.

As noted, historical sampling rounds reported manganese pollution in MW40. Manganese pollution has never been reported in wells MW29 and MW30 (noting the maximum reported in these wells is 16 ug/L, well below criteria), in between the site and MW40. As noted in the discussions above, it is considered likely that an off-site source and reducing conditions has resulted in pollution for various contaminants at MW40 (including the historical concentrations of manganese).

9.3.3.7 Copper and Zinc

Based on the final groundwater sampling round, the beneficial uses Water Dependent Ecosystems and Species, Traditional Owner Cultural Values and Cultural and Spiritual Values are precluded by copper and zinc in on-site wells MW50A-C, CMW1, MW02A and/or MW23A and in off-site down gradient well MW29.

Historically all on and off-site wells have reported copper and zinc pollution during at least one GME.

As noted in Section 8.1 above, copper and zinc concentrations exceeding the EIL criteria were reported in fill material, however all concentrations in natural soil were below criteria. Based on the soil results, the site was not considered likely to be a source of copper and zinc contamination.

Based on a review of current and historical concentrations, copper across all Lot 3 wells has generally remained at concentrations <10 ug/L, although occasional fluctuations have reported concentrations in select wells up to 117 ug/L (maximum reported in MW50B in May 2018).

Zinc across all Lot 3 wells has been reported at concentrations between <5 and 248 ug/L.

Copper and zinc have been reported at similar concentrations across Lot 3, as well as across the wider Nuplex site. The Auditor has also reviewed concentrations of copper and zinc reported in wells MW20, MW27 and MW28, located on the northern boundary of Lot 1, and potentially representative of

concentrations upgradient of the Nuplex site. Copper at a maximum of 12 ug/L and zinc to a maximum of 114 ug/L were reported in these wells. The distribution and range of both copper and zinc concentrations appear to suggest the exceedances are representative of natural concentrations within the Brighton Group Aquifer. Occasional fluctuations in the concentrations reported have been observed (for example that reported for copper in MW50B), however the cause of the fluctuations is not considered to be associated with site derived pollution. In addition, the fluctuations do not appear to alter the understanding of copper and zinc pollution at the site (i.e. fluctuations have not resulted in changes of the precluded beneficial uses compared to the beneficial uses precluded by the natural concentrations).

Based on the above, copper and zinc concentrations are considered to be naturally occurring and therefore not representative of pollution.

9.3.4 Inorganics

Inorganics concentrations reported in groundwater across Lot 3 and in wells in the immediate vicinity of Lot 3 between 2008 and 2018 are presented on Figure 12 (attached). It is noted that not all historical wells are included within Figure 12 (i.e. MW13, MW18, MW25, MW32 and MW34 are not shown). Figure 8 (attached) presents the location of historical wells across the wider Nuplex site and includes MW13, MW18, MW25, MW32 and MW34.

It is noted that Figure 12 presents the incorrect concentrations of nitrate, nitrite and sulphate for off-site well MW12, however the correct concentrations for these contaminants are presented in Tables H1 and H2.

9.3.4.1 pH

Based on the final groundwater sampling round, the beneficial uses Water Dependent Ecosystems and Species, Potable Water (desirable), Agriculture and Irrigation (Irrigation), Agriculture and Irrigation (stock watering), Water-based Recreation (primary contact recreation), Traditional Owner Cultural Values and Cultural and/or Spiritual Values are precluded on and off-site.

A review of the distribution of pH in on-site, up gradient and down gradient wells shows pH to be generally consistent in all wells, with pH reported to be slightly acidic. The Auditor considers the reported pH in all wells (i.e. 5.55 – 7.36) to be consistent with anticipated pH within the Brighton Group Aquifer.

The Auditor considers that pH observed across all wells on and off-site is not considered to be associated with site sourced contamination and is considered likely to be associated are naturally occurring conditions within the Brighton Group Aquifer.

It is noted that Figure 12 does not present pH, however pH results reported during the Audit are presented in Table 5 of the ARC (March 2019) report.

9.3.4.2 Nitrate, Nitrite and Ammonia

Based on the final groundwater sampling round, the beneficial uses Water Dependent Ecosystems and Species, Potable Water (desirable), Traditional Owner Cultural Values and Cultural and/or Spiritual Values are precluded by nitrate and/or nitrite in on-site wells MW50B and MW50C, CMW1, MW23A, MW33R, and in off-site down gradient wells MW29, MW30 and MW40.

It is noted that ammonia pollution has never been reported in wells on Lot 3.

Based on a review of the distribution of nitrate from historical and current groundwater sampling, the highest concentrations were reported in off-site upgradient Lot 2 wells MW32 (116,000 ug/L, December

2009) and MW13 (95,800 ug/L, January 2011). The maximum nitrate concentration reported on Lot 3 was in MW50B of 73,600 ug/L (October 2017). Nitrate and nitrite concentrations generally decrease from up to down gradient across Lot 3, with no evidence of a contribution of contamination on Lot 3.

Historical information presented for Lot 2 identified one UST (now reported removed) located in the southern portion of Lot 2 which formerly contained ammonia. Based on the primarily oxidising conditions across the site, ammonia converts readily to nitrate and nitrite. As such, it is considered that the elevated nitrate and nitrite observed in groundwater was likely resultant from ammonia sourced from the former ammonia UST, oxidising to nitrate and nitrite.

Off-site down gradient well MW29 reported nitrate pollution, with concentrations in the similar range as reported across Lot 3 (9,780 ug/L to 18,700 ug/L). Wells MW30 and MW40 reported ammonia pollution (noting ammonia pollution was only reported once in MW30, in the final GME for this well in January 2018 when a redox of 2.8 mV was reported), with the highest reported in well MW40. As noted above, reducing conditions were reported in MW40, thus resulting in elevated ammonia rather than the elevated nitrate reported in other wells across Lot 3.

Based on the above, nitrate, nitrite and ammonia pollution in on and/or off-site wells was considered likely to be sourced from an off-site source and not site derived pollution.

9.3.4.3 Sodium and Chloride

Based on the final groundwater sampling round, the beneficial uses Potable Water (desirable), Agriculture and Irrigation (irrigation) and/or Water-based Recreation (primary contact recreation) are precluded on-site by sodium and/or chloride in wells MW2A, MW23/MW23A, MW50A, MW50B, MW50C, MW33R and CMW1. The beneficial use Agriculture and Irrigation (irrigation) is precluded in down gradient off site wells by sodium and chloride in MW29 and/or MW30.

Review of the distribution of sodium and chloride concentrations reported in all wells across the site, shows sodium and chloride concentrations to be relatively consistent across all wells, with the exception of wells which are considered to be influenced by a fresh water source. Wells on or down gradient of Lot 3 which are considered to be potentially influenced by a fresh water source (i.e. leaking services) have reported sodium and chloride concentrations on the lower end of the range. For example, wells MW17B, MW30 and MW40 have reported chloride in the range of 12,000 ug/L to 36,000 ug/L and sodium in the range of 63,000 ug/L to 126,000 ug/L (for GMEs conducted during the audit).

The Auditor considers that concentrations of sodium and chloride reported on the lower end of the range are artificially lowered by the influence of services and that concentrations observed across the remainder of the site are naturally occurring.

It is noted that Figure 12 does not present sodium concentrations, however the distribution of elevated sodium and chloride concentrations are generally in line and as such review of the chloride concentrations on Figure 12 provides sufficient indication of both contaminants.

9.3.4.4 Sulphate

Based on the final groundwater sampling round, the beneficial uses Potable Water (desirable) and Water-based Recreation (primary contact recreation) are precluded on-site in wells MW50B and CMW1 by sulphate.

Historically wells MW33R and MW16 also reported sulphate pollution, with a maximum concentration of 566,000 ug/L.

Wells on or down gradient of Lot 3 which are considered to be potentially influenced by a fresh water source (i.e. leaking services) have reported sulphate concentrations on the lower end of the range. For example, wells MW17B, MW30 and MW40 have reported sulphate in the range of 11,000 ug/L to 58,000 ug/L (for GMEs conducted during the audit).

The remainder of wells on Lot 3 have generally reported sulphate concentrations approximately 100,000 to 300,000 ug/L.

No elevated concentrations of sulphate were reported in soil on Lot 3, with a maximum concentration of 90 mg/kg reported on-site.

A review of the sulphate concentrations reported across the wider Nuplex site shows highly variable concentrations, with little to no discernible pattern. Concentrations reported across the site have ranged between <1,000 ug/L and 638,000 ug/L. Wells that have historically reported the highest concentrations (i.e. >500,000 ug/L) across the Nuplex site are MW3, MW13, MW16, MW24B, MW32 and MW42.

Wells MW20, MW27 and MW28, located on the northern site boundary of the wider Nuplex site and considered likely to be representative of concentrations extending on to the Nuplex site reported concentrations in the range of 162,000-492,000 ug/L.

Review of sulphate concentrations compared to surrounding audit sites (as shown in Table 9.3 of the ARC January 2019 DSI report), shows sulphate across the wider Nuplex site to be within or below concentrations at surrounding sites (with the highest concentrations listed as 2,300,000 ug/L at 1136 – 1138 Nepean Hwy, Highett).

Based on the above, it is considered that sulphate is not site derived pollution but is considered likely to be naturally occurring.

9.3.4.5 Fluoride

The beneficial use Agriculture and Irrigation (irrigation) was precluded in off-site down gradient well MW30.

No fluoride pollution was reported in wells on Lot 3.

It is noted that the elevated fluoride was only reported in well MW30, at a concentration marginally above the criteria (1,200 ug/L). Historically, well MW30 has reported fluoride concentrations ranging from 900 ug/L to 2,800 ug/L.

Although fluoride was not analysed in soil across Lot 3, it is noted that no fluoride pollution was reported in groundwater any wells on Lot 3. It is also noted that well MW30 was located on Hamlet street, along which leaking services have been identified.

Based on the above, it is considered likely that the fluoride pollution reported in off-site down gradient well MW30 was sourced from an off-site source and not considered to be site derived pollution.

It is noted that the fluoride exceedance is not presented on the inorganics groundwater exceedance figure (Figure 12).

9.3.4.6 Cyanide

It is noted that elevated total cyanide (exceeding the criteria for Water Dependent Ecosystems and Species, Traditional Owner Cultural Values and Cultural and Spiritual Values) was reported in MW33R (6 ug/L in October 2017) and MW17B (8 ug/L in June 2018). All other groundwater monitoring wells on Lot 3 reported cyanide below LOR during the audit.

No detectable concentrations of free cyanide, WAD cyanide or total cyanide were reported in soil across the site.

Subsequent rounds conducted in both MW17B and MW33R both reported cyanide below LOR. As such, groundwater at the site is not considered to polluted by cyanide.

It is noted that historical concentrations of cyanide were reported in on-site well MW33R at a maximum of 116 ug/L, with upgradient off site well MW24C having reported a maximum concentration of 820 ug/L. Therefore, when present, cyanide was considered likely to be from an off-site source.

9.3.5 Summary

In summary, from the above discussion the Auditor considers that concentrations of benzene, ethylbenzene and arsenic are considered to be sourced from the site (from the former USTs on-site).

Off-site sources of petroleum hydrocarbons are also considered to be the source of benzene pollution identified on the eastern side of the site (at MW50 and MW33R).

Concentrations of trichloroethene, tetrachloroethene, cis 1,2 dichloroethene, 1,1 dichloroethane, 1,1 dichloroethene, 1,2 dichloroethane, 1,1,2 trichloroethane, carbon tetrachloride, vinyl chloride, 1,2 dichlorobenzene, 1,4 dichlorobenzene, chloroform, dichloromethane, trihalomethanes, TRH C_6-C_{10}, metals (cobalt, iron, manganese, nickel, mercury, lead), inorganics (ammonia, nitrate, nitrite, fluoride) are considered to be sourced from an off-site source.

Concentrations of copper, zinc, sodium, pH, chloride and sulphate are considered to be naturally occurring.

All concentrations of contaminants sourced from the site are considered to be delineated.

9.4 Natural Attenuation

The residual petroleum hydrocarbon mass is considered to have been removed or depleted on-site to the extent that no residual mass is remaining in the central UST pit area and <5% is considered to remain in the western UST pit. With little to no source input, the rate of attenuation exceeds plume growth and as a result, the plumes have been demonstrated to be reducing over the ten years of monitoring.

Various lines of evidence can be evaluated to assess the effectiveness of natural attenuation processes on dissolved phase impact in groundwater at a petroleum release site. The primary line of evidence for natural attenuation at any site is provided by observed reductions in impacted area geometry and observed reductions in concentrations of identified impact at the site. Secondary lines of evidence are provided by geochemical indicators of biodegradation processes.

A detailed discussion of the findings of the Auditor's natural attenuation assessment is provided within Section 8.5 of the Auditor's CUTEP report (provided within Appendix D of this report).

Based on the findings of the natural attenuation assessment, the Auditor considers that there are conclusive primary and secondary lines of evidence that natural attenuation is occurring as follows:

- There is strong primary line of evidence that natural attenuation is occurring, sufficient to not only prevent plume expansion, but also result in plume retraction.
- The groundwater geochemistry post-remediation indicates that the biodegradation of petroleum hydrocarbons is occurring primarily via aerobic processes.
- The electron acceptor demand has been significantly reduced over time. Based on the continued availability of electron acceptors (primarily oxygen), the lack of residual mass remaining, and the observed decrease of concentrations both within the source zones and at the leading edge of the

plume, it is anticipated that site sourced petroleum hydrocarbons would no longer preclude the beneficial uses of groundwater at the site after approximately 5 years. It is however noted that off-site sources are considered likely to preclude beneficial uses of groundwater for many more years beyond that time.

10 Vapour Assessment

No vapour bores were installed or sampled during the Audit, however historical vapour works were reviewed by the Auditor with the primary purpose of assessing whether the historical vapour data confirmed the conceptual understanding of the site or provided any indication of data gaps requiring further assessment. Historical, vapour works completed across the site are summarised as follows:

2001 – As noted in Section 8.1.1 above, ERM collected PID and FID samples at 14 locations across the site (VP33-VP42 and VP47-VP50), concentrating primarily in the vicinity of the USTs (noting the USTs remained in place at the time of this investigation). No information was available in regards to this investigation with the exception of one figure showing sample locations and one table listing the results provided within the appendices of the LanePiper 53V report. The maximum result was reported adjacent to the central UST with an FID concentration of 8,500ppm (noting it is unknown if the USTs contained any fuel at the time). The table showing results from VP33-VP42 and VP47-VP50 is presented as Table J (attached). The locations are presented on Figure 13.

2008 – In November 2008, Leeder (on behalf of GHD) completed ambient air monitoring at three locations (A1-A3) within the building located on Lot 3. Monitoring locations A1-A3 are presented on Figure 13. Details of the monitoring event are presented within the GHD (March 2009) Soil Vapour Monitoring Report, included within the LanePiper 53V Audit Report.

The ambient air samples reported detectable concentrations at all locations as follows:

- dichlorodifluoromethane (maximum 4 ug/m3),
- toluene (maximum 12 ug/m3),
- xylenes (maximum 3 ug/m3), and
- trichlorofluoromethane (maximum 1 ug/m3).

The extent and distribution of reported results did not indicate the potential presence of any unknown point source areas on Lot 3. It was noted at the time of the GHD investigation that site history information indicated the former presence of a refrigerant area in the southern portion of Lot 2, considered to be the source of the dichlorodifluoromethane and trichlorofluoromethane. It is noted that dichlorodifluoromethane and trichlorofluoromethane have not been detected in soil and or groundwater on Lot 3.

2012 – In March 2012 GHD completed passive soil vapour installation and sampling works. Across Lot 3, eight passive soil samplers were installed and sampled (BF1-BF8). The locations of BF1-BF8 are presented on Figure 13.

It is noted that the Auditor was not provided with a copy of the report summarising works and results from the GHD monitoring event. The following results were provided within the ARC (March 2019) DSI report.

ARC (March 2019) indicated that samples were analysed for VOCs with locations within Lot 3 reporting concentrations of VOCs below the laboratory LOR with the exception of the following:

- BF2 reported 1,4-dichlorobenzene at a concentration of 3.2 ug/m^3 and vinyl chloride at a concentration of 59 ug/m3 exceeding the US EPA Industrial air guidelines of 1.1 ug/m^3 and 2.8 ug/m^3 respectively;
- BF1 reported TCE at a concentration of 36 ug/m^3 exceeding the US EPA Industrial air guideline of 3 ug/m^3;

- BF5 reported TCE at a concentration of 66 ug/m^3 exceeding the US EPA Industrial air guideline of 3 ug/m^3;
- Cis-1,2-DCE was detected at five of the eight locations; BF1 (58 ug/m^3), BF3 (16 ug/m^3), BF5 (230 ug/m^3), BF6 (400 ug/m^3) and BF8 (11 ug/m^3);
- Trans-1,2-DCE was detected below the US EPA Industrial Air guidelines at two of the eight locations; BF25 (40 ug/m^3) and BF6 (ug/m^3);
- 1,2-dichlorobenzene and chlorobenzene were detected below the US EPA Industrial Air guidelines at one of the eight locations; BF2 (1.9 ug/m^3 and 87 ug/m^3 respectively);
- Toluene was detected below the US EPA Industrial Air guidelines at three of the eight locations; BF3 (3.4 ug/m^3), BF4 (5 ug/m^3) and BF5 (6.7 ug/m^3); and
- Hexane was detected below the US EPA Industrial Air guidelines at one of the eight locations; BF3 (8.1 ug/m^3)

The above results were considered to be consistent with the presence of an off-site chlorinated hydrocarbon source (extending on to Lot 3) and the on and off-site petroleum hydrocarbon source.

A subsequent health risk assessment undertaken by GHD (2013) indicated that health risks to existing indoor workers within Lot 3 were estimated to be within acceptable levels in the context of the existing site infrastructure and buildings, however it was noted that other building types namely small slab-on ground offices and buildings with basement car parks (which are allowed on the same planning zone), may exceed acceptable risk levels.

The Auditor has considered the above soil vapour data but notes that it was collected in 2001, 2008 and 2012, since which time the site-sourced groundwater plume has been observed to have attenuated significantly and a number of stages of remediation works have occurred on Lot 2 targeting the chlorinated hydrocarbons. As such, data presented by the above summarised on-site vapour sampling works is not considered to be representative of current site conditions.

Potential risks based on current site conditions have been evaluated, as per Section 11.3 below and Appendix I.

11 Risks to Beneficial Uses

11.1 Soil Contamination Risks to Beneficial Uses of Land

In accordance with the Land SEPP, the relevant beneficial uses of land to be protected are:

- Maintenance of Ecosystems (Highly Modified);
- Human Health;
- Buildings and Structures; and
- Aesthetics.

In accordance with the definition provided in Appendix 4 of the EPAV (February 2014) *Environmental Auditor (Contaminated Land) Guidelines for Issue of Certificates and Statements of Environmental Audit*, Publication 759.3, the proposed development is classified as commercial. However, in the context of unrestricted site use, the protection of all beneficial uses has been considered for the purposes of the Audit. Based on the analytical results in Table E (attached), certain soil results at the site exceeded the adopted Audit criteria. Given the nature and extent of contamination in soils beneath the site, the following observations are made regarding impacts to protected Beneficial Uses of land.

11.1.1 Maintenance of Ecosystems

Concentrations of pH, cobalt, copper, lead, manganese, vanadium, zinc, TRH F2, TCE and chromium VI exceeding the adopted EILs/ESLs for land use settings 'A', 'B', 'C' and/or 'D' were reported within soils currently remaining at the site which may be potentially detrimental to the beneficial use of 'Maintenance of Ecosystems'.

As noted in Section 8.2.1.1, the slightly acidic pH reported in natural soil across the site was considered to be naturally occurring, and as such does not preclude the beneficial use of 'Maintenance of Ecosystems'. It is noted that local natural plants and grasses are likely to be adapted to these pH conditions, however there may be some impact on the growth and development of some introduced plants, grasses and fauna. As a result, a comment to this effect is included within *Other Related Information* of the Statement of Environmental Audit (Appendix A).

The Auditor considers that the elevated concentrations of vanadium reported at the site were indicative of the natural geology, and do not represent site derived pollution, and as such concentrations of vanadium do not preclude the beneficial use of 'Maintenance of Ecosystems'.

In the context of unrestricted use, the beneficial use 'Maintenance of Ecosystems' is considered to be precluded by cobalt, copper, lead, manganese, zinc, TRH F2, TCE and chromium VI.

In the context of the proposed development, where it is developed in accordance with the proposed development plans (provided within Appendix C), and with a requirement of a minimum of 0.5 m of 'clean fill' be placed below the finished surface in all landscaped areas or garden beds directly overlying existing site soils, the beneficial use 'Maintenance of Ecosystems' is considered to be protected.

As such, Statement Conditions have been included (see Appendix A) to enable the protection of the beneficial use 'Maintenance of Ecosystems' in accordance with the above.

11.1.2 Human Health

All contaminants of potential concern were either not detected or reported below the adopted Human Health Investigation Levels and Health Screening Levels (HILS/HSLs), with the exception of the following:

- pH for all land use settings;
- Cobalt (exceeding the adopted HIL for land use setting 'A');
- Lead (exceeding the adopted HIL for land use settings 'A', 'B', 'C' and 'D');
- TRH F1 (exceeding the adopted HIL for land use settings 'A' and 'B');
- TRH F2 (exceeding the adopted HIL for land use settings 'A' and 'B'); and
- TCE (exceeding the adopted HIL for land use settings 'A', 'B', 'C' and 'D').

The Auditor (supported by verbal consultation with his expert in relation to risk assessment) considers that that the pH outside of the criteria range in fill and natural is unlikely to present a human health risk to site users, and therefore the pH does not preclude the beneficial use of 'Human Health'.

In the context of unrestricted use, concentrations of cobalt, lead, TRH F1, TRH F2 and TCE are considered to preclude the beneficial use of 'Human Health'.

It is noted that one concentration of lead exceeded the HIL for a commercial/industrial land use setting. 95% UCL statistical analysis was undertaken by ARC on lead concentrations reported in fill at the site, the results of which indicated that lead concentrations in fill remaining at the site were below the HIL for commercial/industrial land uses. As such, in the context of the proposed commercial development, concentrations of lead are not considered to preclude 'Human Health'.

Potential risks to future site users in the context of the proposed development by the remaining concentrations of TCE in soil which exceeded the assessment criteria for a commercial/industrial land use setting were considered by ARC through a comparison with risk based criteria derived for the wider Nuplex site (as per the EnRisks (November 2018) *Risk-Based Criteria*; *Former Nuplex Chemical Storage Facility, Cheltenham, VIC*), the outcomes of which indicated that potential human health risks to future users of the site as per the proposed development (i.e. commercial use of the building in its current configuration) were considered to be low and acceptable. A review of the EnRisks RBC report was undertaken by the Auditor and his expert support in risk. The review concluded that all potential risks to site users of the proposed development (i.e. commercial use with a caretaker's residence of the first floor, within the existing site configuration comprising a warehouse scenario) are considered to be low and acceptable. Further discussion of the human health risk assessment review is provided in Section 11.3 below.

Based on the above, the Auditor considers that, in the context of the proposed commercial development, the beneficial use 'Human Health' is considered protected where the site is constructed in accordance with the proposed development plans (as provided within Appendix C). As such Statement Condition has been included (see Appendix A) requiring the site to be constructed in accordance with the proposed development plans (see Appendix C).

It is noted that soil containing odours and/or staining at some locations on the site may be present. However, it is noted this material is not considered to represent a human health risk in the context of the proposed development, but may cause a noticeable odour if exposed during development or occupation of the site. Subsequently, a note to this effect has been included in *Other Related Information* of the Statement of Environmental Audit (provided in Appendix A).

11.1.3 Production of Food, Flora and Fibre

Concentrations of pH, cobalt, copper, lead, manganese, vanadium, zinc, TRH F2, TCE and chromium VI exceeding the adopted EILs/ESLs for land use settings 'A', 'B', 'C' and/or 'D' were reported within soils currently remaining at the site which may be potentially detrimental to the beneficial use of 'Production of Food, Flora and Fibre'.

As noted above, the pH and vanadium reported in soils at the site was considered to be naturally occurring, and therefore are not considered to preclude the beneficial use 'Production of Food, Flora and Fibre'.

In the context of unrestricted use, the beneficial use 'Production of Food, Flora and Fibre' is considered to be precluded by cobalt, copper, lead, manganese, zinc, TRH F2, TCE and chromium VI in soil at the site. However, it is noted that in the context of proposed commercial development, 'Production of Food, Flora and Fibre' is not a relevant beneficial use.

11.1.4 Buildings and Structures

Soil pH concentrations remaining at the site ranged from 5.9 – 8.5 pH units (i.e. >5.5 units) and sulphate concentrations ranged <50 – 90 mg/kg (i.e. <5,000 mg/kg as per AS2159-2009). Therefore, soil at the site is classified as non-aggressive in accordance with AS2159-2009 and the beneficial use Buildings and Structures is not considered to be precluded.

11.1.5 Aesthetics

Anthropogenic inclusions such as brick and concrete were observed within fill material across the site which remained at the conclusion of the Audit. In addition, soil containing odours and/or staining at some locations on the site may be present. As such, in the context of unrestricted use of the site, the beneficial use of Aesthetics is considered to be precluded.

However, in the context of the proposed development, where it is developed in accordance with the proposed development plans (provided within Appendix C), and with a requirement of a minimum of 0.5 m of 'clean fill' be placed below the finished surface in all landscaped areas or garden beds directly overlying existing site soils, the beneficial use of 'Aesthetics' is not considered to be precluded.

As noted above, soil containing odours and/or staining may be present at some locations on the site. Subsequently, a note to this effect has been included in *Other Related Information* of the Statement of Environmental Audit (provided in Appendix A).

11.1.6 Potential for Off-Site Contamination

Residual petroleum hydrocarbon soil impact associated with the former on-site UST, and residual TCE impact in the TIT backfill was delineated on-site and no soil impact was considered to extend off-site. Furthermore, the risk evaluation (Section 11.3 below) addressed vapour inhalation and direct contact issues on and off the site and concluded that all potential risks to site users of the proposed development within the existing site configuration comprising a warehouse scenario) were considered to be low and acceptable.

Given that the elevated metals are considered to be non-volatile and non-leachable, they are not considered to present a potential risk for off-site contamination or a potential risk to current and/or potential future off-site receptors.

The Auditor notes that soil investigation works occurred concurrently immediately over the northern boundary shared with the Lot 4 site. A total of six soil bores (BH3, NHS_EEC_SB104, NHS_EEC_SB104A, NHS_ARC_SB202, NHS_EEC_SB105 and NHS_ARC_SB105A) were drilled within approximately 3m of the boundary on the Lot 4 side of the site. Soil bores were all drilled into natural soil to a maximum depth of 2.0m. Select samples were analysed for TRH, BTEX, VOCs, SVOCs, PAHs, OPPs, OCPs, herbicides, amino aliphatics, amino aromatics, anilines, glycols, PCBs, explosives, metals, pH, cyanide, nitroaromatics, phthalates and phenols. All concentrations were below LOR with the exception of two concentrations of TRH F3 (110 mg/kg and 120 mg/kg) reported in fill (below criteria), both vertically delineated in natural soil.

Elevated concentrations of cobalt (maximum 246 mg/kg, exceeding HIL A) and copper (maximum 232 mg/kg, exceeding EIL) were vertically delineated in the underlying natural soil. Based on the Auditor's review of results from Lot 4, just over the northern site boundary, it is concluded that no concentrations were identified which would be considered to potentially impact the beneficial uses of land on Lot 3.

It is also noted that one substation is located immediately to the north of the site on the north-western side. The potential for PCB related contamination from this substation was investigated as part of the Lot 4 Audit works. One soil bore (NHS_EEC_106) was advanced to a maximum depth of 2.0m, with samples at 0.2m (fill) and 0.5m (natural) analysed for PCBs. Both results were reported below LOR. As such, it was concluded that the substation was unlikely to have resulted in contamination/pollution. It is also noted that no PCB pollution in groundwater has ever been reported at the site.

Figure 7 shows the location of soil bores and exceedances on Lot 4 (to the north).

11.1.7 Summary of Soil Contamination Impact to Beneficial Uses of Land

In summary, the site in its current condition precludes or potentially precludes one or more beneficial uses of land in the context of unrestricted land use and therefore the Auditor is unable to issue a Certificate of Environmental Audit for the site.

Given the nature and extent of contaminants in soils beneath the site, the following observations are made regarding impacts to protected beneficial uses of land:

- 'Maintenance of Ecosystems' is precluded at the site by cobalt, copper, lead, manganese, zinc, TRH F2, TCE and chromium VI.
- 'Human Health' is precluded at the site by cobalt, lead, TRH F1, TRH F2 and TCE.
- 'Buildings and Structures' is not precluded at the site.
- 'Production of Food, Flora and Fibre' is considered to be precluded by cobalt, copper, lead, manganese, zinc, TRH F2, TCE and chromium VI. It is noted that in the context of proposed commercial development, 'Production of Food, Flora and Fibre' is not a relevant beneficial use.
- 'Aesthetics' is considered to be precluded due to the presence of anthropogenic inclusions such as brick and concrete within the fill and the potential to encounter odours and/or staining within soil.

In summary, the site in its current condition precludes one or more beneficial uses of land in the context of unrestricted land use and therefore the Auditor is unable to issue a Certificate of Environmental Audit for the site.

In the context of the proposed development, where it is developed in accordance with the proposed development plans (attached to the Statement of Environmental Audit), and with a requirement of a minimum of 0.5 m of 'clean fill' be placed below the finished surface in all landscaped areas or garden beds directly overlying existing site soils, all relevant beneficial uses would be protected.

11.2 Groundwater Contamination Risks to Beneficial Uses of Groundwater

Groundwater is considered to be classified as Segment A2 in accordance with the SEPP (2018) *Waters*. Based on SEPP (2018) (Waters), the following beneficial uses would need to be protected for the TDS concentration reported at the site:

- Water dependent ecosystems and species;
- Potable water supply (desirable);

- Potable mineral water supply (not considered relevant as the site is not located in a mineral springs area);
- Agriculture and irrigation (irrigation);
- Agriculture and irrigation (stock watering);
- Industrial and commercial;
- Water-based recreation (primary contact recreation);
- Traditional Owner cultural values;
- Cultural and spiritual values;
- Buildings and Structures; and
- Geothermal properties. (not considered relevant as the site is not located within a designated geothermal area).

The likelihood of beneficial uses being realised, both on-site and off-site, are summarised in the following Table 11.1 below.

As mentioned previously it will be accepted, as a result of the wide and diverse potential for 'Industrial and commercial' use, that if any extractive beneficial use is precluded due to the presence of pollution, then it will be deemed that Industrial Use is also precluded by the same contaminants. In addition, as noted in Section 4.2, 'Potable mineral water supply' and 'Geothermal properties' are not considered relevant as the site is not located in a mineral springs area or designated geothermal area and have therefore not been considered further.

Table 11.1 Likelihood of Beneficial Uses being Realised (Potential or Existing Use Shaded)

Beneficial Use	On-Site	Off-site
Water Dependent Ecosystems and Species	NOT RELEVANT No on-site aquatic ecosystem.	EXISTING The nearest potential surface water point of discharge is considered to be Port Phillip Bay located approximately 2.8 km southwest of the site.
Potable Water – Desirable	UNLIKELY Given the current proposed commercial land use scenario, and the presence of a reticulated water supply.	EXISTING Thirty-six bores registered for domestic or domestic & stock use were identified within 2 km of the site.
Agriculture and irrigation (irrigation)	UNLIKELY Given the current proposed commercial land use scenario, and the presence of a reticulated water supply.	EXISTING Twenty-six bores registered for irrigation use were identified within 2 km of the site.
Agriculture and irrigation (stock Watering)	UNLIKELY Given the current proposed commercial land use scenario, and the presence of a reticulated water supply.	EXISTING Twenty-five bores registered for domestic & stock use were identified within 2 km of the site.

Beneficial Use	On-Site	Off-site
Water-based recreation (primary contact recreation)	UNLIKELY Given the current proposed commercial land use scenario, and the presence of a reticulated water supply.	EXISTING Thirty-six bores registered for domestic or domestic & stock use were identified within 2 km of the site.
Industrial and commercial use	UNLIKELY Given the current proposed commercial land use scenario, and the presence of a reticulated water supply.	POTENTIAL Two bores registered for industrial use were identified within 2 km of the site.
Traditional Owners cultural values	NOT RELEVANT No on-site aquatic ecosystem.	EXISTING The nearest potential surface water point of discharge is considered to be Port Phillip Bay located approximately 2.8 km southwest of the site.
Cultural and spiritual values	NOT RELEVANT No on-site aquatic ecosystem.	EXISTING The nearest potential surface water point of discharge is considered to be Port Phillip Bay located approximately 2.8 km southwest of the site.
Building and Structures	UNLIKELY Groundwater is be present at approximately 10 mbgl and as such is considered unlikely to come into contact with building footings/foundations.	UNLIKELY Groundwater is be present at approximately 10 mbgl and as such is considered unlikely to come into contact with building footings/foundations.

Under an unrestricted land use scenario, all protected beneficial uses of groundwater are considered likely to be realised on-site, with the exception of buildings and structures. However, under the proposed commercial development, all protected beneficial uses of groundwater are considered unlikely to be realised on-site.

All beneficial uses of groundwater, with the exception of buildings and structures, were considered to be existing or potentially existing off-site.

The extractive beneficial uses 'Potable Water Supply – Desirable', 'Agriculture and Irrigation (irrigation)', 'Agriculture and Irrigation (stock watering)', 'Water-Based Recreation (primary contact recreation)' and 'Industrial and Commercial Use' are considered to be precluded by on and off-site by pollution sourced from the site. As such, the Auditor has recommended the precluded beneficial uses be managed through implementation of a Groundwater Quality Restricted Use Zone (GQRUZ) (as discussed below in Section 12.2). Based on the natural attenuation assessment and qualitative assessment of plume fate and transport, the potential risk to the beneficial use of Water Dependent Ecosystems and Species, 'Traditional Owners and Cultural Values' and 'Cultural and Spiritual Values' (relevant at the point of groundwater discharge Port Phillip Bay) has been concluded to be low.

Table 11.2 below, as provided within Appendix B of EPA Publication 840.2, provides a summary of precluded beneficial uses at the site.

Table 11.2: Precluded Beneficial Use Summary Table

Beneficial Use	Contaminants On-Site
Water Dependent Ecosystems and Species	N: pH, copper and zinc B: cobalt, iron, mercury, nickel, lead, nitrate, nitrite, chloroform, dichloromethane, trichloroethene, tetrachloroethene Site Sourced: arsenic and ethylbenzene
Traditional Owners cultural values	N: pH, copper and zinc B: cobalt, iron, mercury, nickel, lead, nitrate, nitrite, chloroform, dichloromethane, trichloroethene, tetrachloroethene Site Sourced: arsenic and ethylbenzene
Cultural and spiritual values	N: pH, copper and zinc B: cobalt, iron, mercury, nickel, lead, nitrate, nitrite, chloroform, dichloromethane, trichloroethene, tetrachloroethene Site Sourced: arsenic and ethylbenzene
Potable Water – Desirable	N: pH, sulphate, sodium and chloride B: cobalt, iron, manganese, nickel, lead, nitrate, chloroform, dichloromethane, trihalomethanes, TRH C_6-$C_{10,}$ trichloroethene, tetrachloroethene, cis-1,2- dichloroethene, vinyl chloride, carbon tetrachloride, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,1,2-trichloethane, 1,2-dichlorobenzene, 1,4-dichlorobenzene Site Sourced: arsenic, benzene, ethylbenzene
Potable Mineral Water	N/A
Agriculture and Irrigation (irrigation)	N: pH, sodium B: cobalt, iron, manganese, chloride, fluoride Site Sourced: arsenic
Agriculture and Irrigation (stock watering)	N: pH B: chloroform, dichloromethane, trihalomethanes, trichloroethene, tetrachloroethene, cis-1,2- dichloroethene, vinyl chloride, carbon tetrachloride, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,1,2-trichloethane, 1,2-dichlorobenzene, 1,4-dichlorobenzene Site Sourced: benzene, ethylbenzene
Water-based Recreation (primary contact recreation)	N: pH, sulphate, sodium and chloride B: cobalt, iron, manganese, chloroform, dichloromethane, trihalomethanes, TRH C_6-$C_{10,}$ trichloroethene, tetrachloroethene, cis-1,2- dichloroethene, vinyl chloride, carbon tetrachloride, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,1,2-trichloethane, 1,2-dichlorobenzene, 1,4-dichlorobenzene Site Sourced: arsenic, benzene, ethylbenzene

Beneficial Use	Contaminants On-Site
Geothermal properties	N/A
Industrial and Commercial Use	N: pH, sulphate, sodium and chloride B: cobalt, iron, manganese, nickel, lead, nitrate, fluoride, chloroform, dichloromethane, trihalomethanes, TRH C_6-C_{10}, trichloroethene, tetrachloroethene, cis-1,2- dichloroethene, vinyl chloride, carbon tetrachloride, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,1,2-trichloethane, 1,2-dichlorobenzene, 1,4-dichlorobenzene Site Sourced: arsenic, benzene, ethylbenzene
Buildings and Structures	N: pH

Notes:
(n) – naturally occurring
(b) – background/regional pollution
NA – Not applicable

11.3 Groundwater Contamination Risks to Beneficial Uses of Land

As noted above, petroleum hydrocarbon impacts remain in groundwater on-site and off-site to the southwest, extending marginally into Hamlet Street. One detectable soil sample reporting concentrations of carbon tetrachloride in soil and residual TCE within the former TIT backfill material also remain on-site.

Although site sourced petroleum hydrocarbons remain in groundwater on Lot 3 and to the southwest of Lot 3, reported concentrations are well below the relevant HSLs for current off-site receptors (maintenance workers in Hamlet Street.)

In addition, off-site sourced groundwater impacts from chlorinated hydrocarbons, trihalomethanes, petroleum hydrocarbons, metals and inorganics extend onto Lot 3.

Potential risks to future site users were assessed by ARC through comparison of soil and groundwater results to the risk-based criteria derived for the wider Nuplex site, as per the EnRisks (November 2018) *Risk-Based Criteria*; *Former Nuplex Chemical Storage Facility, Cheltenham, VIC;* dated 8 November 2018. (RBC report). A copy of the EnRisks RBC report is provided within Appendix R of the ARC (March 2019) DSI report.

The outcomes of ARC's assessment of potential risks to future site users is presented in Table 9.5 and Section 9.7 of the ARC (March 2019) DSI report, in which ARC concluded that potential human health risks to future users of the site as per the proposed development (i.e. commercial use of the building in its current configuration – see Appendix C for proposed development plans and plans showing the current building configuration) were considered to be low and acceptable.

The Auditor conducted a review of the EnRisks RBC report and the discussion and conclusions provided by ARC in their DSI report. The Auditor's review noted that the EnRisks RBC report was specifically completed for Lots 1 and 2 of the wider Nuplex site, with EnRisks not having specifically reviewed or assessed site conditions on Lot 3. The Auditor also identified some gaps in the assessment of risk to the site as RBCs had not been derived in the EnRisks RBC report for all contaminants of potential concern detected.

As such, the Auditor engaged his expert support in risk, Ms Karen Teague of Coffey Environments, to conduct a review of the EnRisks RBC report to determine the applicability of the RBCs to assess potential risks to Lot 3 and to address any gaps in risk evaluation that the RBC report did not cover. A copy of the

Coffey Environments Pty Ltd risk review and evaluations letter report dated April 2019 is provided within Appendix G of this report.

The Coffey Environments risk evaluation referenced the proposed development plans (as provided within Appendix C) and addressed vapour inhalation and direct contact issues on and off the site. Based on the conceptual site model and the proposed development plans, the following receptors were considered:

- Commercial workers.
- Residential occupant on the first floor (associated with a proposed caretakers residence included on the first floor).
- Car park users.
- Maintenance workers within a subsurface utility trench.
- Other receptors such as visitors or patrons of the venue may also be present at the site from time to time. Transient exposures to occasional visitors to the site are not considered as chronic daily exposures will generally represent more significant exposures. On the basis of exposure frequency and duration, and access to the soils in the subsurface, the above receptors are considered to present the highest chronic intake and dose.

The following exposure pathways were considered plausible based on the nature of the contaminants (such as volatility) and the current extent of contamination:

- Inhalation of volatiles in indoor air by future commercial workers and carpark users on the ground floor.
- Inhalation of volatiles in indoor air by future commercial workers and residential occupant on the first floor.
- Inhalation of volatiles by maintenance workers within a 1 m deep subsurface utility trench.
- Direct contact exposures by future commercial workers or residential occupants to subsurface soils.
- Direct contact exposures by future maintenance workers within a 1 m deep subsurface utility trench.

As summarised within the Coffey Environments risk evaluation letter, and in particular Tables 6-1 and 7-1, it was concluded that all potential risks to site users of the proposed development (i.e. commercial use with a caretaker's residence of the first floor, within the existing site configuration comprising a warehouse scenario) are considered to be low and acceptable.

The Auditor does note that given EIL exceedances reported in fill material across the site, a Statement Condition will be included requiring 0.5m of imported clean fill material in any landscaped garden beds.

The Auditor does specifically highlight that the proposed development includes a caretaker's residence on the first floor. The Auditor notes that the intended use of the site is not for residential purposes and that the site is zoned 'Commercial 2'. Review of allowable site uses as per Commercial 2 zoning identifies that a caretaker is included. The Auditor notes that the site is not considered to be suitable for generic sensitive use (high density) and as such, the Statement of Environmental Audit reflects that. Consideration of risks to a potential caretaker on the first floor in accordance with the proposed development plans (in line with the proposed intended commercial use and zoning of the site), have however been considered and have been identified to be low and acceptable. The Auditor therefore considers the site to be conditionally suitable for Commercial and Industrial Use, where use of the site is in accordance with the proposed development plans (i.e. Commercial Use in the existing site configuration comprising a warehouse scenario, with a caretaker's residence on the first floor).

12 Clean Up To the Extent Practicable

In consideration of the above, the Auditor submitted a CUTEP Submission to EPA on 2 May 2019 (provided in Appendix D of this report).

In EPA's letter dated 10 September 2019, EPA advised that it had determined that groundwater has been cleaned up to the extent practicable and the site is within a Groundwater Quality Restricted Use Zone (GQRUZ). A copy of EPA's determination letter and GQRUZ is provided in Appendix H of this report.

12.1 On-going Groundwater Monitoring Program

The Auditor considers that a Groundwater Quality Management Plan (GQMP) should be implemented at the site and off-site. The GQMP is required in order to monitor the magnitude and extent of petroleum hydrocarbon impacts in groundwater in the future. In addition, the GQMP is required to monitor the magnitude and extent of the chlorinated hydrocarbons extending from Lot 2 to Lot 3.

It is understood that an ongoing groundwater monitoring program is being implemented for Lot 2 (i.e. through the current 53X Audit and with commitment to post audit groundwater sampling work through a GQMP). Chandos Bay Pty Ltd is the responsible party for all current and future groundwater monitoring works for Lot 2 and committed to include monitoring of a selection of wells on Lot 3 as part of the Lot 2 GQMP. As such, on 12 September 2019, the Auditor sought advice from EPA regarding the potential for a single GQMP to be prepared for Lots 2, 3 and 4 of the former Nuplex site rather than separate GQMPs for each of the Lots which would likely to be utilising some of the same groundwater monitoring wells. Following discussions between EPA and Chandos Bay Pty Ltd, EPA confirmed on 1 October 2019 that they agreed that a single GQMP for Lot 2 covering monitoring wells in Lot 3 and Lot 4 would be appropriate.

A GQMP was prepared by Resolve Environmental Pty Ltd which states it specifically relates to Lot 2, 3 and 4 of the former Nuplex facility and identifies Chandos Bay Pty Ltd as the responsible party for implementation of the GQMP.

The GQMP states that groundwater monitoring will be implemented at the site over a three year program (March 2020 to September 2022) with bi-annual monitoring. All wells within the monitoring network are to be analysed for the contaminants of potential concern as listed in Section 3.2 of the GQMP for each respective Lot. The monitoring wells for on-going monitoring for Lot 3 include on-site wells MW23A, MW50A and CMW1, and off-site wells MW29 and MW30. On-site wells MW50B and MW50C will be gauged only. Should the concentration of chlorinated hydrocarbons in MW50A exceed the trigger levels set in in the GQMP, additional monitoring may then be undertaken at MW50B and MW50C.

Further details of the monitoring program are within the GQMP which is provided within Appendix J of this report.

12.2 Groundwater Quality Restricted Use Zone

As discussed above, the extractive beneficial uses Potable Water (desirable), Agriculture and Irrigation (stock watering) Water Based Recreation (primary contact recreation) and/or Commercial and Industrial Use are precluded on and off-site as a result of site sourced contaminants by one or more concentrations of (benzene, ethylbenzene and arsenic).

The EPA has declared the site to be within a Groundwater Quality Restricted Use Zone (GQRUZ). The GQRUZ as determined by EPA is shown on Figure 15 (attached) and is attached to the Statement of Environmental Audit (Appendix A).

The GQRUZ communications were conducted in accordance with Attachment E, Publication 840.2. Stage 1 communications were undertaken on 16 July 2019 to the owners/occupiers of properties impacted by the proposed GQRUZ (i.e. Bayside City Council who own/manage Hamlet Street roadway and associated nature strip affected by the GQRUZ). Stage 2 communications were completed upon EPA acceptance of the Auditor's recommended GQRUZ. Stage 2 communications were completed on 9 October 2019. Evidence of Stage 1 and 2 communications having been conducted in included in Appendix I of this report

13 Audit Conclusions

The Auditor acknowledges that this Environmental Audit was undertaken in accordance with Part IXD of the Environment Protection Act (1970) in order to assess the suitability of the land for all potential beneficial uses.

The Audit area covers approximately 1,137 square metres (m2) and comprises all of the property known as Lot 3, 14 Hamlet Street, Cheltenham, Victoria, 3192, defined as Lot 3 on Plan of Subdivision PS802507 (Volume 11973 and Folio 118).

The site was part of the larger former Nuplex site located at 222-228 Bay Road, Cheltenham. The former Nuplex site was subdivided into 4 lots (Lots 1-4) for the purposes of site divestment and Environmental Audit works. The subject site for this Audit report is Lot 3 of the former Nuplex site. For the purposes of this Audit the site is known as Lot 3.

The site owner, The Bare Button, is currently redeveloping the site for commercial use (with a caretaker residence is also included on the first floor). Completion of the Environmental Audit is being conducted to meet requirements of CUN 90007752.

The site history review identified that the site (and the remainder of the broader former Nuplex facility) was owned by a grazier until the area was subdivided in the 1940s. A small building had been constructed in the area now occupied by the current warehouse building in Lot 3 by 1957 which was expanded by 1960, but was not developed to its current configuration until 1968. The site is anecdotally referred to as the 'Button Factory' however there is no evidence available to confirm whether or not it was historically used for this purpose. The site was used for sheet metals works from circa 1950 until circa 1974 after which time, the site appears to have been used for various commercial/industrial uses however no specific details are available. In 1992, the site was consolidated with the other lots which made up the former Nuplex facility, and was used for the for the manufacture of a variety of chemicals, including lubricants, resins and polymer stabilisers. The current site owner, The Bare Button acquired the site in December 2018 and is currently re-developing the site for the proposed use.

13.1 Soil

Soils remaining on-site at the completion of the Audit reported elevated concentrations of pH, cobalt, copper, lead, manganese, vanadium, zinc, TRH F2, TCE and chromium VI exceeding the adopted ecological assessment criteria, and concentrations of pH, cobalt, lead, TRH F1, TRH F2 and TCE exceeding the adopted health assessment criteria.

The reported pH values in soil remaining at the site were in the range of 5.9 – 8.5 units, slightly wider in range than the Auditor's adopted acceptable pH range of 6-8 units. Reported pH in fill ranged between 6.6 to 8.5 units with an average of 6.7. Reported pH in natural soil ranged between 5.9 and 7.5 units, with an average of 6.9 units. No potential sources of pH impact were observed at the site, and it is noted that the pH range is generally consistent with that reported in soils at nearby Audit sites. The observed slightly acidic pH in the natural soil was considered to be associated with natural conditions of the Brighton Group. It is noted that local natural plants and grasses are likely to be adapted to these pH conditions, however there may be some impact on the growth and development of some introduced plants, grasses and fauna. As a result, a comment to this effect is included within *Other Related Information* of the Statement of Environmental Audit (Appendix A). The Auditor (supported by verbal consultation with his expert in relation to risk assessment) considers that that the pH outside of the criteria range in fill and natural is unlikely to present a human health risk to site users, and therefore the pH does not preclude the beneficial use of 'Human Health'.

The elevated concentrations of vanadium reported at the site were indicative of the natural geology, and do not represent site derived pollution, and as such concentrations of vanadium do not preclude the beneficial use of 'Maintenance of Ecosystems'

One concentration of lead exceeded the HIL for a commercial/industrial land use setting. 95% UCL statistical analysis was undertaken by ARC on lead concentrations reported in fill at the site, the results of which indicated that lead concentrations in fill remaining at the site were below the HIL for commercial/industrial land uses. As such, in the context of the proposed commercial development, concentrations of lead are not considered to preclude 'Human Health'.

Potential risks to future site users in the context of the proposed development by the remaining concentrations of TCE in soil were considered in a human health risk assessment which was reviewed by the Auditor's expert in support in Risk, and it was concluded that all potential risks to site users of the proposed development (i.e. commercial use with a caretaker's residence of the first floor, within the existing site configuration comprising a warehouse scenario) are considered to be low and acceptable.

In summary, concentrations of cobalt, copper, lead, manganese, zinc, TRH F2, TCE and chromium VI in soils at the site preclude the beneficial uses 'Maintenance of Ecosystems' and 'Production of Food, Flora and Fibre' in the context of unrestricted use of the site. Concentrations of cobalt, lead, TRH F1, TRH F2 and TCE preclude the beneficial use 'Human Health' in the contect of unrestricted use of the site. Furthermore the presence of anthropogenic inclusions in fill and the potential to encounter odours and/or staining preclude the beneficial use of 'Aesthetics' in the context of unrestricted use of the site. As such the Auditor is unable to issue a Certificate for the site. However, in the context of the proposed development, where it is developed in accordance with the proposed development plans (provided within Appendix C), and with a requirement of a minimum of 0.5 m of 'clean fill' be placed below the finished surface in all landscaped areas or garden beds directly overlying existing site soils, all relevant beneficial uses would be protected.

It is noted that soil containing odours and/or staining at some locations on the site may to be present. However, it is noted this material is not considered to represent a human health risk in the context of the proposed development, but may cause a noticeable odour if exposed during development or occupation of the site. Subsequently a note to this effect has been included in *Other Related Information* of the Statement of Environmental Audit (provided in Appendix A).

A Statement of Environmental Audit allowing for the proposed development is provided in Appendix A.

13.2 Groundwater

Groundwater investigation works completed for the site included the installation and sampling of a total of seventeen on-site groundwater monitoring wells and three off-site down-hydraulic gradient groundwater monitoring wells (installed specifically for the purposes of assessing groundwater conditions associated with Lot 3).

In addition, a total of nineteen wells were installed as part of the Lot 2 and Lot 4 groundwater investigation works. Eight of these wells (one on Lot 4, three on Lot 2, and four installed to the south of Lot 2 (and east of Lot 3) as part of the Lot 2 investigations) were considered in the assessment of groundwater for the Lot 3 site. Results from a further five wells historically installed on Lot 2 (now destroyed) have also been referenced in order to assist in the understanding of upgradient sources of pollution.

Eight groundwater monitoring events spanning from August 2017 to October 2018 were conducted during the Audit (with one additional GME conducted just prior to the Audit in 2017). Eight groundwater sampling rounds were conducted between 2008 and 2014 (for which all supporting documentation was available for review and reliance). A number of groundwater sampling rounds were conducted prior to 2008 (exact

number not known), one of which was completed in 2001 where tabulated results were available and have been referenced to indicate groundwater concentrations prior to remove of the USTs. It is also noted that an additional GME was completed in January 2019 by ARC. This GME was completed as part of the works being conducted for Lot 2 (understood to have been done to satisfy GQMP requirements for Lot 2) and included sampling and analysis of wells MW50A, MW50B, MW50C, CMW1 and MW33R on Lot 3. Results from all GMEs have been used to delineate and characterise groundwater contamination.

Groundwater monitoring wells installed as part of the Lot 3 Audit were drilled to varying depths with groundwater generally stabilising between 9.47 and 10.69 mbgl (28.14 and 27.78 mAHD). Groundwater in two onsite monitoring wells stabilised at a notably shallower depth of between 5.65 mbgl in MW17A (not surveyed) and 5.07 and 5.26 mbTOC (32.65 and 32.46 mAHD) at MW17B.

Off-site down-hydraulic gradient wells MW29 and MW30 reported groundwater levels between 9.04 and 9.91 mBTOC (28.22 and 27.95 mAHD). The groundwater level in a third down-hydraulic gradient well (MW40) was slightly shallower between 8.42 and 8.86 mBTOC (28.78 and 28.34 mAHD). Historically MW40 was noted to have been as shallow as 7.43 mBTOC (29.77 mAHD) in 2011. The groundwater hydraulic gradient across the site is considered to be is relatively flat (i.e. 0.001-0.01 m/m) and as a result is sensitive to any influences (i.e. former tank pits, leaking water mains or sewers and areas of potential recharge). Based on measured water levels during the audit (i.e. between early 2017 and late 2018) groundwater across Lot 3 (when localised groundwater mounding in MW17B and MW40 and the short-term effects of the groundwater remediation on Lot 2 are discounted) is generally flat with a regional south to south westerly flow. Some groundwater mounding is present in off-site well MW40 and on-site well MW17B which have resulted in localised radial flow patterns which are not considered to have largely affected regional groundwater flow and the ability to draw conclusions with regard to contaminant distribution trends on the site.

Elevated concentrations of benzene, ethylbenzene and arsenic reported in groundwater were considered to be sourced from the site (from the former USTs on-site). Off-site sources of petroleum hydrocarbons are also considered to be the source of benzene pollution identified on the eastern side of the site (at MW50 and MW33R). Concentrations of trichloroethene, tetrachloroethene, cis 1,2 dichloroethene, 1,1 dichloroethane, 1,1 dichloroethene, 1,2 dichloroethane, 1,1,2 trichloroethane, carbon tetrachloride, vinyl chloride, 1,2 dichlorobenzene, 1,4 dichlorobenzene, chloroform, dichloromethane, trihalomethanes, TRH C_6-C_{10}, metals (cobalt, iron, manganese, nickel, mercury, lead), inorganics (ammonia, nitrate, nitrite, fluoride) are considered to be sourced from an off-site source. Elevated concentrations of copper, zinc, sodium, pH, chloride and sulphate are considered to be naturally occurring.

All concentrations of contaminants sourced from the site are considered to be delineated.

Under an unrestricted land use scenario, all protected beneficial uses of groundwater are considered likely to be realised on-site, with the exception of buildings and structures. However, under the proposed commercial development, all protected beneficial uses of groundwater are considered unlikely to be realised on-site.

All beneficial uses of groundwater, with the exception of buildings and structures, were considered to be existing or potentially existing off-site.

The extractive beneficial uses 'Potable Water Supply – Desirable', 'Agriculture and Irrigation (irrigation)', 'Agriculture and Irrigation (stock watering)', 'Water-Based Recreation (primary contact recreation)' and 'Industrial and Commercial Use' are considered to be precluded by on and off-site by pollution sourced from the site. As such, the Auditor has recommended the precluded beneficial uses be managed through implementation of a Groundwater Quality Restricted Use Zone (GQRUZ). Based on the natural attenuation assessment and qualitative assessment of plume fate and transport, the potential risk to the beneficial use

of Water Dependent Ecosystems and Species, 'Traditional Owners and Cultural Values' and 'Cultural and Spiritual Values' (relevant at the point of groundwater discharge Port Phillip Bay) has been concluded to be low.

A review of natural attenuation process and assimilative capacity occurring in groundwater at the site showed that primary and secondary lines of evidence that natural attenuation is occurring.

The groundwater geochemistry post-remediation indicates that the biodegradation of petroleum hydrocarbons is occurring primarily via aerobic processes. Based on the continued availability of electron acceptors (primarily oxygen), the lack of residual mass remaining, and the observed decrease of concentrations both within the source zones and at the leading edge of the plume, it is anticipated that site sourced petroleum hydrocarbons would no longer preclude the beneficial uses of groundwater at the site after approximately 5 years. It is however noted that off-site sources are considered likely to preclude beneficial uses of groundwater for many more years beyond that time

No measurable LNAPL, DNAPL or surface sheen was observed in any of these wells during gauging or sampling, however 'sweet' odours were noted in MW50B and MW50C in January 2018 (generally synonymous with the presence of chlorinated hydrocarbons). It is noted that based on the presence of groundwater concentrations (i.e. TCE) exceeding 1% of aqueous solubility reported within MW50B and MW50C, a NAPL notification was provided to EPA on 23 January 2019.

The EPA has declared the site to be within a Groundwater Quality Restricted Use Zone (GQRUZ). The GQRUZ as determined by EPA is attached to the Statement of Environmental Audit (Appendix A). A Groundwater Quality Monitoring Plan (GQMP) is required in order to monitor the magnitude and extent of petroleum hydrocarbon impacts in groundwater in the future. In addition, the GQMP is required to monitor the magnitude and extent of the chlorinated hydrocarbons extending from Lot 2 to Lot 3. Given that Chandos Bay Pty Ltd, the responsible party for all current and future groundwater monitoring works for Lot 2, committed to include monitoring of a selection of wells on Lot 3 as part of the Lot 2 GQMP, with agreement from EPA and Chandos Bay Pty Ltd, a single GQMP was prepared for Lot 2, 3 and 4 of the former Nuplex facility.

13.3 Management of Human Health Risks

Petroleum hydrocarbon impacts remain in groundwater on-site and off-site to the southwest, extending marginally into Hamlet Street. One detectable soil sample reporting concentrations of carbon tetrachloride in soil and residual TCE within the former TIT backfill material also remain on-site.

Although site sourced petroleum hydrocarbons remain in groundwater on Lot 3 and to the southwest of Lot 3, reported concentrations are well below the relevant HSLs for current off-site receptors (maintenance workers in Hamlet Street.)

In addition, off-site sourced groundwater impacts from chlorinated hydrocarbons, trihalomethanes, petroleum hydrocarbons, metals and inorganics extend onto Lot 3.

Potential risks to future site users were assessed by ARC through comparison of soil and groundwater results to the risk-based criteria derived for the wider Nuplex site, as per the EnRisks (November 2018) Risk-Based Criteria; Former Nuplex Chemical Storage Facility, Cheltenham, VIC; dated 8 November 2018. (RBC report). The outcomes of the assessment indicated that potential human health risks to future users of the site as per the proposed development (i.e. commercial use of the building in its current configuration) were considered to be low and acceptable. The Auditor's review of the assessment noted that the EnRisks RBC report was specifically completed for Lots 1 and 2 of the wider Nuplex site, with EnRisks not having specifically reviewed or assessed site conditions on Lot 3. As such, the Auditor engaged

his expert support in risk to conduct a review of the EnRisks RBC report to determine the applicability of the RBCs to assess potential risks to Lot 3 and to address any gaps in risk evaluation that the RBC report did not cover. The subsequent risk evaluation referenced the proposed development plans and addressed vapour inhalation and direct contact issues on and off the site. It was concluded that all potential risks to site users of the proposed development (i.e. commercial use with a caretaker's residence of the first floor, within the existing site configuration comprising a warehouse scenario) are considered to be low and acceptable.

The Auditor does specifically highlight that the proposed development includes a caretaker's residence on the first floor. The Auditor notes that the intended use of the site is not for residential purposes and that the site is zoned 'Commercial 2'. Review of allowable site uses as per Commercial 2 zoning identifies that a caretaker is included. The Auditor notes that the site is not considered to be suitable for generic sensitive use (high density). Consideration of risks to a potential caretaker on the first floor in accordance with the proposed development plans (in line with the proposed intended commercial use and zoning of the site), have however been considered and have been identified to be low and acceptable. The Auditor therefore considers the site to be conditionally suitable for Commercial and Industrial Use, where use of the site is in accordance with the proposed development plans (i.e. Commercial Use in the existing site configuration comprising a warehouse scenario, with a caretaker's residence on the first floor).

The Auditor submitted a request for CUTEP determination to EPA on 2 May 2019. The EPA determined CUTEP on 10 September 2019 and declared the site to be within a GQRUZ.

Based on the findings of this Environmental Audit, the Auditor is of the opinion that the site in its current condition precludes or potentially precludes one or more beneficial uses of land in the context of unrestricted land use and, therefore, the site is not unconditionally suitable for all potential land uses. Therefore, the Auditor is unable to issue a Certificate of Environmental Audit for this site. A Statement of Environmental Audit, allowing the proposed commercial development (in accordance with the proposed development plans attached in Appendix C), has been issued and is provided in Appendix A. If a Certificate of Environmental Audit was required for this site, the Clean-up of polluted groundwater, such that all beneficial uses of groundwater are restored, and all chemically and aesthetically unsuitable soils and materials would need to be remediated such that all beneficial uses of land are restored.

13.4 Audit Outcome

In the Auditor's opinion, the quality and reliability of information generated from the investigations undertaken were sufficient for the purposes of this Environmental Audit.

The current soil condition is considered to preclude the beneficial uses 'Maintenance of Ecosystems', 'Human Health', 'Production of Food, Flora and Fibre' and 'Aesthetics' in the context of unrestricted use of the site.

However, in the context of the proposed development, where it is developed in accordance with the proposed development plans (provided within Appendix C), and with a requirement of a minimum of 0.5 m of 'clean fill' be placed below the finished surface in all landscaped areas or garden beds directly overlying existing site soils, the beneficial uses of 'Maintenance of Ecosystems', 'Human Health' and 'Aesthetics' are considered to be protected.

The current groundwater condition precludes the all relevant beneficial uses with the exception of 'Buildings and Structures'. The EPA determined CUTEP on 10 September 2019 and declared the site to be within a GQRUZ.

The Statement of Environmental Audit is provided as Appendix A.

13.5 Auditor's Support Team

Ms Meredith Burgon acted as the Auditor's representative when conducting site inspections. Ms. Rebekah Fynnaart and Ms Meredith Burgon assisted in the preparation of the Audit report.

14 References

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15 Limitations

This Environmental Audit Report and Statement of Environmental Audit have been prepared under Part IXD Section 53W (1) of the Environment Protection Act 1970, and in accordance with relevant SEPPs and EPA Victoria guidelines. The Statement of Environmental Audit represents the auditor's opinion of the environmental condition of the site and its suitability for specified beneficial uses at the date that the Statement is signed.

In forming his opinion of the site, the Auditor has assessed the data and information supplied by the consultant as well as the undertaking of a number of independent verification activities. He has accepted that the information supplied represents a fair and reasonable assessment of site conditions, taking into account the limitations inherent to all site assessment processes.

This report has been prepared specifically for use by EPA Victoria, Bayside City Council, Chandos Bay Pty Ltd and The Bare Button Pty Ltd (the current site owner). Should another party rely on the information and conclusions presented in this report, they do so at their own risk.

In the event that changes to the state or condition of the site and/or surrounding area occur after the date of signing of the Statement of Environmental Audit, the Environmental Audit Report may no longer be valid.

Figures

Environmental Audit Report

Lot 3, 14 Hamlet Street, Cheltenham, Victoria



0 25 50 75

SCALE 1:2500 @ A3 METRES

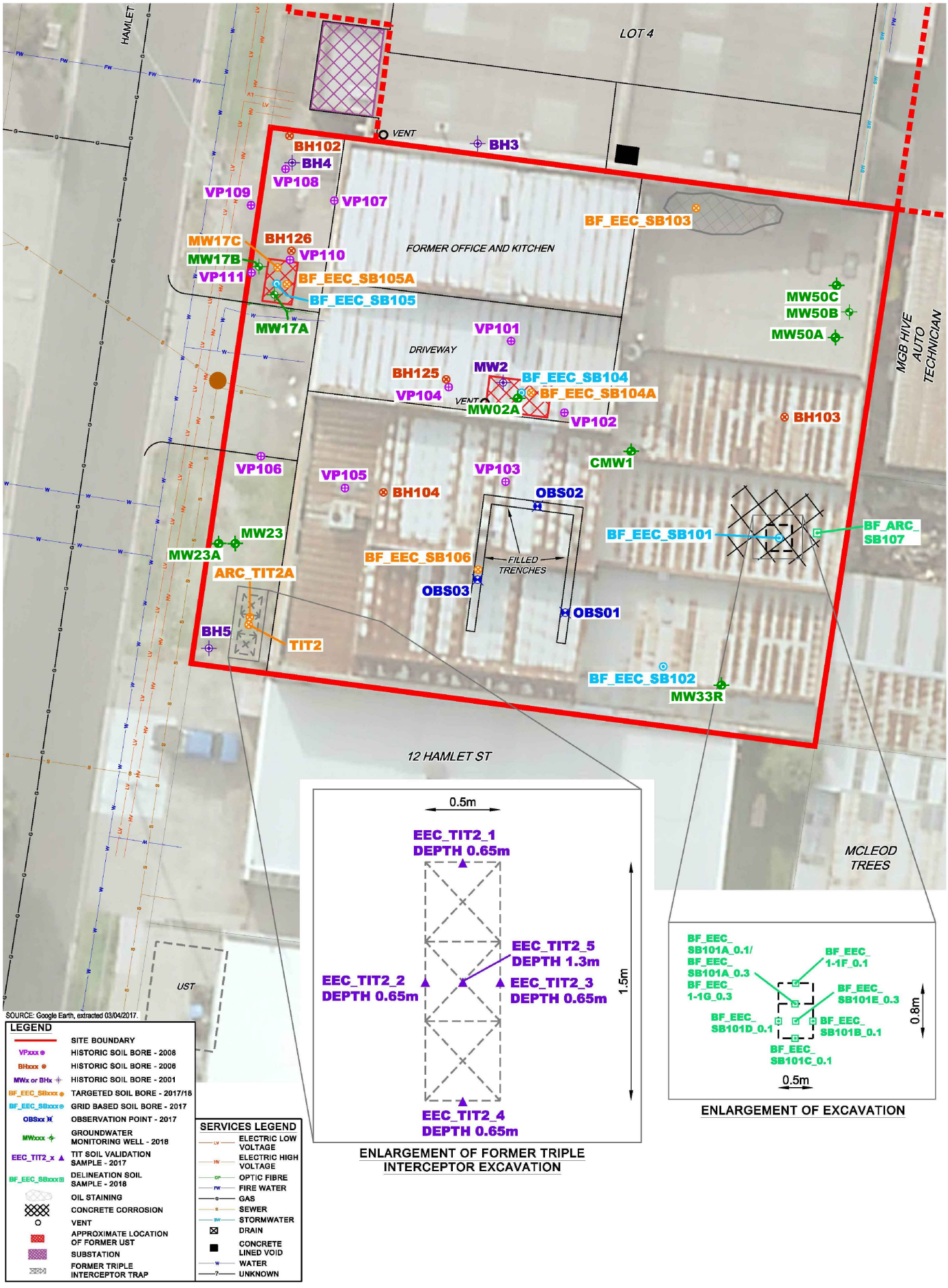
MAPLE AUDITING

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Revision: A	
Date: 18/02/2020	
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Chandos Bay Pty Ltd

Lot 3, 14 Hamlet Street, Cheltenham, VIC

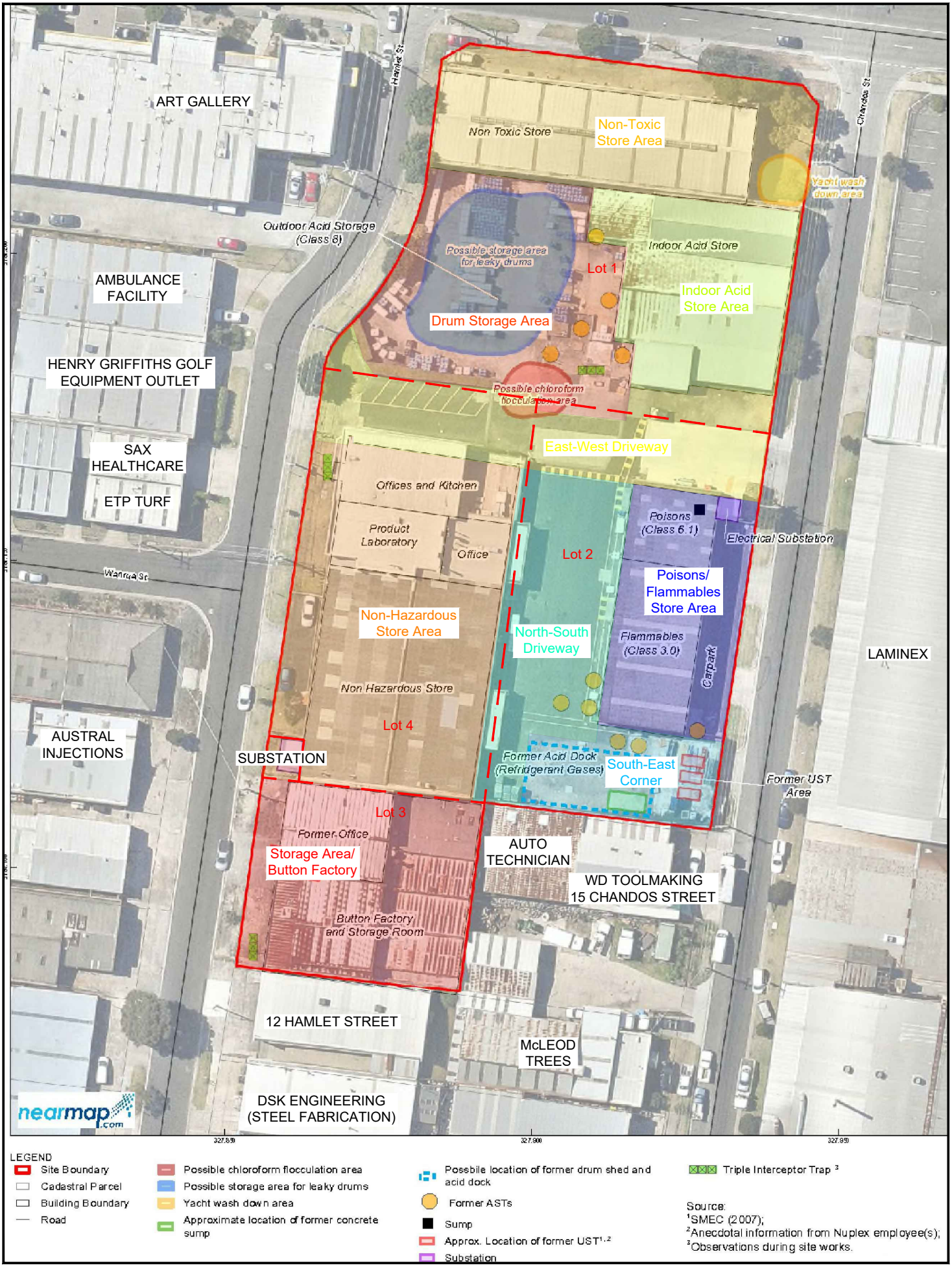
Figure 1 - Site Location



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SCALE 1:300 (A4) METRES

MAPLE ENVIRONMENTAL ENGINEERING

Drawing Number: MA114	Chandos Bay Pty Ltd
Revision: A	Lot 3, 14 Hamlet Street, Cheltenham, VIC
Date: 18/02/2020	Figure 2 - Site Layout Plan
Author: LZ / Checked by: MB	
Data Source: Arc Environmental, 1707054, 09/10/2018	



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MAPLE ENGINEERING

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Date: 18/02/2020	
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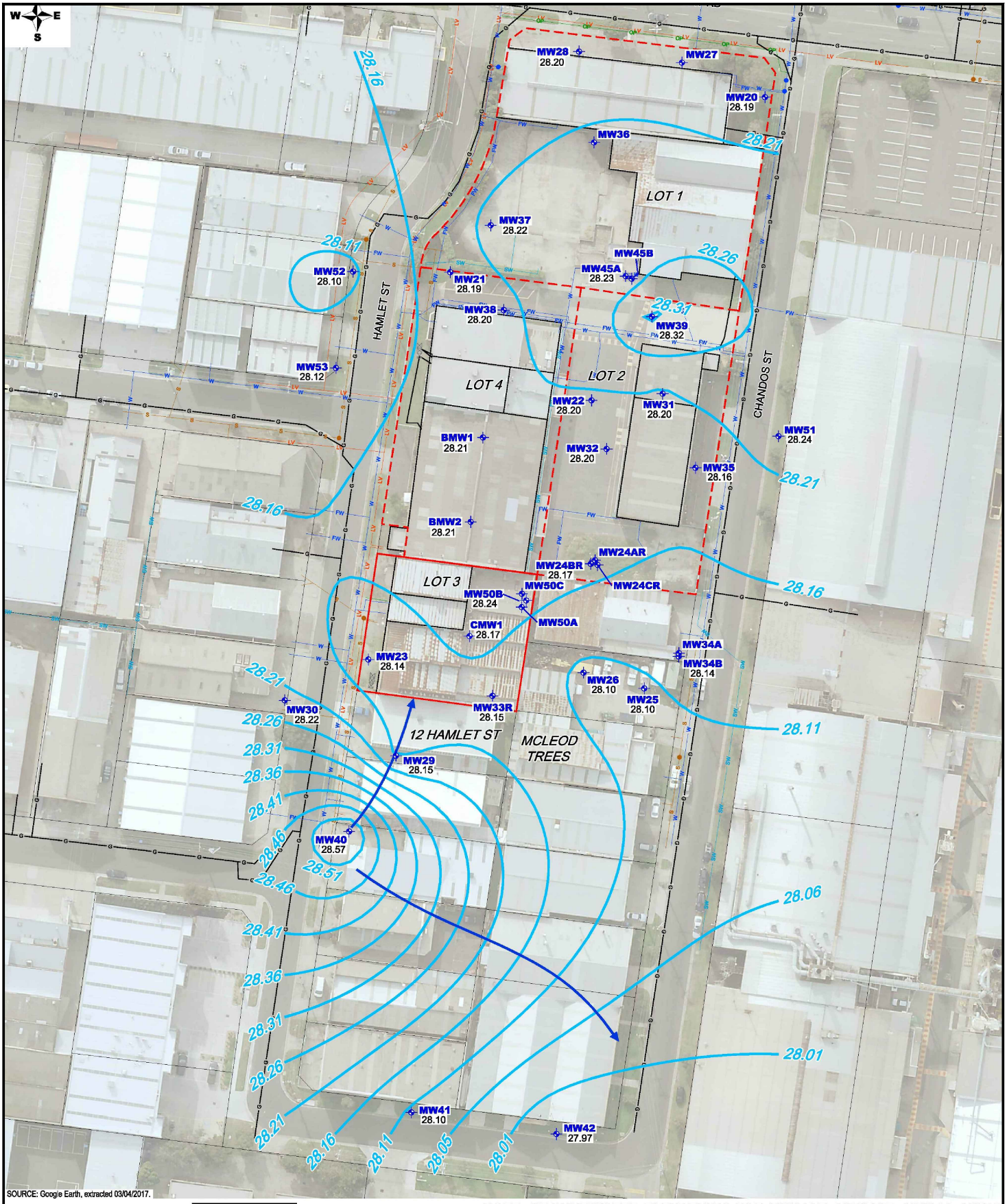
Chandos Bay Pty Ltd

Lot 3, 14 Hamlet Street, Cheltenham, VIC

Figure 3 - Surrounding Land Uses



SCALE 1:25000 @ A4 METRES (0 250 500 750)		Drawing Number: MA114 Revision: A Date: 18/02/2020 Author: LZ — Checked by: MB Data Source: vvg.org.au	Chandos Bay Pty Ltd Lot 3, 14 Hamlet Street, Cheltenham, VIC Figure 4 - Surrounding Registered Bores



SOURCE: Google Earth, extracted 03/04/2017.

NOTE: GROUNDWATER ELEVATIONS FOR MW24AR, MW24CR, MW34A, MW45
MW50A AND MW50C WERE EXCLUDED FOR CONTOURING PURPOSES.

LEGEND

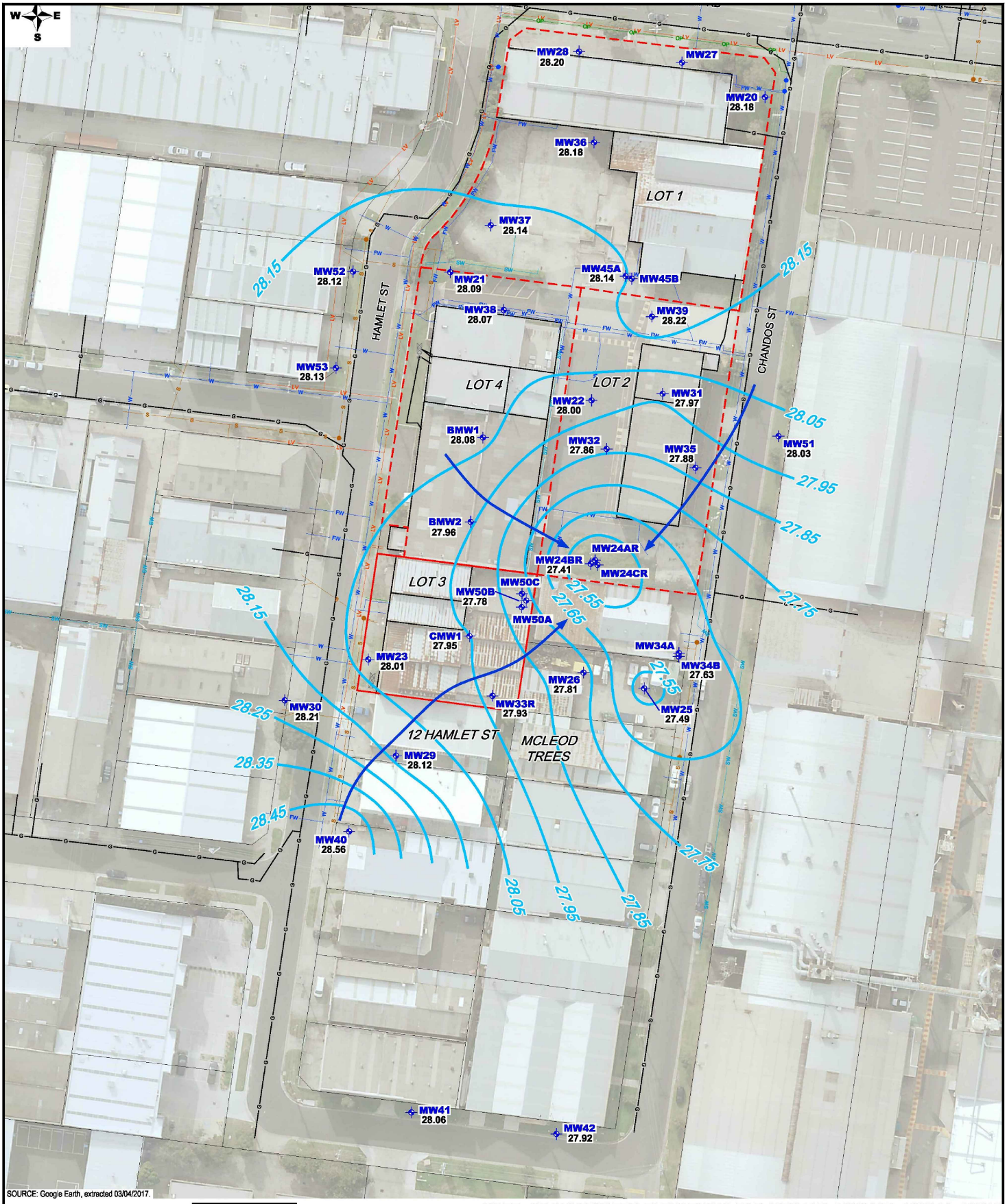
- SITE BOUNDARY
- MWXXX GROUNDWATER MONITORING WELL
- FORMER TRIPLE INTERCEPTOR TRAP
- 28.57 GROUNDWATER ELEVATION mAHD
- 28.51 GROUNDWATER CONTOUR mAHD
- GROUNDWATER FLOW DIRECTION

SERVICES LEGEND

- LV ELECTRIC LOW VOLTAGE
- HV ELECTRIC HIGH VOLTAGE
- OP OPTIC FIBRE
- FW FIRE WATER
- G GAS
- S SEWER
- SW STORMWATER
- W WATER
- ? UNKNOWN

0 12.5 25 37.5
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Drawing Number: MA114	Chandos Bay Pty Ltd
Revision: A	Lot 3, 14 Hamlet Street, Cheltenham, VIC
Date: 18/02/2020	
Author: LZ / Checked by: MB	Figure 5A - Groundwater Elevation Contours (August 2017)
Data Source: ARC Environmental, 1707054, 09/10/2018	



SOURCE: Google Earth, extracted 03/04/2017.

NOTE: GROUNDWATER ELEVATIONS FOR MW24AR, MW24CR, MW34A, MW45
MW50A AND MW50C WERE EXCLUDED FOR CONTOURING PURPOSES.

LEGEND

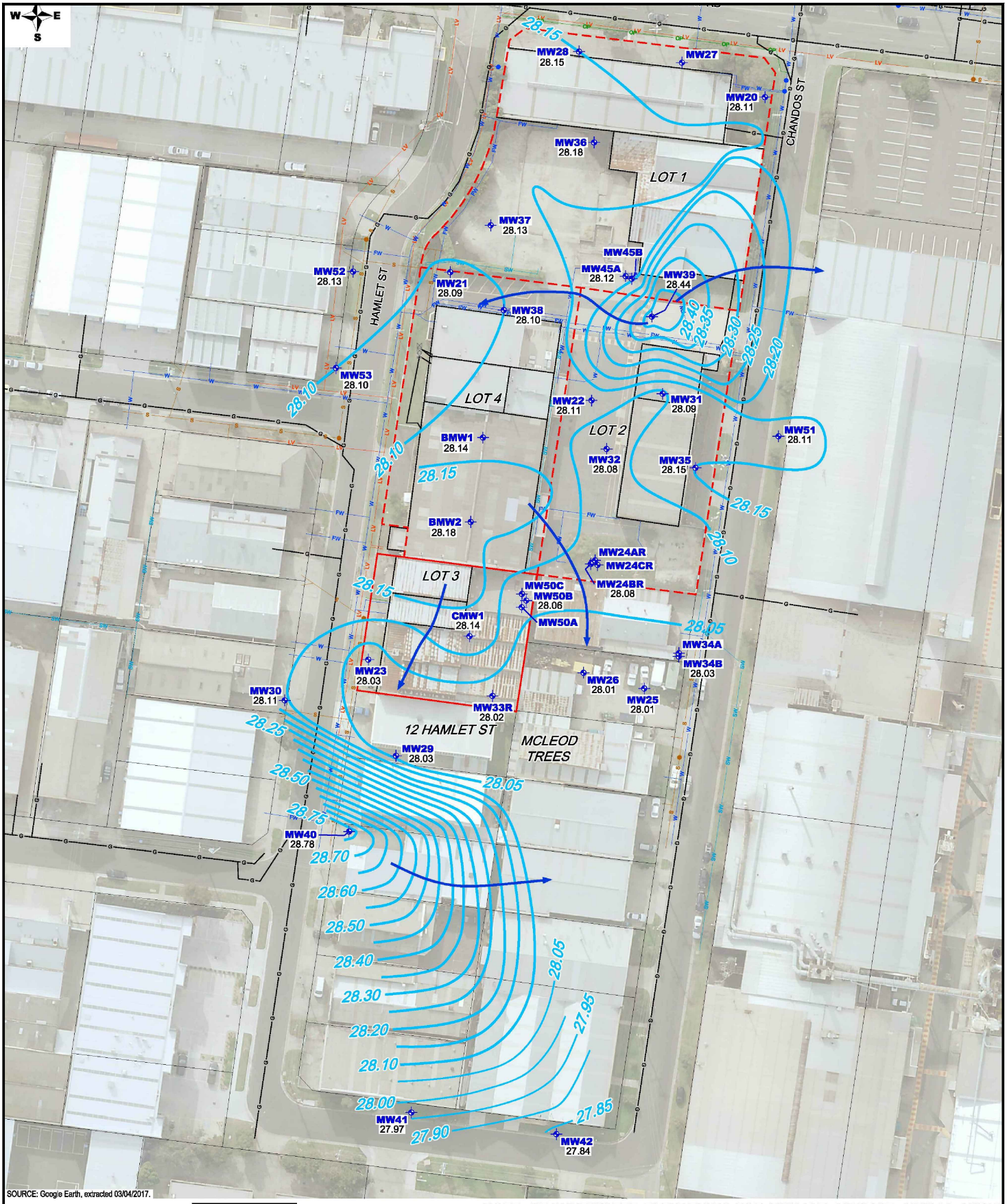
- SITE BOUNDARY
- MWxxx GROUNDWATER MONITORING WELL
- FORMER TRIPLE INTERCEPTOR TRAP
- 28.56 GROUNDWATER ELEVATION mAHD
- 28.45 GROUNDWATER CONTOUR mAHD
- GROUNDWATER FLOW DIRECTION

SERVICES LEGEND

- LV ELECTRIC LOW VOLTAGE
- HV ELECTRIC HIGH VOLTAGE
- OP OPTIC FIBRE
- FW FIRE WATER
- G GAS
- S SEWER
- SW STORMWATER
- W WATER
- ? UNKNOWN

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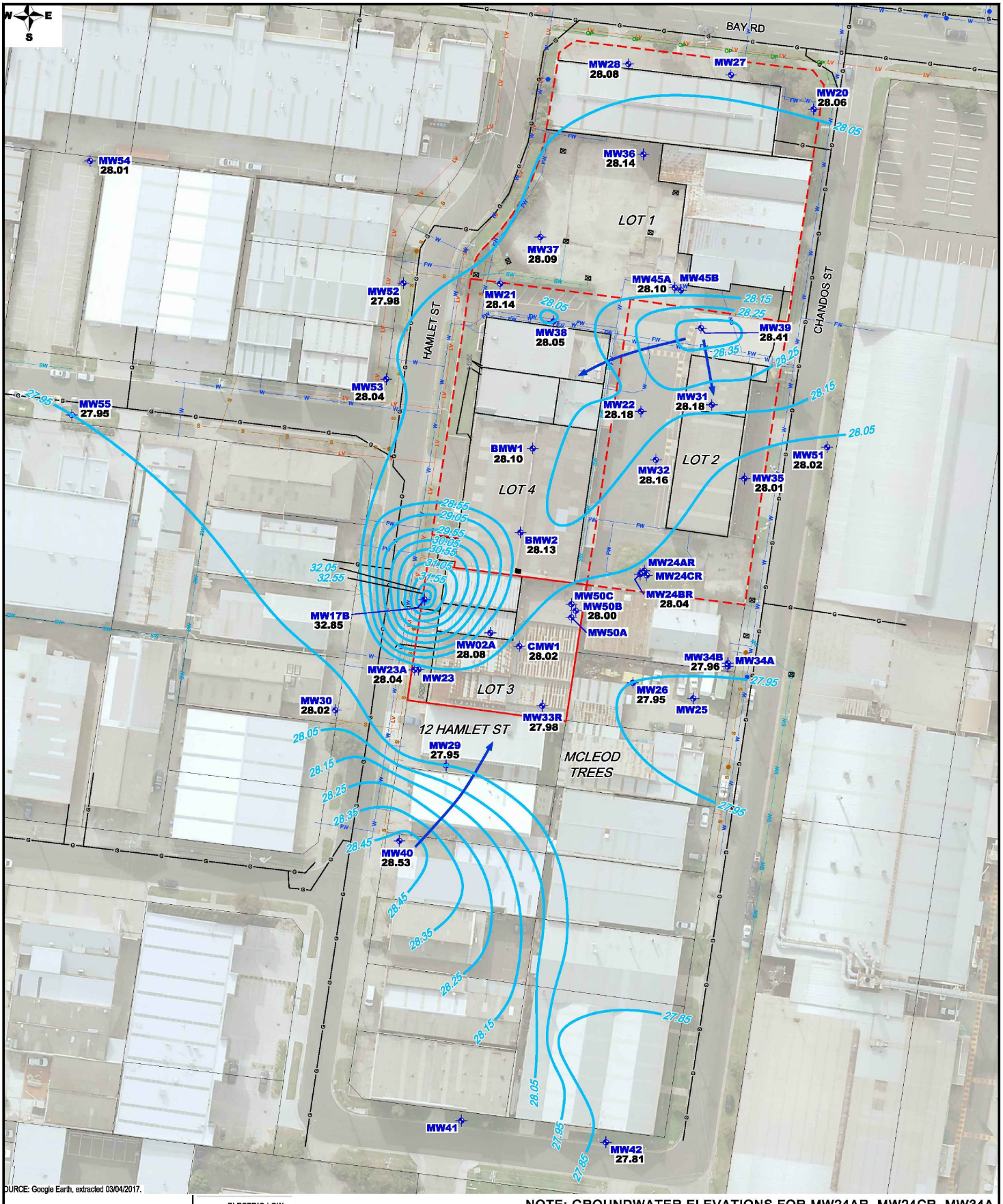
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Revision: A	Lot 3, 14 Hamlet Street, Cheltenham, VIC
Date: 18/02/2020	
Author: LZ / Checked by: MB	Figure 5B - Groundwater Elevation Contours (November 2017)
Data Source: ARC Environmental, 1707054, 09/10/2018	



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SCALE 1:1250 (A4) METRES

MAPLE ENVIRONMENTAL ENGINEERING

Drawing Number: MA114	Chandos Bay Pty Ltd
Revision: A	Lot 3, 14 Hamlet Street, Cheltenham, VIC
Date: 18/02/2020	
Author: LZ / Checked by: MB	Figure 5C - Groundwater Elevation Contours (January 2018)
Data Source: ARC Environmental, 1707054, 09/10/2018	



SOURCE: Google Earth, extracted 03/04/2017.

NOTE: GROUNDWATER ELEVATIONS FOR MW24AR, MW24CR, MW34A, MW50A AND MW50C WERE EXCLUDED FOR CONTOURING PURPOSES

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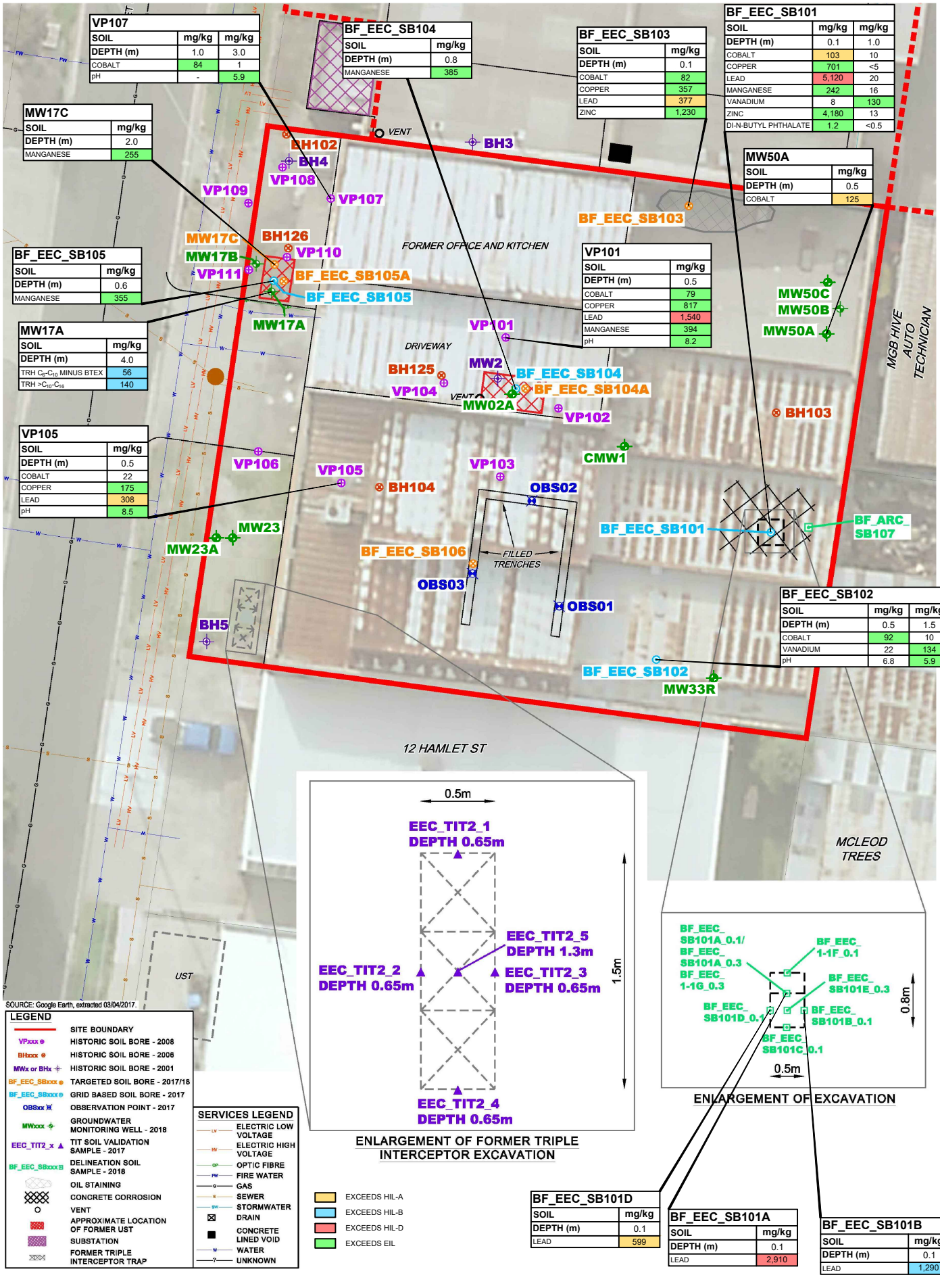
- SITE BOUNDARY
- MWxxx GROUNDWATER MONITORING WELL
- FORMER TRIPLE INTERCEPTOR TRAP
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- 28.35 GROUNDWATER CONTOUR mAHD
- GROUNDWATER FLOW DIRECTION
- ELECTRIC LOW VOLTAGE
- ELECTRIC HIGH VOLTAGE
- OPTIC FIBRE
- FIRE WATER
- GAS
- SEWER
- STORMWATER
- DRAIN
- WATER
- UNKNOWN

0 12.5 25 37.5

SCALE 1:1250 (A4) METRES

MAPLE CONSULTING

Drawing Number: MA114	Chandos Bay Pty Ltd
Revision: A	Lot 3, 14 Hamlet Street, Cheltenham, VIC
Date: 18/02/2020	
Author: LZ / Checked by: MB	Figure 5D - Groundwater Elevation Contours (July 2018)
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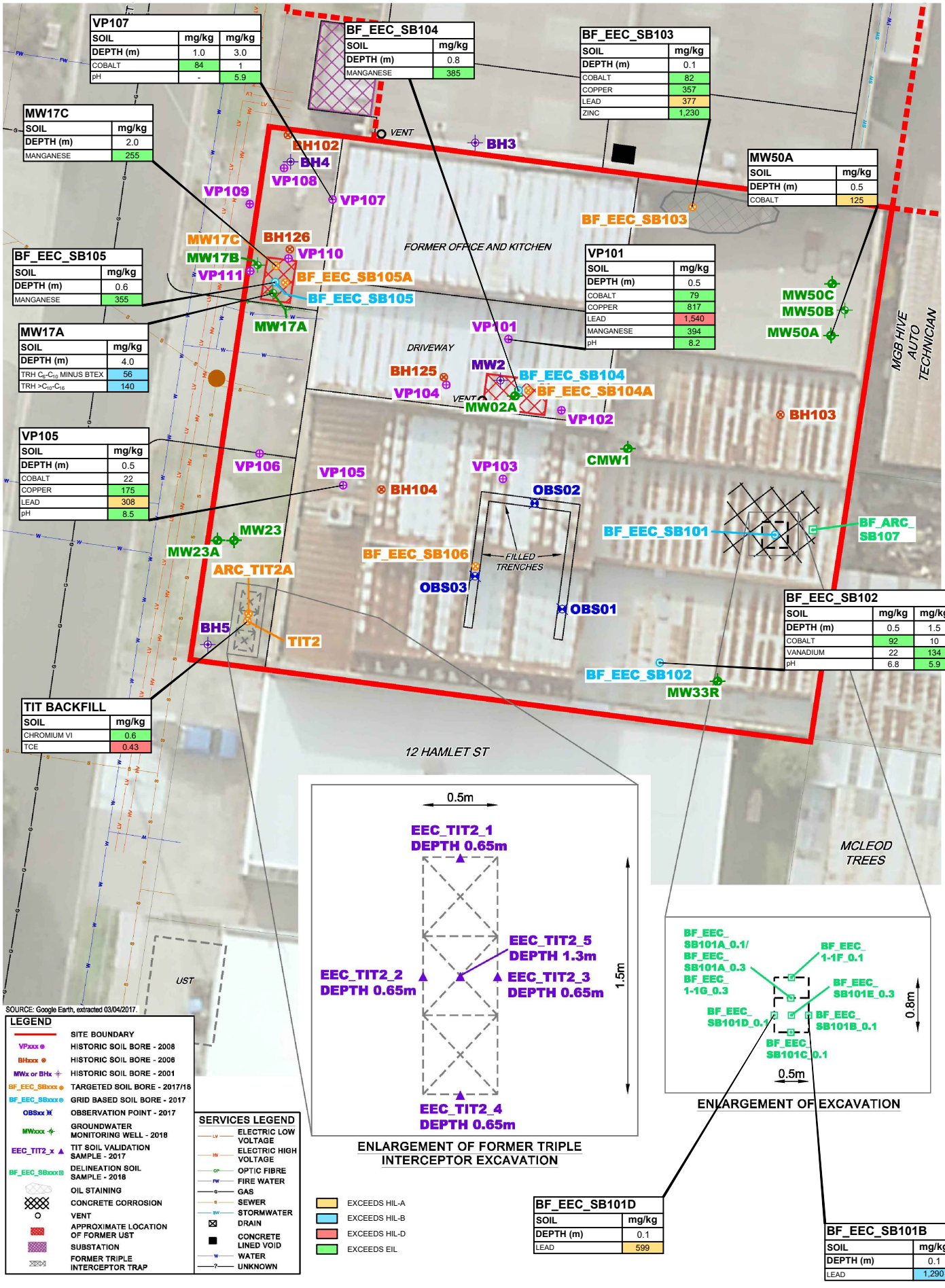


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Date: 18/02/2020
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Chandos Bay Pty Ltd
Lot 3, 14 Hamlet Street, Cheltenham, VIC

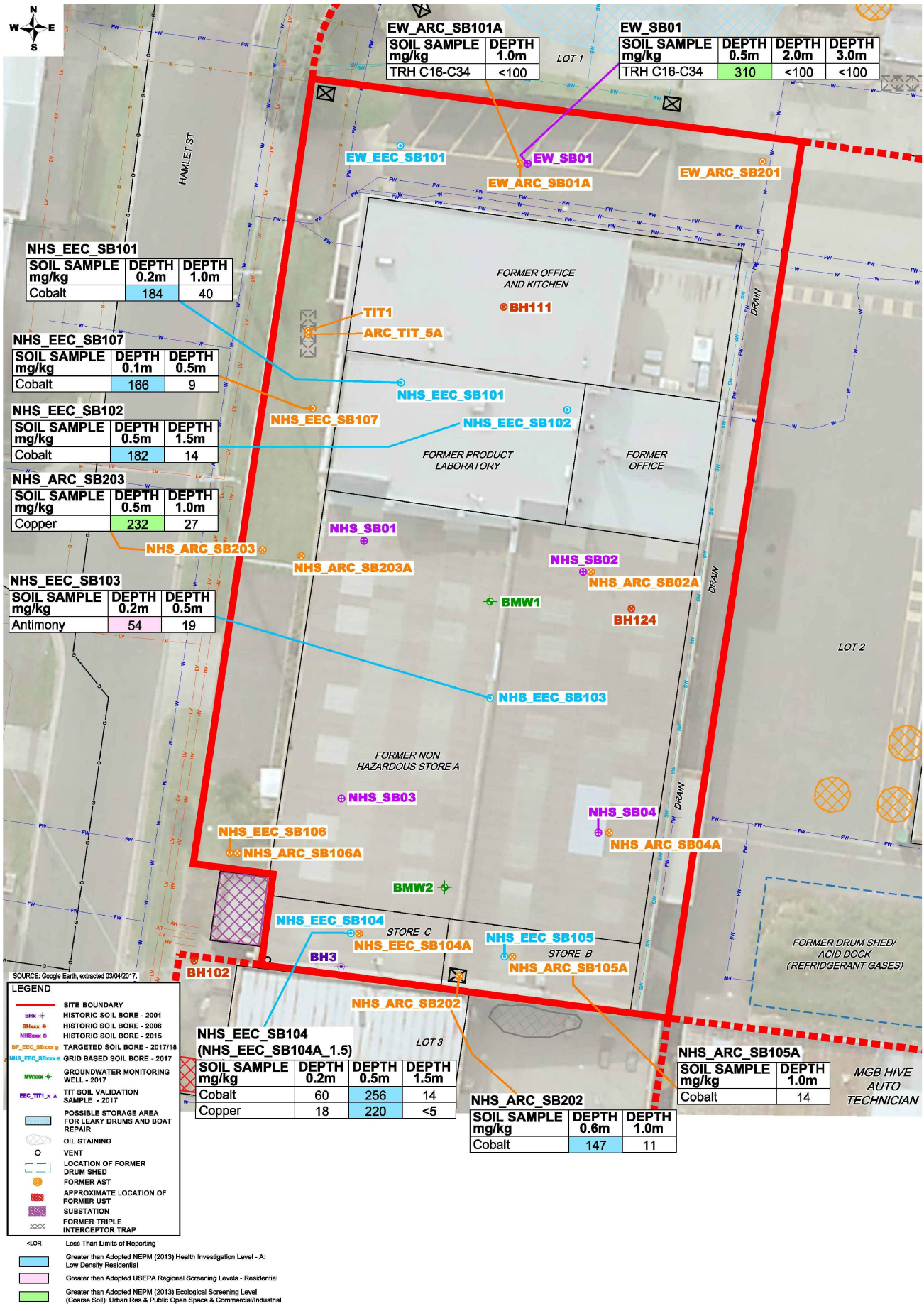
Figure 6A - Soil Exceedances - Pre Soil Excavations



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Drawing Number: MA114
Revision: A
Date: 18/02/2020
Author: LZ
Checked by: MB
Data Source: Arc Environmental, 1707054, 09/10/2018

Chandos Bay Pty Ltd
Lot 3, 14 Hamlet Street, Cheltenham, VIC
Figure 6B - Soil Exceedances - Post Soil Excvavations



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Drawing Number: MA114
Revision: A
Date: 18/02/2020
Author: LZ
Checked by: MB
Data Source: ARC Environmental, 1707054, 31/10/18

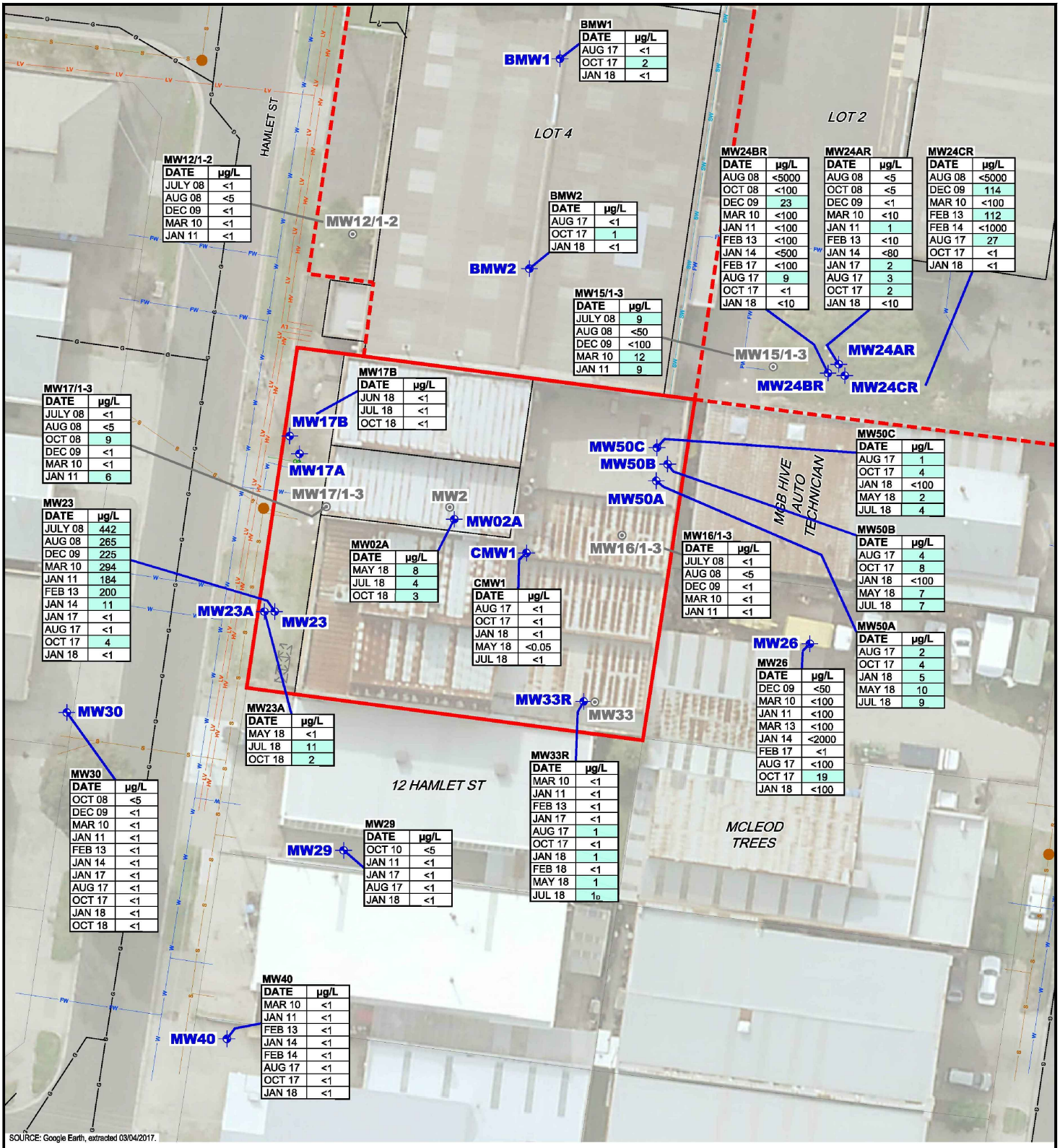
Chandos Bay Pty Ltd
Lot 3, 14 Hamlet Street, Cheltenham, VIC
Figure 7 - Soil Exceedances - Lot 4

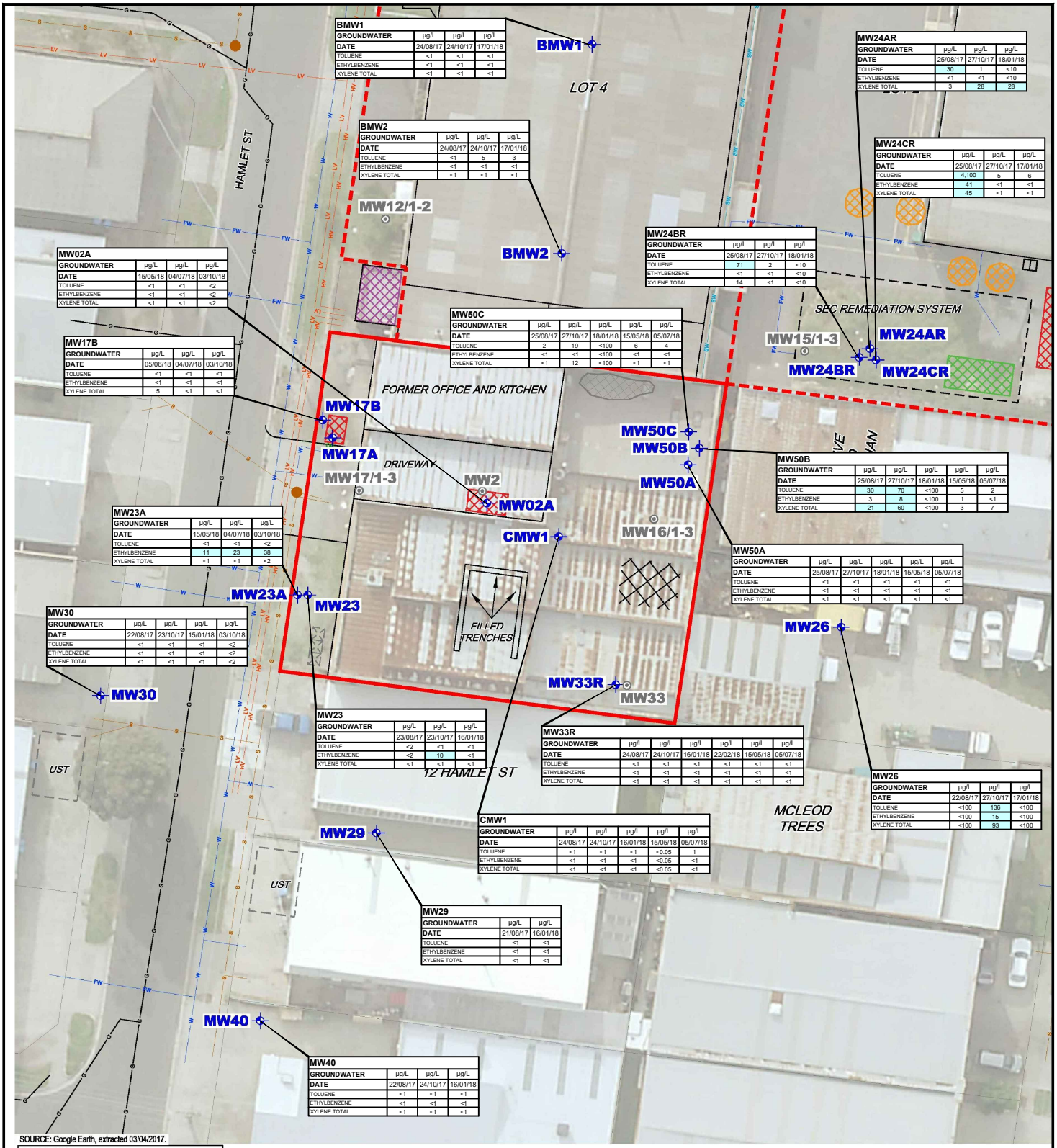


0 10 20 30
SCALE 1:1000 (A4) METRES

MAPLE

Drawing Number: MA114	Chandos Bay Pty Ltd
Revision: A	Lot 3, 14 Hamlet Street, Cheltenham, VIC
Date: 18/02/2020	Figure 8 - Groundwater Monitoring Well Network (June 2015)
Author: LZ / Checked by: MB	
Data Source: GHD, 31-2227011, 09/06/15	


BMW1
DATE | µg/L
AUG 17 | <1
OCT 17 | 2
JAN 18 | <1
BMW2
DATE | µg/L
AUG 17 | <1
OCT 17 | 1
JAN 18 | <1
MW12/1-2
DATE | µg/L
JULY 08 | <1
AUG 08 | <5
DEC 09 | <1
MAR 10 | <1
JAN 11 | <1
MW15/1-3
DATE | µg/L
JULY 08 | 9
AUG 08 | <50
DEC 09 | <100
MAR 10 | 12
JAN 11 | 9
MW24BR
DATE | µg/L
AUG 08 | <5000
OCT 08 | <100
DEC 09 | 23
MAR 10 | <100
JAN 11 | <100
FEB 13 | <100
JAN 14 | <500
FEB 17 | <100
AUG 17 | 9
OCT 17 | <1
JAN 18 | <10
MW24AR
DATE | µg/L
AUG 08 | <5
OCT 08 | <5
DEC 09 | <1
MAR 10 | <10
JAN 11 | 1
FEB 13 | <10
JAN 14 | <80
JAN 17 | 2
AUG 17 | 3
OCT 17 | 2
JAN 18 | <10
MW24CR
DATE | µg/L
AUG 08 | <5000
DEC 09 | 114
MAR 10 | <100
FEB 13 | 112
FEB 14 | <1000
AUG 17 | 27
OCT 17 | <1
JAN 18 | <1
MW17/1-3
DATE | µg/L
JULY 08 | <1
AUG 08 | <5
OCT 08 | 9
DEC 09 | <1
MAR 10 | <1
JAN 11 | 6
MW17B
DATE | µg/L
JUN 18 | <1
JUL 18 | <1
OCT 18 | <1
MW23
DATE | µg/L
JULY 08 | 442
AUG 08 | 265
DEC 09 | 225
MAR 10 | 294
JAN 11 | 184
FEB 13 | 200
JAN 14 | 11
JAN 17 | <1
AUG 17 | <1
OCT 17 | 4
JAN 18 | <1
MW02A
DATE | µg/L
MAY 18 | 8
JUL 18 | 4
OCT 18 | 3
CMW1
DATE | µg/L
AUG 17 | <1
OCT 17 | <1
JAN 18 | <1
MAY 18 | <0.05
JUL 18 | <1
MW16/1-3
DATE | µg/L
JULY 08 | <1
AUG 08 | <5
DEC 09 | <1
MAR 10 | <1
JAN 11 | <1
MW50C
DATE | µg/L
AUG 17 | 1
OCT 17 | 4
JAN 18 | <100
MAY 18 | 2
JUL 18 | 4
MW50B
DATE | µg/L
AUG 17 | 4
OCT 17 | 8
JAN 18 | <100
MAY 18 | 7
JUL 18 | 7
MW50A
DATE | µg/L
AUG 17 | 2
OCT 17 | 4
JAN 18 | 5
MAY 18 | 10
JUL 18 | 9
MW26
DATE | µg/L
DEC 09 | <50
MAR 10 | <100
JAN 11 | <100
MAR 13 | <100
JAN 14 | <2000
FEB 17 | <1
AUG 17 | <100
OCT 17 | 19
JAN 18 | <100
MW33R
DATE | µg/L
MAR 10 | <1
JAN 11 | <1
FEB 13 | <1
JAN 17 | <1
AUG 17 | 1
OCT 17 | <1
JAN 18 | 1
FEB 18 | <1
MAY 18 | 1
JUL 18 | 1D
MW23A
DATE | µg/L
MAY 18 | <1
JUL 18 | 11
OCT 18 | 2
MW30
DATE | µg/L
OCT 08 | <5
DEC 09 | <1
MAR 10 | <1
JAN 11 | <1
FEB 13 | <1
JAN 14 | <1
JAN 17 | <1
AUG 17 | <1
OCT 17 | <1
JAN 18 | <1
OCT 18 | <1
MW29
DATE | µg/L
OCT 10 | <5
JAN 11 | <1
JAN 17 | <1
AUG 17 | <1
JAN 18 | <1
MW40
DATE | µg/L
MAR 10 | <1
JAN 11 | <1
FEB 13 | <1
JAN 14 | <1
FEB 14 | <1
AUG 17 | <1
OCT 17 | <1
JAN 18 | <1
LOT 4
LOT 2
HAMLET ST
12 HAMLET ST
MCLEOD TREES
M&B HIVE AUTO TECHNICIAN
SOURCE: Google Earth, extracted 03/04/2017.
VALUE PRECLUDES ONE OR MORE BENEFICIAL USES
LEGEND
SITE BOUNDARY
GROUNDWATER MONITORING WELL
GROUNDWATER MONITORING WELL - DECOMMISSIONED
FORMER TRIPLE INTERCEPTOR TRAP
SERVICES LEGEND
ELECTRIC LOW VOLTAGE
ELECTRIC HIGH VOLTAGE
OPTIC FIBRE
FIRE WATER
GAS
SEWER
STORMWATER
WATER
UNKNOWN
0 5 10 15
SCALE 1:500 (A4) METRES
MAPLE ENGINEERING
Drawing Number: MA114
Revision: A
Date: 18/02/2020
Author: LZ
Checked by: MB
Data Source: ARC Environmental, 1707054, 09/10/2018
Chandos Bay Pty Ltd
Lot 3, 14 Hamlet Street, Cheltenham, VIC
Figure 9A - Groundwater Results - Benzene (2008-2018)



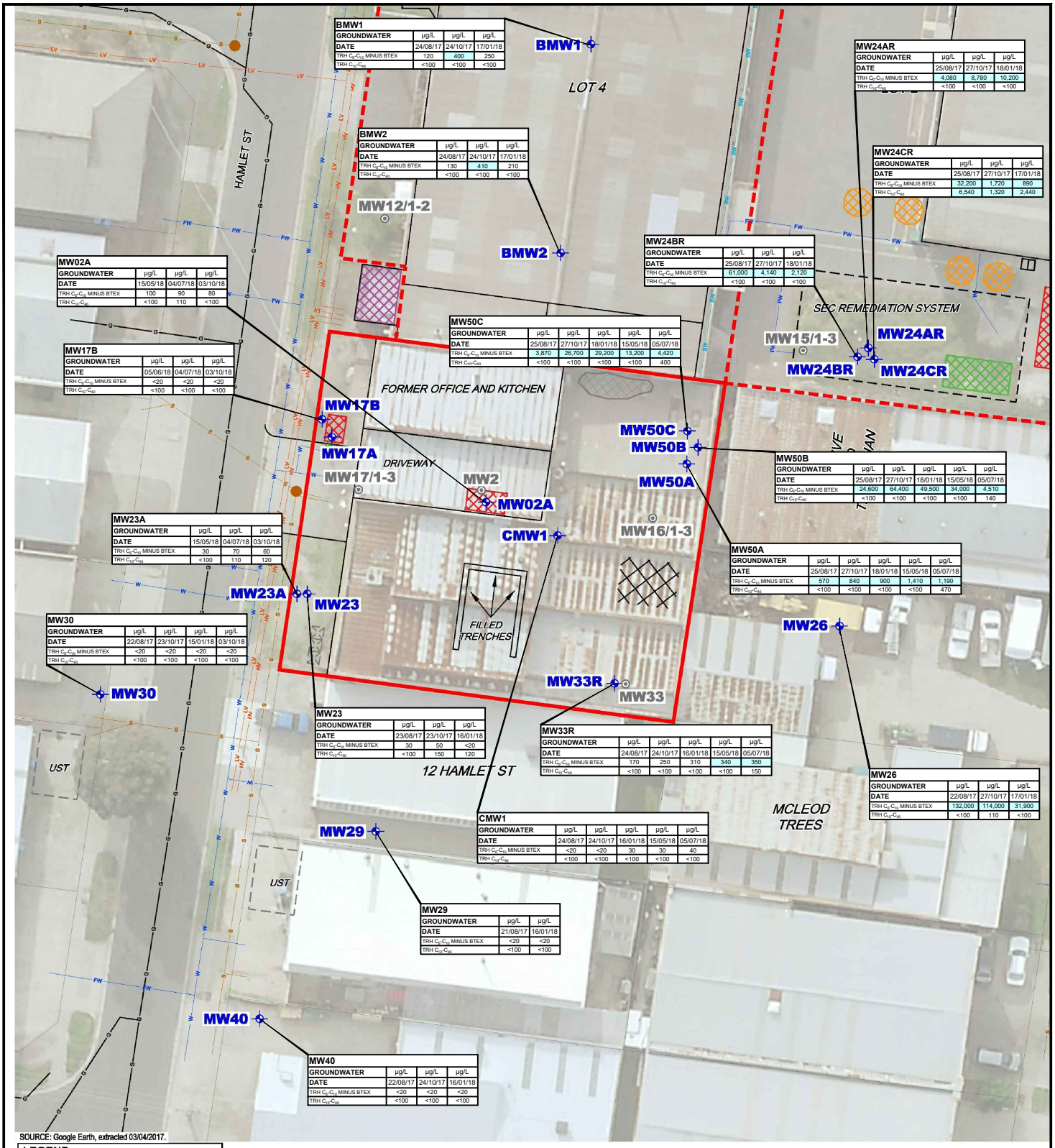
0 5 10 15
SCALE 1:500 (A4) METRES

Drawing Number: MA114
Revision: A
Date: 18/02/2020
Author: LZ
Checked by: MB
Data Source: ARC Environmental, 1707054, 09/10/18

Chandos Bay Pty Ltd

Lot 3, 14 Hamlet Street, Cheltenham, VIC

Figure 9B - Groundwater Results - TEX (2017-2018)



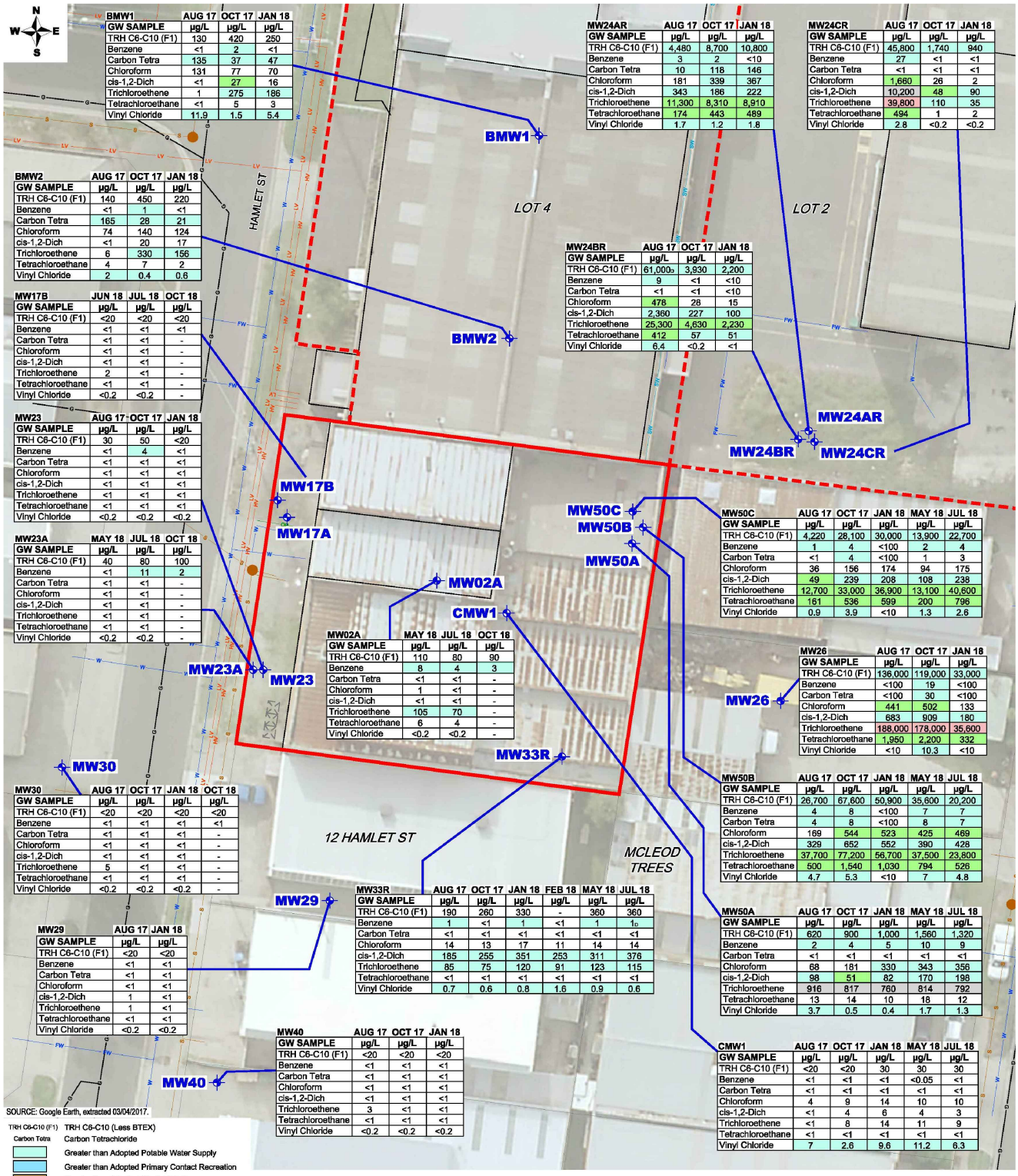
0 5 10 15
SCALE 1:500 (A4) METRES

Drawing Number: MA114
Revision: A
Date: 18/02/2020
Author: LZ
Checked by: MB
Data Source: ARC Environmental, 1707054, 09/10/18

Chandos Bay Pty Ltd

Lot 3, 14 Hamlet Street, Cheltenham, VIC

Figure 9C - Groundwater Results - TRH (2017-2018)



BMW1	AUG 17	OCT 17	JAN 18
GW SAMPLE	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	130	420	250
Benzene	<1	2	<1
Carbon Tetra	135	37	47
Chloroform	131	77	70
cis-1,2-Dich	<1	27	16
Trichloroethene	1	275	186
Tetrachloroethane	<1	5	3
Vinyl Chloride	11.9	1.5	5.4

MW24AR	AUG 17	OCT 17	JAN 18
GW SAMPLE	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	4,480	8,700	10,800
Benzene	3	2	<10
Carbon Tetra	10	118	146
Chloroform	181	339	367
cis-1,2-Dich	343	186	222
Trichloroethene	11,300	8,310	8,910
Tetrachloroethane	174	443	489
Vinyl Chloride	1.7	1.2	1.8

MW24CR	AUG 17	OCT 17	JAN 18
GW SAMPLE	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	45,800	1,740	940
Benzene	27	<1	<1
Carbon Tetra	<1	<1	<1
Chloroform	1,660	26	2
cis-1,2-Dich	10,200	48	90
Trichloroethene	39,800	110	35
Tetrachloroethane	494	1	2
Vinyl Chloride	2.8	<0.2	<0.2

BMW2	AUG 17	OCT 17	JAN 18
GW SAMPLE	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	140	450	220
Benzene	<1	1	<1
Carbon Tetra	165	28	21
Chloroform	74	140	124
cis-1,2-Dich	<1	20	17
Trichloroethene	6	330	156
Tetrachloroethane	4	7	2
Vinyl Chloride	2	0.4	0.6

MW24BR	AUG 17	OCT 17	JAN 18
GW SAMPLE	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	61,000D	3,930	2,200
Benzene	9	<1	<10
Carbon Tetra	<1	<1	<10
Chloroform	478	28	15
cis-1,2-Dich	2,360	227	100
Trichloroethene	25,300	4,630	2,230
Tetrachloroethane	412	57	51
Vinyl Chloride	6.4	<0.2	<1

MW17B	JUN 18	JUL 18	OCT 18
GW SAMPLE	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	<20	<20	<20
Benzene	<1	<1	<1
Carbon Tetra	<1	<1	-
Chloroform	<1	<1	-
cis-1,2-Dich	<1	<1	-
Trichloroethene	2	<1	-
Tetrachloroethane	<1	<1	-
Vinyl Chloride	<0.2	<0.2	-

MW23	AUG 17	OCT 17	JAN 18
GW SAMPLE	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	30	50	<20
Benzene	<1	4	<1
Carbon Tetra	<1	<1	<1
Chloroform	<1	<1	<1
cis-1,2-Dich	<1	<1	<1
Trichloroethene	<1	<1	<1
Tetrachloroethane	<1	<1	<1
Vinyl Chloride	<0.2	<0.2	<0.2

MW23A	MAY 18	JUL 18	OCT 18
GW SAMPLE	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	40	80	100
Benzene	<1	11	2
Carbon Tetra	<1	<1	-
Chloroform	<1	<1	-
cis-1,2-Dich	<1	<1	-
Trichloroethene	<1	<1	-
Tetrachloroethane	<1	<1	-
Vinyl Chloride	<0.2	<0.2	-

MW02A	MAY 18	JUL 18	OCT 18
GW SAMPLE	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	110	80	90
Benzene	8	4	3
Carbon Tetra	<1	<1	-
Chloroform	1	<1	-
cis-1,2-Dich	<1	<1	-
Trichloroethene	105	70	-
Tetrachloroethane	6	4	-
Vinyl Chloride	<0.2	<0.2	-

MW50C	AUG 17	OCT 17	JAN 18	MAY 18	JUL 18
GW SAMPLE	µg/L	µg/L	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	4,220	28,100	30,000	13,900	22,700
Benzene	1	4	<100	2	4
Carbon Tetra	<1	4	<100	1	3
Chloroform	36	156	174	94	175
cis-1,2-Dich	49	239	208	108	238
Trichloroethene	12,700	33,000	36,900	13,100	40,600
Tetrachloroethane	161	536	599	200	796
Vinyl Chloride	0.9	3.9	<10	1.3	2.6

MW26	AUG 17	OCT 17	JAN 18
GW SAMPLE	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	136,000	119,000	33,000
Benzene	<100	19	<100
Carbon Tetra	<100	30	<100
Chloroform	441	502	133
cis-1,2-Dich	683	909	180
Trichloroethene	188,000	178,000	35,600
Tetrachloroethane	1,950	2,200	332
Vinyl Chloride	<10	10.3	<10

MW30	AUG 17	OCT 17	JAN 18	OCT 18
GW SAMPLE	µg/L	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	<20	<20	<20	<20
Benzene	<1	<1	<1	<1
Carbon Tetra	<1	<1	<1	-
Chloroform	<1	<1	<1	-
cis-1,2-Dich	<1	<1	<1	-
Trichloroethene	5	<1	<1	-
Tetrachloroethane	<1	<1	<1	-
Vinyl Chloride	<0.2	<0.2	<0.2	-

MW50B	AUG 17	OCT 17	JAN 18	MAY 18	JUL 18
GW SAMPLE	µg/L	µg/L	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	26,700	67,600	50,900	35,600	20,200
Benzene	4	8	<100	7	7
Carbon Tetra	4	8	<100	8	7
Chloroform	169	544	523	425	469
cis-1,2-Dich	329	652	552	390	428
Trichloroethene	37,700	77,200	56,700	37,500	23,800
Tetrachloroethane	500	1,540	1,030	794	526
Vinyl Chloride	4.7	5.3	<10	7	4.8

MW33R	AUG 17	OCT 17	JAN 18	FEB 18	MAY 18	JUL 18
GW SAMPLE	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	190	260	330	-	360	360
Benzene	1	<1	1	<1	1	1D
Carbon Tetra	<1	<1	<1	<1	<1	<1
Chloroform	14	13	17	11	14	14
cis-1,2-Dich	185	255	351	253	311	376
Trichloroethene	85	75	120	91	123	115
Tetrachloroethane	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.7	0.6	0.8	1.6	0.9	0.6

MW50A	AUG 17	OCT 17	JAN 18	MAY 18	JUL 18
GW SAMPLE	µg/L	µg/L	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	620	900	1,000	1,560	1,320
Benzene	2	4	5	10	9
Carbon Tetra	<1	<1	<1	<1	<1
Chloroform	68	181	330	343	356
cis-1,2-Dich	98	51	82	170	198
Trichloroethene	916	817	760	814	792
Tetrachloroethane	13	14	10	18	12
Vinyl Chloride	3.7	0.5	0.4	1.7	1.3

MW29	AUG 17	JAN 18
GW SAMPLE	µg/L	µg/L
TRH C6-C10 (F1)	<20	<20
Benzene	<1	<1
Carbon Tetra	<1	<1
Chloroform	<1	<1
cis-1,2-Dich	1	<1
Trichloroethene	1	<1
Tetrachloroethane	<1	<1
Vinyl Chloride	<0.2	<0.2

MW40	AUG 17	OCT 17	JAN 18
GW SAMPLE	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	<20	<20	<20
Benzene	<1	<1	<1
Carbon Tetra	<1	<1	<1
Chloroform	<1	<1	<1
cis-1,2-Dich	<1	<1	<1
Trichloroethene	3	<1	<1
Tetrachloroethane	<1	<1	<1
Vinyl Chloride	<0.2	<0.2	<0.2

CMW1	AUG 17	OCT 17	JAN 18	MAY 18	JUL 18
GW SAMPLE	µg/L	µg/L	µg/L	µg/L	µg/L
TRH C6-C10 (F1)	<20	<20	30	30	30
Benzene	<1	<1	<1	<0.05	<1
Carbon Tetra	<1	<1	<1	<1	<1
Chloroform	4	9	14	10	10
cis-1,2-Dich	<1	4	6	4	3
Trichloroethene	<1	8	14	11	9
Tetrachloroethane	<1	<1	<1	<1	<1
Vinyl Chloride	7	2.6	9.6	11.2	6.3

TRH C6-C10 (F1) TRH C6-C10 (Less BTEX)
Carbon Tetra Carbon Tetrachloride

- Greater than Adopted Potable Water Supply
- Greater than Adopted Primary Contact Recreation
- Greater than Adopted Stock Watering
- Greater than Adopted Agriculture, Parks and Gardens
- Greater than Adopted Maintenance of Ecosystems
- Greater than Adopted NEPM 2013 Table 1A (4) Res HSL A & B GW for Vapour Intrusion, Sand >8m
- Greater than Adopted NEPM 2013 Table 1A (4) Res HSL D GW for Vapour Intrusion, Sand >8m
- Greater than Adopted Derived Groundwater Risk Based Contminant Screening Level - Residential
- Greater than Adopted Derived Groundwater Risk Based Contminant Screening Level - Commercial / Industrial

LEGEND
- SITE BOUNDARY
- MWxxx GROUNDWATER MONITORING WELL
- FORMER TRIPLE INTERCEPTOR TRAP

SERVICES LEGEND
- ELECTRIC LOW VOLTAGE
- ELECTRIC HIGH VOLTAGE
- OPTIC FIBRE
- FIRE WATER
- GAS
- SEWER
- STORMWATER
- DRAIN
- WATER
- UNKNOWN

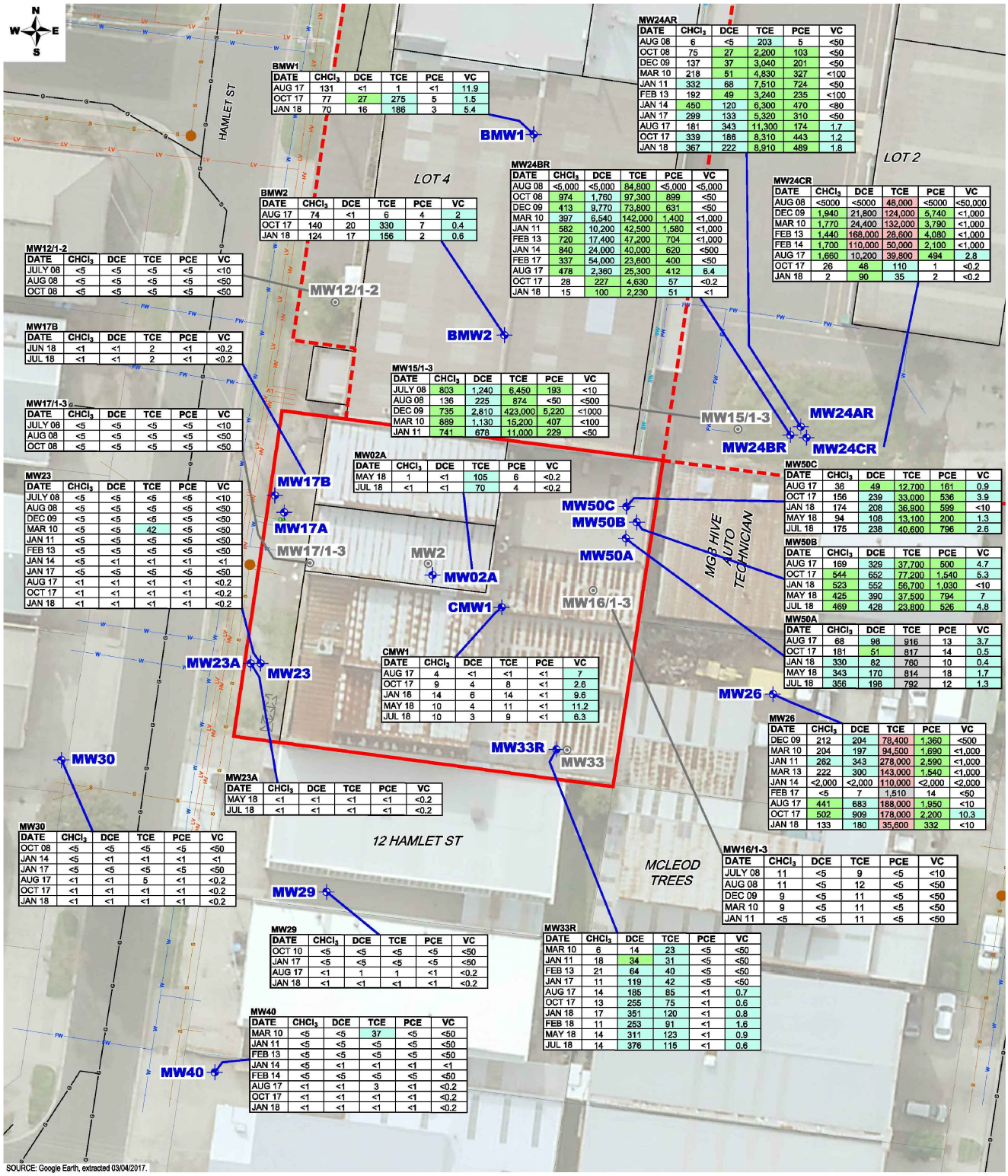
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SCALE 1:550 (A4) METRES

Drawing Number: MA114
Revision: A
Date: 18/02/2020
Author: LZ
Checked by: MB
Data Source: ARC Environmental, 1707054, 09/10/18

Chandos Bay Pty Ltd

Lot 3, 14 Hamlet Street, Cheltenham, VIC

Figure 10A - Groundwater Results - Chlorinated Hydrocarbons (2017-2018)



BMW1

DATE	$CHCl_3$	DCE	TCE	PCE	VC
AUG 17	131	<1	1	<1	11.9
OCT 17	77	27	275	5	1.5
JAN 18	70	16	186	3	5.4

BMW2

DATE	$CHCl_3$	DCE	TCE	PCE	VC
AUG 17	74	<1	6	4	2
OCT 17	140	20	330	7	0.4
JAN 18	124	17	156	2	0.6

MW12/1-2

DATE	$CHCl_3$	DCE	TCE	PCE	VC
JULY 08	<5	<5	<5	<5	<10
AUG 08	<5	<5	<5	<5	<50
OCT 08	<5	<5	<5	<5	<50

MW17B

DATE	$CHCl_3$	DCE	TCE	PCE	VC
JUN 18	<1	<1	2	<1	<0.2
JUL 18	<1	<1	2	<1	<0.2

MW17/1-3

DATE	$CHCl_3$	DCE	TCE	PCE	VC
JULY 08	<5	<5	<5	<5	<10
AUG 08	<5	<5	<5	<5	<50
OCT 08	<5	<5	<5	<5	<50

MW23

DATE	$CHCl_3$	DCE	TCE	PCE	VC
JULY 08	<5	<5	<5	<5	<10
AUG 08	<5	<5	<5	<5	<50
DEC 09	<5	<5	<5	<5	<50
MAR 10	<5	<5	42	<5	<50
JAN 11	<5	<5	<5	<5	<50
FEB 13	<5	<5	<5	<5	<50
JAN 14	<5	<1	<1	<1	<1
JAN 17	<5	<5	<5	<5	<50
AUG 17	<1	<1	<1	<1	<0.2
OCT 17	<1	<1	<1	<1	<0.2
JAN 18	<1	<1	<1	<1	<0.2

MW23A

DATE	$CHCl_3$	DCE	TCE	PCE	VC
MAY 18	<1	<1	<1	<1	<0.2
JUL 18	<1	<1	<1	<1	<0.2

MW30

DATE	$CHCl_3$	DCE	TCE	PCE	VC
OCT 08	<5	<5	<5	<5	<50
JAN 14	<5	<1	<1	<1	<1
JAN 17	<5	<5	<5	<5	<50
AUG 17	<1	<1	5	<1	<0.2
OCT 17	<1	<1	<1	<1	<0.2
JAN 18	<1	<1	<1	<1	<0.2

MW29

DATE	$CHCl_3$	DCE	TCE	PCE	VC
OCT 10	<5	<5	<5	<5	<50
JAN 17	<5	<5	<5	<5	<50
AUG 17	<1	1	<1	<1	<0.2
JAN 18	<1	<1	<1	<1	<0.2

MW40

DATE	$CHCl_3$	DCE	TCE	PCE	VC
MAR 10	<5	<5	37	<5	<50
JAN 11	<5	<5	<5	<5	<50
FEB 13	<5	<5	<5	<5	<50
JAN 14	<5	<1	<1	<1	<1
FEB 14	<5	<5	<5	<5	<50
AUG 17	<1	<1	3	<1	<0.2
OCT 17	<1	<1	<1	<1	<0.2
JAN 18	<1	<1	<1	<1	<0.2

MW02A

DATE	$CHCl_3$	DCE	TCE	PCE	VC
MAY 18	1	<1	105	6	<0.2
JUL 18	<1	<1	70	4	<0.2

CMW1

DATE	$CHCl_3$	DCE	TCE	PCE	VC
AUG 17	4	<1	<1	<1	7
OCT 17	9	4	8	<1	2.6
JAN 18	14	6	14	<1	9.6
MAY 18	10	4	11	<1	11.2
JUL 18	10	3	9	<1	6.3

MW15/1-3

DATE	$CHCl_3$	DCE	TCE	PCE	VC
JULY 08	803	1,240	6,450	193	<10
AUG 08	136	225	874	<50	<500
DEC 09	735	2,810	423,000	5,220	<1000
MAR 10	889	1,130	15,200	407	<100
JAN 11	741	678	11,000	229	<50

MW24AR

DATE	$CHCl_3$	DCE	TCE	PCE	VC
AUG 08	6	<5	203	5	<50
OCT 08	75	27	2,200	103	<50
DEC 09	137	37	3,040	201	<50
MAR 10	218	51	4,830	327	<100
JAN 11	332	68	7,510	724	<50
FEB 13	192	49	3,240	235	<100
JAN 14	450	120	6,300	470	<80
JAN 17	299	133	5,320	310	<50
AUG 17	181	343	11,300	174	1.7
OCT 17	339	186	8,310	443	1.2
JAN 18	367	222	8,910	489	1.8

MW24BR

DATE	$CHCl_3$	DCE	TCE	PCE	VC
AUG 08	<5,000	<5,000	84,800	<5,000	<5,000
OCT 08	974	1,760	97,300	899	<50
DEC 09	413	9,770	73,800	631	<50
MAR 10	397	6,540	142,000	1,400	<1,000
JAN 11	582	10,200	42,500	1,580	<1,000
FEB 13	720	17,400	47,200	704	<1,000
JAN 14	840	24,000	40,000	620	<500
FEB 17	337	54,000	23,600	400	<50
AUG 17	478	2,360	25,300	412	6.4
OCT 17	28	227	4,630	57	<0.2
JAN 18	15	100	2,230	51	<1

MW24CR

DATE	$CHCl_3$	DCE	TCE	PCE	VC
AUG 08	<5000	<5000	48,000	<5000	<50,000
DEC 09	1,940	21,800	124,000	5,740	<1,000
MAR 10	1,770	24,400	132,000	3,790	<1,000
FEB 13	1,440	168,000	28,600	4,080	<1,000
FEB 14	1,700	110,000	50,000	2,100	<1,000
AUG 17	1,660	10,200	39,800	494	2.8
OCT 17	26	48	110	1	<0.2
JAN 18	2	90	35	2	<0.2

MW50C

DATE	$CHCl_3$	DCE	TCE	PCE	VC
AUG 17	36	49	12,700	161	0.9
OCT 17	156	239	33,000	536	3.9
JAN 18	174	208	36,900	599	<10
MAY 18	94	108	13,100	200	1.3
JUL 18	175	238	40,600	796	2.6

MW50B

DATE	$CHCl_3$	DCE	TCE	PCE	VC
AUG 17	169	329	37,700	500	4.7
OCT 17	544	652	77,200	1,540	5.3
JAN 18	523	552	56,700	1,030	<10
MAY 18	425	390	37,500	794	7
JUL 18	469	428	23,800	526	4.8

MW50A

DATE	$CHCl_3$	DCE	TCE	PCE	VC
AUG 17	68	98	916	13	3.7
OCT 17	181	51	817	14	0.5
JAN 18	330	82	760	10	0.4
MAY 18	343	170	814	18	1.7
JUL 18	356	198	792	12	1.3

MW26

DATE	$CHCl_3$	DCE	TCE	PCE	VC
DEC 09	212	204	78,400	1,360	<500
MAR 10	204	197	94,500	1,690	<1,000
JAN 11	262	343	278,000	2,590	<1,000
MAR 13	222	300	143,000	1,540	<1,000
JAN 14	<2,000	<2,000	110,000	<2,000	<2,000
FEB 17	<5	7	1,510	14	<50
AUG 17	441	683	188,000	1,950	<10
OCT 17	502	909	178,000	2,200	10.3
JAN 18	133	180	35,600	332	<10

MW16/1-3

DATE	$CHCl_3$	DCE	TCE	PCE	VC
JULY 08	11	<5	9	<5	<10
AUG 08	11	<5	12	<5	<50
DEC 09	9	<5	11	<5	<50
MAR 10	9	<5	11	<5	<50
JAN 11	<5	<5	11	<5	<50

MW33R

DATE	$CHCl_3$	DCE	TCE	PCE	VC
MAR 10	6	14	23	<5	<50
JAN 11	18	34	31	<5	<50
FEB 13	21	64	40	<5	<50
JAN 17	11	119	42	<5	<50
AUG 17	14	185	85	<1	0.7
OCT 17	13	255	75	<1	0.6
JAN 18	17	351	120	<1	0.8
FEB 18	11	253	91	<1	1.6
MAY 18	14	311	123	<1	0.9
JUL 18	14	376	115	<1	0.6

$CHCl_3$ CHLOROFORM (µg/L)
DCE cis-1,2-DICHLOROETHENE (µg/L)
TCE TRICHLOROETHENE (µg/L)
PCE TETRACHLOROETHENE (µg/L)
VC VINYL CHLORIDE (µg/L)

- Greater than Adopted Potable Water Supply
- Greater than Adopted Primary Contact Recreation
- Greater than Adopted Stock Watering
- Greater than Adopted Maintenance of Ecosystems
- Greater than Adopted Derived Groundwater Risk Based Contminant Screening Level - Residential
- Greater than Adopted Derived Groundwater Risk Based Contminant Screening Level - Commercial / Industrial

LEGEND

- SITE BOUNDARY
- MWxxx GROUNDWATER MONITORING WELL
- MWxxx GROUNDWATER MONITORING WELL - DECOMMISSIONED
- FORMER TRIPLE INTERCEPTOR TRAP

SERVICES LEGEND

- LV ELECTRIC LOW VOLTAGE
- HV ELECTRIC HIGH VOLTAGE
- OF OPTIC FIBRE
- FW FIRE WATER
- G GAS
- S SEWER
- SW STORMWATER
- W WATER
- ? UNKNOWN

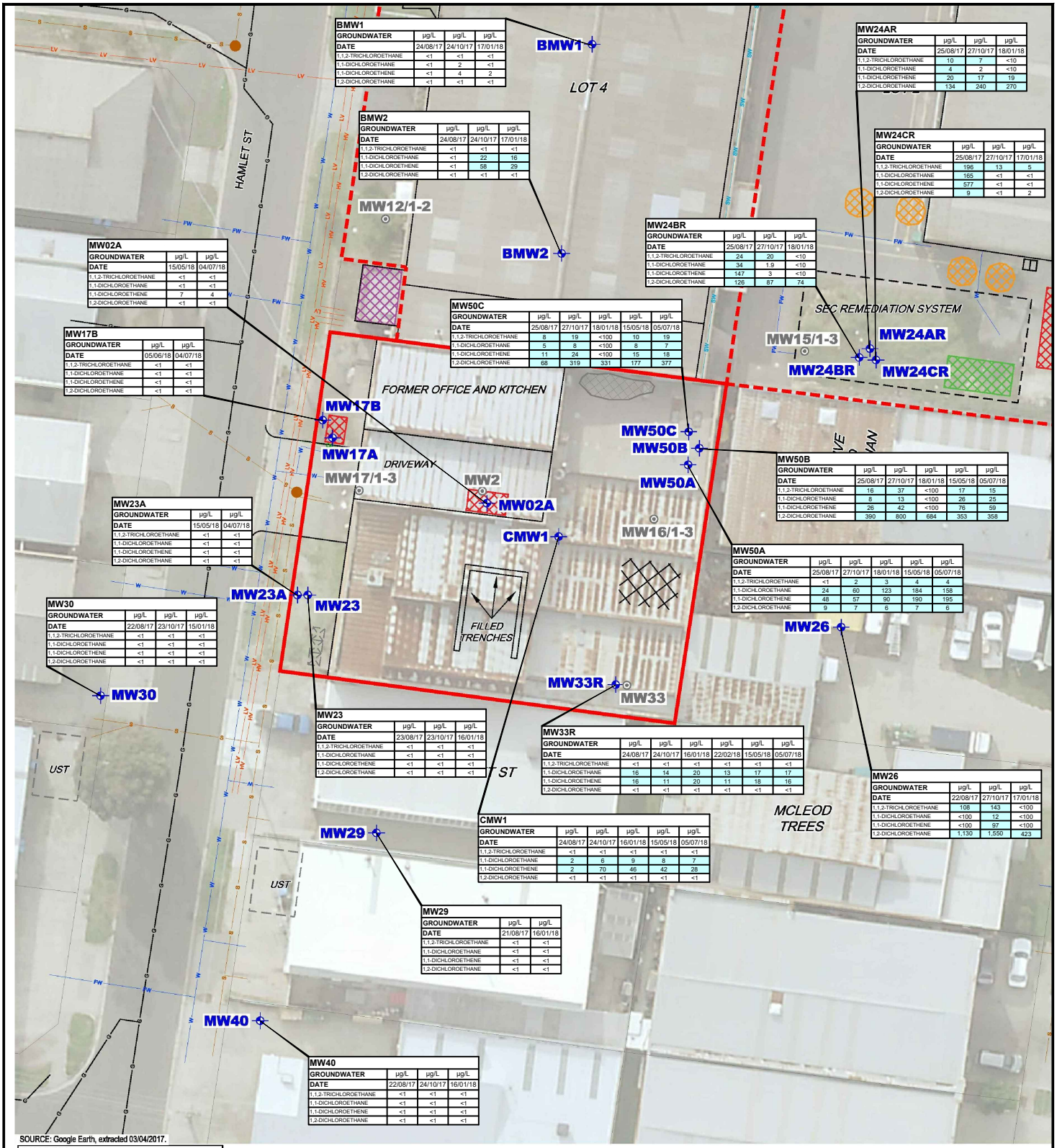
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Drawing Number: MA114
Revision: A
Date: 18/02/2020
Author: LZ
Checked by: MB
Data Source: ARC Environmental, 1707054, 09/10/18

Chandos Bay Pty Ltd

Lot 3, 14 Hamlet Street, Cheltenham, VIC

Figure 10B - Groundwater Results - Chlorinated Hydrocarbons (2008-2018)



BMW1

GROUNDWATER	µg/L	µg/L	µg/L
DATE	24/08/17	24/10/17	17/01/18
1,1,2-TRICHLOROETHANE	<1	<1	<1
1,1-DICHLOROETHANE	<1	2	<1
1,1-DICHLOROETHENE	<1	4	2
1,2-DICHLOROETHANE	<1	<1	<1

BMW2

GROUNDWATER	µg/L	µg/L	µg/L
DATE	24/08/17	24/10/17	17/01/18
1,1,2-TRICHLOROETHANE	<1	<1	<1
1,1-DICHLOROETHANE	<1	22	16
1,1-DICHLOROETHENE	<1	58	29
1,2-DICHLOROETHANE	<1	<1	<1

MW24AR

GROUNDWATER	µg/L	µg/L	µg/L
DATE	25/08/17	27/10/17	18/01/18
1,1,2-TRICHLOROETHANE	10	7	<10
1,1-DICHLOROETHANE	4	2	<10
1,1-DICHLOROETHENE	20	17	19
1,2-DICHLOROETHANE	134	240	270

MW24CR

GROUNDWATER	µg/L	µg/L	µg/L
DATE	25/08/17	27/10/17	17/01/18
1,1,2-TRICHLOROETHANE	196	13	5
1,1-DICHLOROETHANE	165	<1	<1
1,1-DICHLOROETHENE	577	<1	<1
1,2-DICHLOROETHANE	9	<1	2

MW24BR

GROUNDWATER	µg/L	µg/L	µg/L
DATE	25/08/17	27/10/17	18/01/18
1,1,2-TRICHLOROETHANE	24	20	<10
1,1-DICHLOROETHANE	34	1.9	<10
1,1-DICHLOROETHENE	147	3	<10
1,2-DICHLOROETHANE	126	87	74

MW02A

GROUNDWATER	µg/L	µg/L
DATE	15/05/18	04/07/18
1,1,2-TRICHLOROETHANE	<1	<1
1,1-DICHLOROETHANE	<1	<1
1,1-DICHLOROETHENE	7	4
1,2-DICHLOROETHANE	<1	<1

MW17B

GROUNDWATER	µg/L	µg/L
DATE	05/06/18	04/07/18
1,1,2-TRICHLOROETHANE	<1	<1
1,1-DICHLOROETHANE	<1	<1
1,1-DICHLOROETHENE	<1	<1
1,2-DICHLOROETHANE	<1	<1

MW50C

GROUNDWATER	µg/L	µg/L	µg/L	µg/L	µg/L
DATE	25/08/17	27/10/17	18/01/18	15/05/18	05/07/18
1,1,2-TRICHLOROETHANE	8	19	<100	10	19
1,1-DICHLOROETHANE	5	8	<100	8	7
1,1-DICHLOROETHENE	11	24	<100	15	18
1,2-DICHLOROETHANE	68	319	331	177	377

MW50B

GROUNDWATER	µg/L	µg/L	µg/L	µg/L	µg/L
DATE	25/08/17	27/10/17	18/01/18	15/05/18	05/07/18
1,1,2-TRICHLOROETHANE	16	37	<100	17	15
1,1-DICHLOROETHANE	8	13	<100	26	25
1,1-DICHLOROETHENE	26	42	<100	76	59
1,2-DICHLOROETHANE	390	800	684	353	358

MW50A

GROUNDWATER	µg/L	µg/L	µg/L	µg/L	µg/L
DATE	25/08/17	27/10/17	18/01/18	15/05/18	05/07/18
1,1,2-TRICHLOROETHANE	<1	2	3	4	4
1,1-DICHLOROETHANE	24	60	123	184	158
1,1-DICHLOROETHENE	48	57	90	190	195
1,2-DICHLOROETHANE	9	7	6	7	6

MW23A

GROUNDWATER	µg/L	µg/L
DATE	15/05/18	04/07/18
1,1,2-TRICHLOROETHANE	<1	<1
1,1-DICHLOROETHANE	<1	<1
1,1-DICHLOROETHENE	<1	<1
1,2-DICHLOROETHANE	<1	<1

MW30

GROUNDWATER	µg/L	µg/L	µg/L
DATE	22/08/17	23/10/17	15/01/18
1,1,2-TRICHLOROETHANE	<1	<1	<1
1,1-DICHLOROETHANE	<1	<1	<1
1,1-DICHLOROETHENE	<1	<1	<1
1,2-DICHLOROETHANE	<1	<1	<1

MW23

GROUNDWATER	µg/L	µg/L	µg/L
DATE	23/08/17	23/10/17	16/01/18
1,1,2-TRICHLOROETHANE	<1	<1	<1
1,1-DICHLOROETHANE	<1	<1	<1
1,1-DICHLOROETHENE	<1	<1	<1
1,2-DICHLOROETHANE	<1	<1	<1

MW33R

GROUNDWATER	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
DATE	24/08/17	24/10/17	16/01/18	22/02/18	15/05/18	05/07/18
1,1,2-TRICHLOROETHANE	<1	<1	<1	<1	<1	<1
1,1-DICHLOROETHANE	16	14	20	13	17	17
1,1-DICHLOROETHENE	16	11	20	11	18	16
1,2-DICHLOROETHANE	<1	<1	<1	<1	<1	<1

MW26

GROUNDWATER	µg/L	µg/L	µg/L
DATE	22/08/17	27/10/17	17/01/18
1,1,2-TRICHLOROETHANE	108	143	<100
1,1-DICHLOROETHANE	<100	12	<100
1,1-DICHLOROETHENE	<100	97	<100
1,2-DICHLOROETHANE	1,130	1,550	423

CMW1

GROUNDWATER	µg/L	µg/L	µg/L	µg/L	µg/L
DATE	24/08/17	24/10/17	16/01/18	15/05/18	05/07/18
1,1,2-TRICHLOROETHANE	<1	<1	<1	<1	<1
1,1-DICHLOROETHANE	2	6	9	8	7
1,1-DICHLOROETHENE	2	70	46	42	28
1,2-DICHLOROETHANE	<1	<1	<1	<1	<1

MW29

GROUNDWATER	µg/L	µg/L
DATE	21/08/17	16/01/18
1,1,2-TRICHLOROETHANE	<1	<1
1,1-DICHLOROETHANE	<1	<1
1,1-DICHLOROETHENE	<1	<1
1,2-DICHLOROETHANE	<1	<1

MW40

GROUNDWATER	µg/L	µg/L	µg/L
DATE	22/08/17	24/10/17	16/01/18
1,1,2-TRICHLOROETHANE	<1	<1	<1
1,1-DICHLOROETHANE	<1	<1	<1
1,1-DICHLOROETHENE	<1	<1	<1
1,2-DICHLOROETHANE	<1	<1	<1

LEGEND

- SITE BOUNDARY
- GROUNDWATER MONITORING WELL
- GROUNDWATER MONITORING WELL - DECOMMISSIONED
- FORMER AST
- OIL STAINING
- CONCRETE CORROSION
- VENT
- APPROXIMATE LOCATION OF FORMER UST
- SUBSTATION
- APPROXIMATE LOCATION OF FORMER CONCRETE SUMP
- FORMER TRIPLE INTERCEPTOR TRAP

SERVICES LEGEND

- ELECTRIC LOW VOLTAGE
- ELECTRIC HIGH VOLTAGE
- OPTIC FIBRE
- FIRE WATER
- GAS
- SEWER
- STORMWATER
- DRAIN
- CONCRETE LINED VOID
- WATER
- UNKNOWN

VALUE PRECLUDES ONE OR MORE BENEFICIAL USES

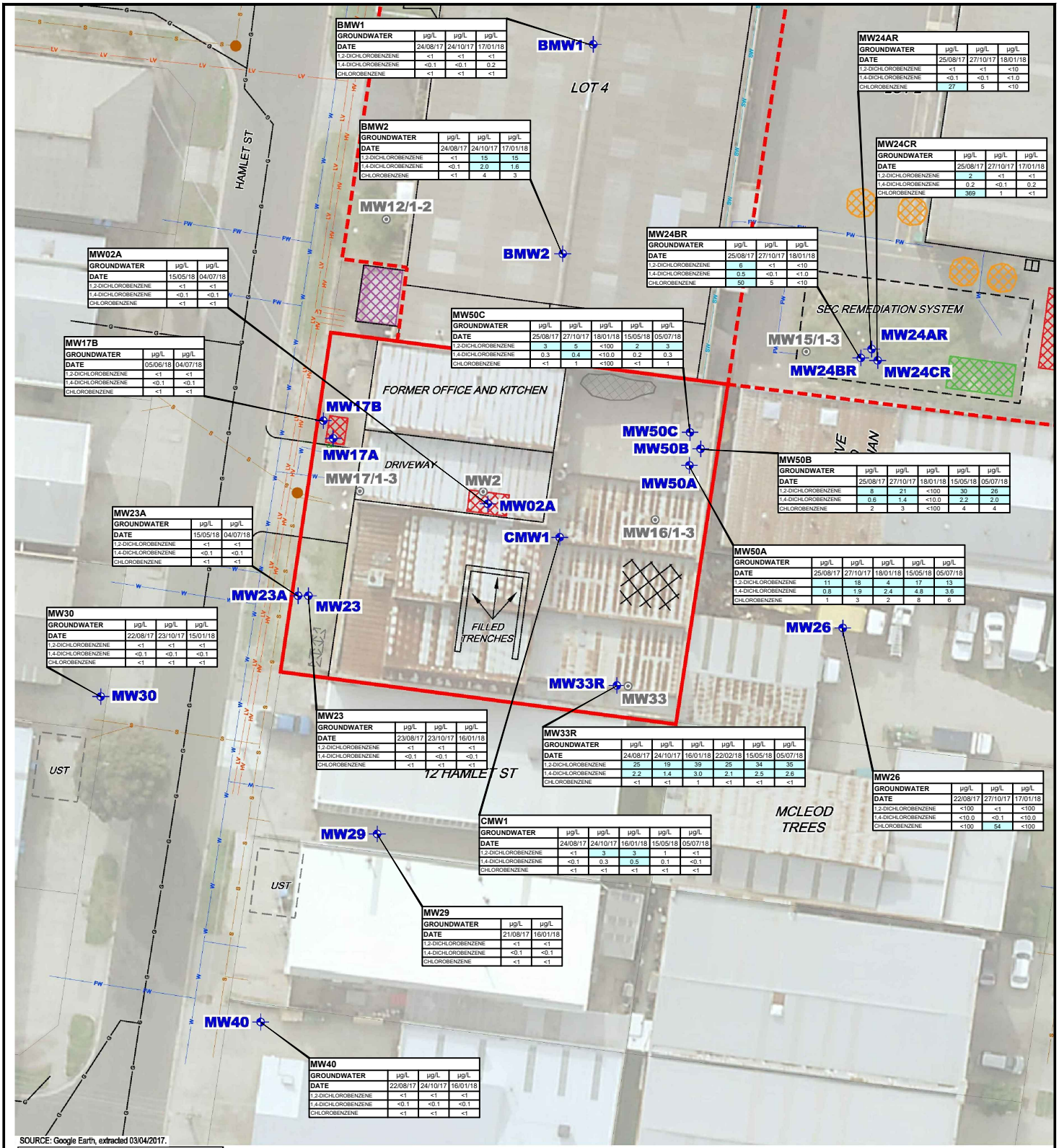
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Drawing Number: MA114
Revision: A
Date: 18/02/2020
Author: LZ
Checked by: MB
Data Source: ARC Environmental, 1707054, 09/10/18

Chandos Bay Pty Ltd

Lot 3, 14 Hamlet Street, Cheltenham, VIC

Figure 10C - Groundwater Results - 1,1,2-TCA, 1,1-DCA, 1,1-DCE, 1,2-DCA (2017-2018)



BMW1

GROUNDWATER	µg/L	µg/L	µg/L
DATE	24/08/17	24/10/17	17/01/18
1,2-DICHLOROBENZENE	<1	<1	<1
1,4-DICHLOROBENZENE	<0.1	<0.1	0.2
CHLOROBENZENE	<1	<1	<1

BMW2

GROUNDWATER	µg/L	µg/L	µg/L
DATE	24/08/17	24/10/17	17/01/18
1,2-DICHLOROBENZENE	<1	15	15
1,4-DICHLOROBENZENE	<0.1	2.0	1.6
CHLOROBENZENE	<1	4	3

MW02A

GROUNDWATER	µg/L	µg/L
DATE	15/05/18	04/07/18
1,2-DICHLOROBENZENE	<1	<1
1,4-DICHLOROBENZENE	<0.1	<0.1
CHLOROBENZENE	<1	<1

MW17B

GROUNDWATER	µg/L	µg/L
DATE	05/06/18	04/07/18
1,2-DICHLOROBENZENE	<1	<1
1,4-DICHLOROBENZENE	<0.1	<0.1
CHLOROBENZENE	<1	<1

MW23A

GROUNDWATER	µg/L	µg/L
DATE	15/05/18	04/07/18
1,2-DICHLOROBENZENE	<1	<1
1,4-DICHLOROBENZENE	<0.1	<0.1
CHLOROBENZENE	<1	<1

MW30

GROUNDWATER	µg/L	µg/L	µg/L
DATE	22/08/17	23/10/17	15/01/18
1,2-DICHLOROBENZENE	<1	<1	<1
1,4-DICHLOROBENZENE	<0.1	<0.1	<0.1
CHLOROBENZENE	<1	<1	<1

MW23

GROUNDWATER	µg/L	µg/L	µg/L
DATE	23/08/17	23/10/17	16/01/18
1,2-DICHLOROBENZENE	<1	<1	<1
1,4-DICHLOROBENZENE	<0.1	<0.1	<0.1
CHLOROBENZENE	<1	<1	<1

MW40

GROUNDWATER	µg/L	µg/L	µg/L
DATE	22/08/17	24/10/17	16/01/18
1,2-DICHLOROBENZENE	<1	<1	<1
1,4-DICHLOROBENZENE	<0.1	<0.1	<0.1
CHLOROBENZENE	<1	<1	<1

MW29

GROUNDWATER	µg/L	µg/L
DATE	21/08/17	16/01/18
1,2-DICHLOROBENZENE	<1	<1
1,4-DICHLOROBENZENE	<0.1	<0.1
CHLOROBENZENE	<1	<1

CMW1

GROUNDWATER	µg/L	µg/L	µg/L	µg/L	µg/L
DATE	24/08/17	24/10/17	16/01/18	15/05/18	05/07/18
1,2-DICHLOROBENZENE	<1	3	3	1	<1
1,4-DICHLOROBENZENE	<0.1	0.3	0.5	0.1	<0.1
CHLOROBENZENE	<1	<1	<1	<1	<1

MW33R

GROUNDWATER	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
DATE	24/08/17	24/10/17	16/01/18	22/02/18	15/05/18	05/07/18
1,2-DICHLOROBENZENE	25	19	39	25	34	35
1,4-DICHLOROBENZENE	2.2	1.4	3.0	2.1	2.5	2.6
CHLOROBENZENE	<1	<1	1	<1	<1	<1

MW50C

GROUNDWATER	µg/L	µg/L	µg/L	µg/L	µg/L
DATE	25/08/17	27/10/17	18/01/18	15/05/18	05/07/18
1,2-DICHLOROBENZENE	3	5	<100	2	3
1,4-DICHLOROBENZENE	0.3	0.4	<10.0	0.2	0.3
CHLOROBENZENE	<1	1	<100	<1	1

MW50B

GROUNDWATER	µg/L	µg/L	µg/L	µg/L	µg/L
DATE	25/08/17	27/10/17	18/01/18	15/05/18	05/07/18
1,2-DICHLOROBENZENE	8	21	<100	30	26
1,4-DICHLOROBENZENE	0.6	1.4	<10.0	2.2	2.0
CHLOROBENZENE	2	3	<100	4	4

MW50A

GROUNDWATER	µg/L	µg/L	µg/L	µg/L	µg/L
DATE	25/08/17	27/10/17	18/01/18	15/05/18	05/07/18
1,2-DICHLOROBENZENE	11	18	4	17	13
1,4-DICHLOROBENZENE	0.8	1.9	2.4	4.8	3.6
CHLOROBENZENE	1	3	2	8	6

MW24AR

GROUNDWATER	µg/L	µg/L	µg/L
DATE	25/08/17	27/10/17	18/01/18
1,2-DICHLOROBENZENE	<1	<1	<10
1,4-DICHLOROBENZENE	<0.1	<0.1	<1.0
CHLOROBENZENE	27	5	<10

MW24CR

GROUNDWATER	µg/L	µg/L	µg/L
DATE	25/08/17	27/10/17	17/01/18
1,2-DICHLOROBENZENE	2	<1	<1
1,4-DICHLOROBENZENE	0.2	<0.1	0.2
CHLOROBENZENE	369	1	<1

MW24BR

GROUNDWATER	µg/L	µg/L	µg/L
DATE	25/08/17	27/10/17	18/01/18
1,2-DICHLOROBENZENE	6	<1	<10
1,4-DICHLOROBENZENE	0.5	<0.1	<1.0
CHLOROBENZENE	50	5	<10

MW26

GROUNDWATER	µg/L	µg/L	µg/L
DATE	22/08/17	27/10/17	17/01/18
1,2-DICHLOROBENZENE	<100	<1	<100
1,4-DICHLOROBENZENE	<10.0	<0.1	<10.0
CHLOROBENZENE	<100	54	<100

SOURCE: Google Earth, extracted 03/04/2017.

LEGEND

- SITE BOUNDARY
- GROUNDWATER MONITORING WELL
- GROUNDWATER MONITORING WELL - DECOMMISSIONED
- FORMER AST
- OIL STAINING
- CONCRETE CORROSION
- VENT
- APPROXIMATE LOCATION OF FORMER UST
- SUBSTATION
- APPROXIMATE LOCATION OF FORMER CONCRETE SUMP
- FORMER TRIPLE INTERCEPTOR TRAP

SERVICES LEGEND

- ELECTRIC LOW VOLTAGE
- ELECTRIC HIGH VOLTAGE
- OPTIC FIBRE
- FIRE WATER
- GAS
- SEWER
- STORMWATER
- DRAIN
- CONCRETE LINED VOID
- WATER
- UNKNOWN

VALUE PRECLUDES ONE OR MORE BENEFICIAL USES

SCALE 1:500 (A4) METRES

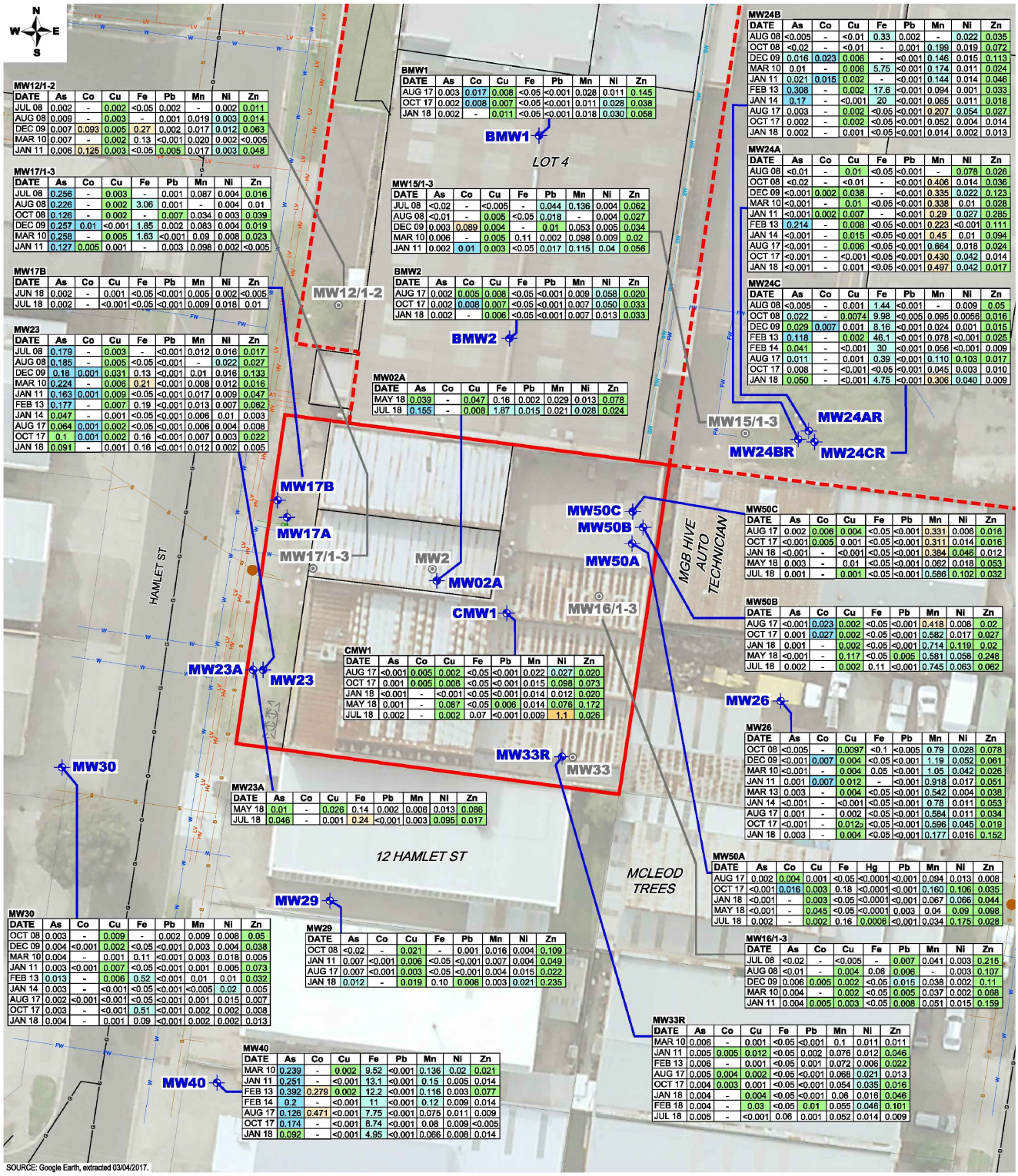
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Drawing Number: MA114
Revision: A
Date: 18/02/2020
Author: LZ
Checked by: MB
Data Source: ARC Environmental, 1707054, 09/10/18

Chandos Bay Pty Ltd

Lot 3, 14 Hamlet Street, Cheltenham, VIC

Figure 10D - Groundwater Results - Chlorobenzenes (2017-2018)



MW12/1-2

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
JUL 08	0.002	-	0.002	<0.05	0.002	-	0.002	0.011
AUG 08	0.009	-	0.003	-	0.001	0.019	0.003	0.014
DEC 09	0.007	0.093	0.005	0.27	0.002	0.017	0.012	0.063
MAR 10	0.007	-	0.002	0.13	<0.001	0.020	0.002	<0.005
JAN 11	0.006	0.125	0.003	<0.05	0.005	0.017	0.003	0.048

MW17/1-3

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
JUL 08	0.256	-	0.003	-	0.001	0.087	0.004	0.016
AUG 08	0.226	-	0.002	3.06	0.001	-	0.004	0.01
OCT 08	0.126	-	0.002	-	0.007	0.034	0.003	0.039
DEC 09	0.257	0.01	<0.001	1.85	0.002	0.083	0.004	0.019
MAR 10	0.258	-	0.005	1.63	<0.001	0.09	0.008	0.023
JAN 11	0.127	0.005	0.001	-	0.003	0.098	0.002	<0.005

MW17B

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
JUN 18	0.002	-	0.001	<0.05	<0.001	0.005	0.002	<0.005
JUL 18	0.002	-	<0.001	<0.05	<0.001	0.009	0.018	0.01

MW23

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
JUL 08	0.179	-	0.003	-	<0.001	0.012	0.016	0.017
AUG 08	0.185	-	0.005	<0.05	<0.001	-	0.022	0.027
DEC 09	0.18	0.001	0.031	0.13	<0.001	0.01	0.016	0.133
MAR 10	0.224	-	0.006	0.21	<0.001	0.008	0.012	0.016
JAN 11	0.163	0.001	0.009	<0.05	<0.001	0.017	0.009	0.047
FEB 13	0.177	-	0.007	0.19	<0.001	0.013	0.007	0.062
JAN 14	0.047	-	0.001	<0.05	<0.001	0.006	0.01	0.003
AUG 17	0.064	0.001	0.002	<0.05	<0.001	0.006	0.004	0.008
OCT 17	0.1	0.001	0.002	0.16	<0.001	0.007	0.003	0.022
JAN 18	0.091	-	0.001	0.16	<0.001	0.012	0.002	0.005

BMW1

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
AUG 17	0.003	0.017	0.008	<0.05	<0.001	0.028	0.011	0.145
OCT 17	0.002	0.008	0.007	<0.05	<0.001	0.011	0.028	0.038
JAN 18	0.002	-	0.011	<0.05	<0.001	0.018	0.030	0.058

MW15/1-3

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
JUL 08	<0.02	-	<0.005	-	0.044	0.136	0.004	0.062
AUG 08	<0.01	-	0.005	<0.05	0.018	-	0.004	0.027
DEC 09	0.003	0.089	0.004	-	0.01	0.053	0.005	0.034
MAR 10	0.006	-	0.005	0.11	0.002	0.098	0.009	0.02
JAN 11	0.002	0.01	0.003	<0.05	0.017	0.115	0.04	0.056

BMW2

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
AUG 17	0.002	0.005	0.008	<0.05	<0.001	0.009	0.058	0.020
OCT 17	0.002	0.008	0.007	<0.05	<0.001	0.007	0.050	0.033
JAN 18	0.002	-	0.006	<0.05	<0.001	0.007	0.013	0.033

MW02A

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
MAY 18	0.039	-	0.047	0.16	0.002	0.029	0.013	0.078
JUL 18	0.155	-	0.008	1.87	0.015	0.021	0.026	0.024

MW24B

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
AUG 08	<0.005	-	<0.01	0.33	0.002	-	0.022	0.035
OCT 08	<0.02	-	<0.01	-	0.001	0.199	0.019	0.072
DEC 09	0.016	0.023	0.006	-	<0.001	0.146	0.015	0.113
MAR 10	0.01	-	0.006	5.75	<0.001	0.174	0.011	0.024
JAN 11	0.021	0.015	0.002	-	<0.001	0.144	0.014	0.046
FEB 13	0.308	-	0.002	17.6	<0.001	0.094	0.001	0.033
JAN 14	0.17	-	<0.001	20	<0.001	0.065	0.011	0.018
AUG 17	0.003	-	0.002	<0.05	<0.001	0.207	0.054	0.027
OCT 17	0.002	-	0.002	<0.05	<0.001	0.052	0.004	0.014
JAN 18	0.002	-	0.001	<0.05	<0.001	0.014	0.002	0.013

MW24A

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
AUG 08	<0.01	-	0.01	<0.05	<0.001	-	0.078	0.026
OCT 08	<0.02	-	<0.01	-	<0.001	0.406	0.014	0.036
DEC 09	<0.001	0.002	0.038	-	<0.001	0.335	0.022	0.123
MAR 10	<0.001	-	0.01	<0.05	<0.001	0.338	0.01	0.028
JAN 11	<0.001	0.002	0.007	-	<0.001	0.29	0.027	0.285
FEB 13	0.214	-	0.008	<0.05	<0.001	0.223	<0.001	0.111
JAN 14	<0.001	-	0.015	<0.05	<0.001	0.45	0.01	0.094
AUG 17	<0.001	-	0.006	<0.05	<0.001	0.664	0.018	0.024
OCT 17	<0.001	-	<0.001	<0.05	<0.001	0.430	0.042	0.014
JAN 18	<0.001	-	0.001	<0.05	<0.001	0.497	0.042	0.017

MW24C

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
AUG 08	<0.005	-	0.001	1.44	<0.001	-	0.009	0.05
OCT 08	0.022	-	0.0074	9.98	<0.005	0.095	0.0056	0.016
DEC 09	0.029	0.007	0.001	8.16	<0.001	0.024	0.001	0.015
FEB 13	0.118	-	0.002	46.1	<0.001	0.078	<0.001	0.025
FEB 14	0.041	-	<0.001	30	<0.001	0.056	<0.001	0.009
AUG 17	0.011	-	0.001	0.39	<0.001	0.110	0.103	0.017
OCT 17	0.008	-	<0.001	<0.05	<0.001	0.045	0.003	0.010
JAN 18	0.050	-	<0.001	4.75	<0.001	0.306	0.040	0.009

MW50C

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
AUG 17	0.002	0.006	0.004	<0.05	<0.001	0.331	0.006	0.016
OCT 17	<0.001	0.005	0.001	<0.05	<0.001	0.311	0.014	0.016
JAN 18	<0.001	-	<0.001	<0.05	<0.001	0.384	0.046	0.012
MAY 18	0.003	-	0.01	<0.05	<0.001	0.062	0.018	0.053
JUL 18	0.001	-	0.001	<0.05	<0.001	0.586	0.102	0.032

MW50B

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
AUG 17	<0.001	0.023	0.002	<0.05	<0.001	0.418	0.008	0.02
OCT 17	0.001	0.027	0.002	<0.05	<0.001	0.582	0.017	0.027
JAN 18	0.001	-	0.002	<0.05	<0.001	0.714	0.119	0.02
MAY 18	<0.001	-	0.117	<0.05	0.005	0.581	0.058	0.248
JUL 18	0.002	-	0.002	0.11	<0.001	0.745	0.063	0.062

CMW1

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
AUG 17	<0.001	0.005	0.002	<0.05	<0.001	0.022	0.027	0.020
OCT 17	0.001	0.005	0.008	<0.05	<0.001	0.015	0.098	0.073
JAN 18	<0.001	-	<0.001	<0.05	<0.001	0.014	0.012	0.020
MAY 18	0.001	-	0.087	<0.05	0.006	0.014	0.076	0.172
JUL 18	0.002	-	0.002	0.07	<0.001	0.009	1.1	0.026

MW26

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
OCT 08	<0.005	-	0.0097	<0.1	<0.005	0.79	0.028	0.078
DEC 09	<0.001	0.007	0.004	<0.05	<0.001	1.19	0.052	0.061
MAR 10	<0.001	-	0.004	0.05	<0.001	1.05	0.042	0.026
JAN 11	0.001	0.007	0.012	-	<0.001	0.918	0.017	0.051
MAR 13	0.003	-	0.004	<0.05	<0.001	0.542	0.004	0.038
JAN 14	<0.001	-	<0.001	<0.05	<0.001	0.78	0.011	0.053
AUG 17	0.001	-	0.002	<0.05	<0.001	0.584	0.011	0.034
OCT 17	<0.001	-	0.012	<0.05	<0.001	0.596	0.045	0.019
JAN 18	0.003	-	0.004	<0.05	<0.001	0.177	0.016	0.152

MW23A

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
MAY 18	0.01	-	0.026	0.14	0.002	0.008	0.013	0.086
JUL 18	0.046	-	0.001	0.24	<0.001	0.003	0.095	0.017

MW30

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
OCT 08	0.003	-	0.009	-	0.002	0.009	0.008	0.05
DEC 09	0.004	<0.001	0.002	<0.05	<0.001	0.003	0.004	0.038
MAR 10	0.004	-	0.001	0.11	<0.001	0.003	0.018	0.005
JAN 11	0.003	<0.001	0.007	<0.05	<0.001	0.001	0.005	0.073
FEB 13	0.013	-	0.006	0.52	<0.001	0.01	0.01	0.032
JAN 14	0.003	-	<0.001	<0.05	<0.001	<0.005	0.02	0.005
AUG 17	0.002	<0.001	<0.001	<0.05	<0.001	0.001	0.015	0.007
OCT 17	0.003	-	<0.001	0.51	<0.001	0.002	0.002	0.008
JAN 18	0.004	-	0.001	0.09	<0.001	0.002	0.002	0.013

MW29

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
OCT 08	<0.02	-	0.021	-	0.001	0.016	0.004	0.109
JAN 11	0.007	<0.001	0.006	<0.05	<0.001	0.007	0.004	0.049
AUG 17	0.007	<0.001	0.003	<0.05	<0.001	0.004	0.015	0.022
JAN 18	0.012	-	0.019	0.10	0.008	0.003	0.021	0.235

MW40

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
MAR 10	0.239	-	0.002	9.52	<0.001	0.136	0.02	0.021
JAN 11	0.251	-	<0.001	13.1	<0.001	0.15	0.005	0.014
FEB 13	0.392	0.279	0.002	12.2	<0.001	0.116	0.003	0.077
FEB 14	0.2	-	<0.001	11	<0.001	0.12	0.009	0.014
AUG 17	0.126	0.471	<0.001	7.75	<0.001	0.075	0.011	0.009
OCT 17	0.174	-	<0.001	8.74	<0.001	0.08	0.009	<0.005
JAN 18	0.092	-	<0.001	4.95	<0.001	0.066	0.008	0.014

MW50A

DATE	As	Co	Cu	Fe	Hg	Pb	Mn	Ni	Zn
AUG 17	0.002	0.004	0.001	<0.05	<0.0001	<0.001	0.094	0.013	0.008
OCT 17	<0.001	0.016	0.003	0.18	<0.0001	<0.001	0.160	0.106	0.035
JAN 18	<0.001	-	0.003	<0.05	<0.0001	<0.001	0.067	0.066	0.044
MAY 18	<0.001	-	0.045	<0.05	<0.0001	0.003	0.04	0.09	0.098
JUL 18	0.002	-	0.002	0.16	0.0006	<0.001	0.034	0.175	0.028

MW16/1-3

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
JUL 08	<0.02	-	<0.005	-	0.007	0.041	0.003	0.215
AUG 08	<0.01	-	0.004	0.06	0.006	-	0.003	0.107
DEC 09	0.006	0.005	0.002	<0.05	0.015	0.038	0.002	0.11
MAR 10	0.004	-	0.002	<0.05	0.005	0.037	0.002	0.088
JAN 11	0.004	0.005	0.003	<0.05	0.008	0.051	0.015	0.159

MW33R

DATE	As	Co	Cu	Fe	Pb	Mn	Ni	Zn
MAR 10	0.006	-	0.001	<0.05	<0.001	0.1	0.011	0.011
JAN 11	0.005	0.005	0.012	<0.05	0.002	0.076	0.012	0.046
FEB 13	0.006	-	0.001	<0.05	0.001	0.072	0.006	0.022
AUG 17	0.005	0.004	0.002	<0.05	<0.001	0.068	0.021	0.013
OCT 17	0.004	0.003	0.001	<0.05	<0.001	0.054	0.035	0.016
JAN 18	0.004	-	0.004	<0.05	<0.001	0.06	0.016	0.046
FEB 18	0.004	-	0.03	<0.05	0.01	0.055	0.046	0.101
JUL 18	0.005	-	<0.001	0.06	0.001	0.052	0.014	0.009

As ARSENIC (mg/L)
Co COBALT (mg/L)
Cu COPPER (mg/L)
Fe IRON (mg/L)
Hg MERCURY (mg/L)
Pb LEAD (mg/L)
Mn MANGANESE (mg/L)
Ni NICKEL (mg/L)
Zn ZINC (mg/L)

Greater than Adopted Potable Water Supply
Greater than Adopted Primary Contact Recreation
Greater than Adopted Stock Watering
Greater than Adopted Agriculture, Parks and Gardens
Greater than Adopted Maintenance of Ecosystems

LEGEND

- SITE BOUNDARY
- MWxxx GROUNDWATER MONITORING WELL
- MWxxx GROUNDWATER MONITORING WELL - DECOMMISSIONED
- FORMER TRIPLE INTERCEPTOR TRAP

SERVICES LEGEND

- LV ELECTRIC LOW VOLTAGE
- HV ELECTRIC HIGH VOLTAGE
- OF OPTIC FIBRE
- FW FIRE WATER
- G GAS
- S SEWER
- SW STORMWATER
- W WATER
- ? UNKNOWN

0 5.5 11 16.5
SCALE 1:550 (A4) METRES

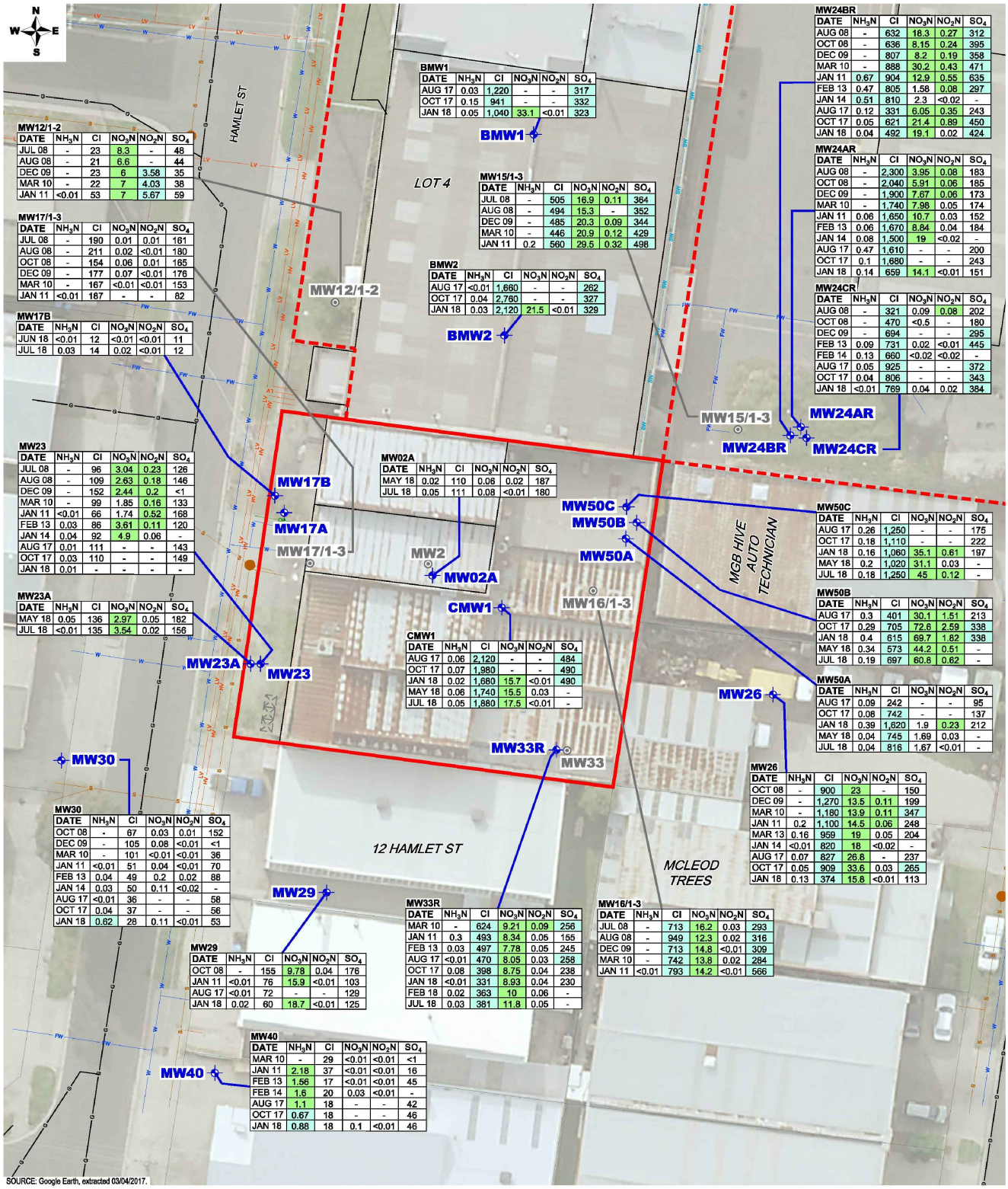
MAPLE ENGINEERING

Drawing Number: MA114
Revision: A
Date: 18/02/2020
Author: LZ
Checked by: MB
Data Source: ARC Environmental, 1707054, 28/02/19

Chandos Bay Pty Ltd

Lot 3, 14 Hamlet Street, Cheltenham, VIC

Figure 11 - Groundwater Results - Metals (2017-2018)



MW12/1-2

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
JUL 08	-	23	8.3	-	48
AUG 08	-	21	6.6	-	44
DEC 09	-	23	6	3.58	35
MAR 10	-	22	7	4.03	38
JAN 11	<0.01	53	7	5.67	59

MW17/1-3

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
JUL 08	-	190	0.01	0.01	161
AUG 08	-	211	0.02	<0.01	180
OCT 08	-	154	0.06	0.01	165
DEC 09	-	177	0.07	<0.01	176
MAR 10	-	167	<0.01	<0.01	153
JAN 11	<0.01	187	-	-	82

MW17B

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
JUN 18	<0.01	12	<0.01	<0.01	11
JUL 18	0.03	14	0.02	<0.01	12

MW23

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
JUL 08	-	96	3.04	0.23	126
AUG 08	-	109	2.63	0.18	146
DEC 09	-	152	2.44	0.2	<1
MAR 10	-	99	1.85	0.16	133
JAN 11	<0.01	66	1.74	0.52	168
FEB 13	0.03	86	3.61	0.11	120
JAN 14	0.04	92	4.9	0.06	-
AUG 17	0.01	111	-	-	143
OCT 17	0.03	110	-	-	149
JAN 18	0.01	-	-	-	-

MW23A

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
MAY 18	0.05	136	2.97	0.05	182
JUL 18	<0.01	135	3.54	0.02	156

MW30

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
OCT 08	-	67	0.03	0.01	152
DEC 09	-	105	0.08	<0.01	<1
MAR 10	-	101	<0.01	<0.01	36
JAN 11	<0.01	51	0.04	<0.01	70
FEB 13	0.04	49	0.2	0.02	88
JAN 14	0.03	50	0.11	<0.02	-
AUG 17	<0.01	36	-	-	58
OCT 17	0.04	37	-	-	56
JAN 18	0.62	28	0.11	<0.01	53

MW29

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
OCT 08	-	155	9.78	0.04	176
JAN 11	<0.01	76	15.9	<0.01	103
AUG 17	<0.01	72	-	-	129
JAN 18	0.02	60	18.7	<0.01	125

MW40

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
MAR 10	-	29	<0.01	<0.01	<1
JAN 11	2.18	37	<0.01	<0.01	16
FEB 13	1.56	17	<0.01	<0.01	45
FEB 14	1.6	20	0.03	<0.01	-
AUG 17	1.1	18	-	-	42
OCT 17	0.67	18	-	-	46
JAN 18	0.88	18	0.1	<0.01	46

BMW1

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
AUG 17	0.03	1,220	-	-	317
OCT 17	0.15	941	-	-	332
JAN 18	0.05	1,040	33.1	<0.01	323

MW15/1-3

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
JUL 08	-	505	16.9	0.11	364
AUG 08	-	494	15.3	-	352
DEC 09	-	485	20.3	0.09	344
MAR 10	-	446	20.9	0.12	429
JAN 11	0.2	560	29.5	0.32	498

BMW2

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
AUG 17	<0.01	1,660	-	-	262
OCT 17	0.04	2,760	-	-	327
JAN 18	0.03	2,120	21.5	<0.01	329

MW02A

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
MAY 18	0.02	110	0.08	0.02	187
JUL 18	0.05	111	0.08	<0.01	180

CMW1

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
AUG 17	0.06	2,120	-	-	484
OCT 17	0.07	1,980	-	-	490
JAN 18	0.02	1,680	15.7	<0.01	490
MAY 18	0.06	1,740	15.5	0.03	-
JUL 18	0.05	1,880	17.5	<0.01	-

MW33R

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
MAR 10	-	624	9.21	0.09	256
JAN 11	0.3	493	8.34	0.05	155
FEB 13	0.03	497	7.78	0.05	245
AUG 17	<0.01	470	8.05	0.03	258
OCT 17	0.08	398	8.75	0.04	238
JAN 18	<0.01	331	8.93	0.04	230
FEB 18	0.02	363	10	0.06	-
JUL 18	0.03	381	11.8	0.05	-

MW16/1-3

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
JUL 08	-	713	16.2	0.03	293
AUG 08	-	949	12.3	0.02	316
DEC 09	-	713	14.8	<0.01	309
MAR 10	-	742	13.8	0.02	284
JAN 11	<0.01	793	14.2	<0.01	566

MW24BR

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
AUG 08	-	632	18.3	0.27	312
OCT 08	-	636	8.15	0.24	395
DEC 09	-	807	8.2	0.19	358
MAR 10	-	888	30.2	0.43	471
JAN 11	0.67	904	12.9	0.55	635
FEB 13	0.47	805	1.58	0.08	297
JAN 14	0.51	810	2.3	<0.02	-
AUG 17	0.12	331	6.05	0.35	243
OCT 17	0.05	621	21.4	0.89	450
JAN 18	0.04	492	19.1	0.02	424

MW24AR

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
AUG 08	-	2,300	3.95	0.08	183
OCT 08	-	2,040	5.91	0.06	185
DEC 09	-	1,900	7.67	0.06	173
MAR 10	-	1,740	7.98	0.05	174
JAN 11	0.06	1,650	10.7	0.03	152
FEB 13	0.06	1,670	8.84	0.04	184
JAN 14	0.08	1,500	19	<0.02	-
AUG 17	0.47	1,610	-	-	200
OCT 17	0.1	1,680	-	-	243
JAN 18	0.14	659	14.1	<0.01	151

MW24CR

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
AUG 08	-	321	0.09	0.08	202
OCT 08	-	470	<0.5	-	180
DEC 09	-	694	-	-	295
FEB 13	0.09	731	0.02	<0.01	445
FEB 14	0.13	660	<0.02	<0.02	-
AUG 17	0.05	925	-	-	372
OCT 17	0.04	806	-	-	343
JAN 18	<0.01	769	0.04	0.02	384

MW50C

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
AUG 17	0.26	1,250	-	-	175
OCT 17	0.18	1,110	-	-	222
JAN 18	0.16	1,060	35.1	0.61	197
MAY 18	0.2	1,020	31.1	0.03	-
JUL 18	0.18	1,250	45	0.12	-

MW50B

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
AUG 17	0.3	401	30.1	1.51	213
OCT 17	0.29	705	72.6	2.59	338
JAN 18	0.4	615	69.7	1.82	338
MAY 18	0.34	573	44.2	0.51	-
JUL 18	0.19	697	60.8	0.62	-

MW50A

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
AUG 17	0.09	242	-	-	95
OCT 17	0.08	742	-	-	137
JAN 18	0.39	1,620	1.9	0.23	212
MAY 18	0.04	745	1.69	0.03	-
JUL 18	0.04	816	1.67	<0.01	-

MW26

DATE	NH_3N	Cl	NO_3N	NO_2N	SO_4
OCT 08	-	900	23	-	150
DEC 09	-	1,270	13.5	0.11	199
MAR 10	-	1,180	13.9	0.11	347
JAN 11	0.2	1,100	14.5	0.06	248
MAR 13	0.16	959	19	0.05	204
JAN 14	<0.01	820	18	<0.02	-
AUG 17	0.07	827	26.8	-	237
OCT 17	0.05	909	33.6	0.03	265
JAN 18	0.13	374	15.8	<0.01	113

NH_3N AMMONIA AS N (mg/L)
Cl CHLORIDE (mg/L)
NO_3N NITRATE (as N) (µg/L)
NO_2N NITRITE (as N) (µg/L)
SO_4 SULFATE AS SO_4 TURBIDIMETRIC (mg/L)

Greater than Adopted Potable Water Supply
Greater than Adopted Primary Contact Recreation
Greater than Adopted Stock Watering
Greater than Adopted Maintenance of Ecosystems

LEGEND

- SITE BOUNDARY
- MWxxx GROUNDWATER MONITORING WELL
- MWxxx GROUNDWATER MONITORING WELL - DECOMMISSIONED
- FORMER TRIPLE INTERCEPTOR TRAP

SERVICES LEGEND

- LV ELECTRIC LOW VOLTAGE
- HV ELECTRIC HIGH VOLTAGE
- OF OPTIC FIBRE
- FW FIRE WATER
- G GAS
- S SEWER
- SW STORMWATER
- W WATER
- ? UNKNOWN

Note: Concentrations of Nitrate, Nitrite and Sulphate for MW12 are incorrectly shown on this figure

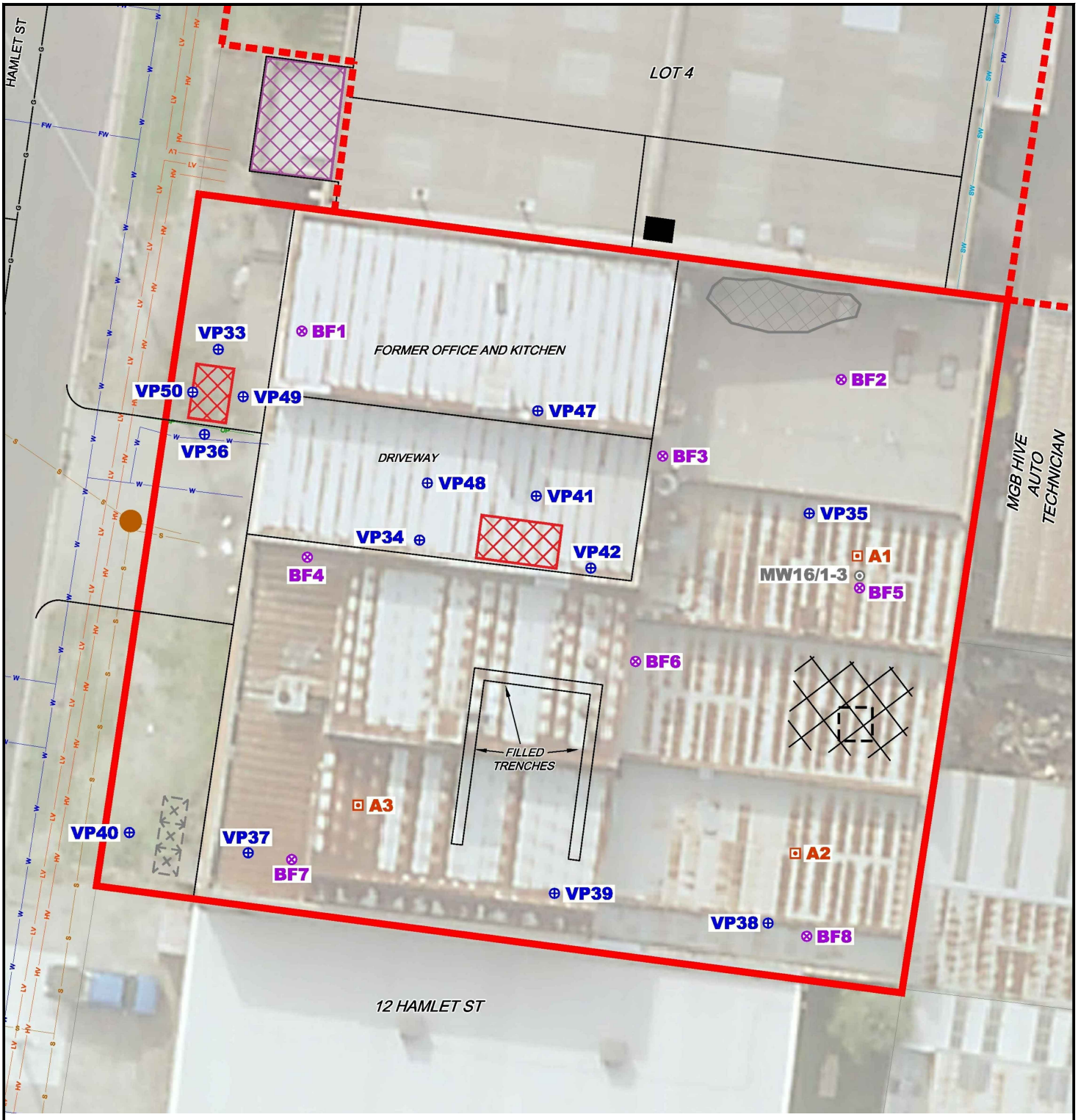
SCALE 1:550 (A4) METRES
0 5.5 11 16.5

Drawing Number: MA114
Revision: A
Date: 18/02/2020
Author: LZ
Checked by: MB
Data Source: ARC Environmental, 1707054, 09/10/2018

Chandos Bay Pty Ltd

Lot 3, 14 Hamlet Street, Cheltenham, VIC

Figure 12 - Nitrate, Nitrite, Ammonia, Chloride, Sulphate Concentrations - 2008 to 2018



LEGEND

- SITE BOUNDARY
- VPxx ⊕ HISTORIC SHALLOW SOIL VAPOUR SCREENING LOCATION 2001
- Ax ⊡ HISTORIC AMBIENT AIR SAMPLE - 2008
- BFx ⊗ PASSIVE VAPOUR SAMPLE LOCATION – 2012
- MW17/1-3 ⊙ GROUNDWATER MONITORING WELL - DECOMMISSIONED
- OIL STAINING
- CONCRETE CORROSION
- VENT
- APPROXIMATE LOCATION OF FORMER UST
- SUBSTATION
- FORMER TRIPLE INTERCEPTOR TRAP

SERVICES LEGEND

- LV ELECTRIC LOW VOLTAGE
- HV ELECTRIC HIGH VOLTAGE
- OP OPTIC FIBRE
- FW FIRE WATER
- G GAS
- S SEWER
- SW STORMWATER
- DRAIN
- CONCRETE LINED VOID
- W WATER
- ? UNKNOWN

0 2.5 5 7.5
SCALE 1:250 (A4) METRES

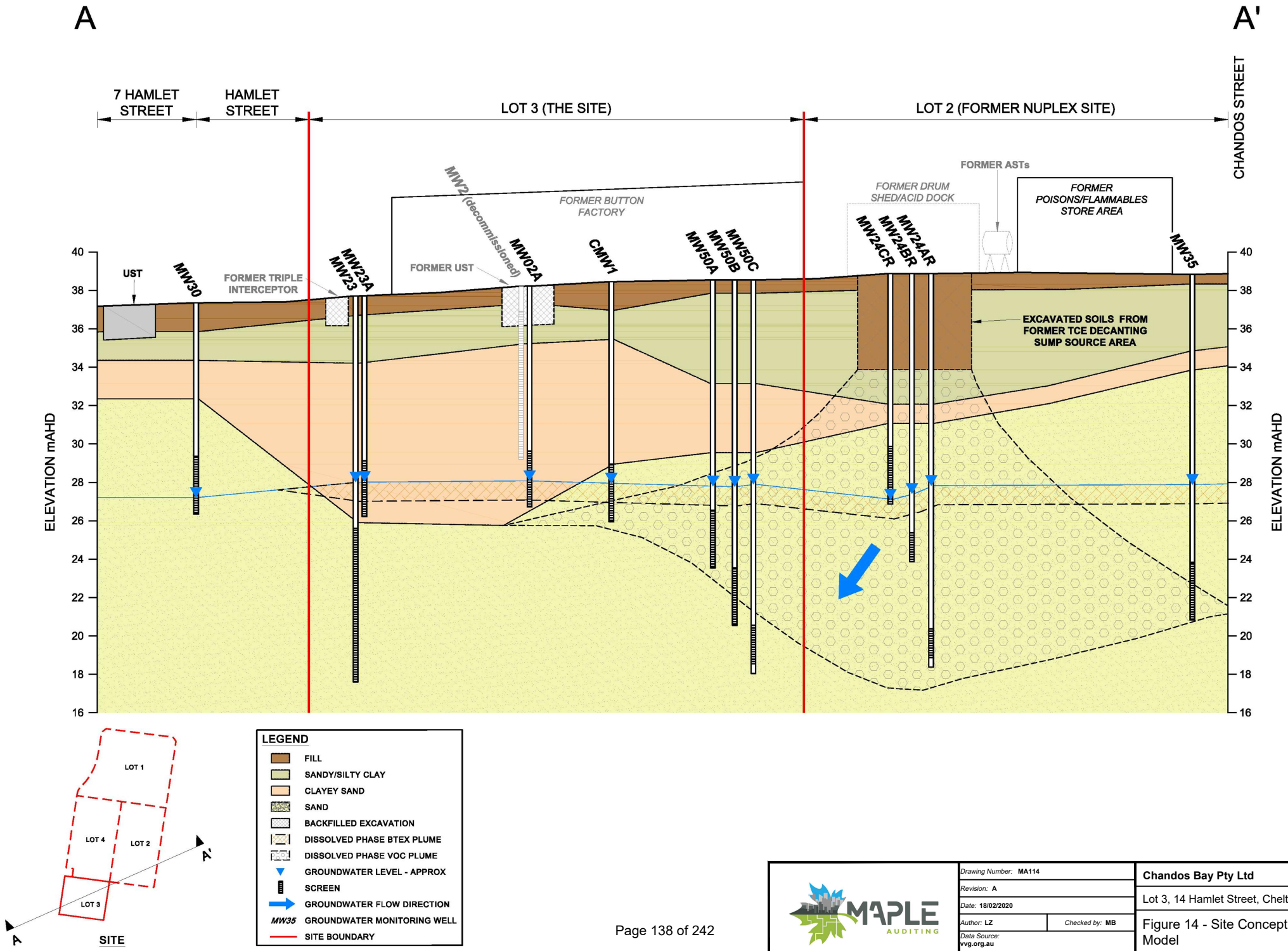
MAPLE ENVIRONMENTAL

Drawing Number: MA114	
Revision: A	
Date: 18/02/2020	
Author: LZ	Checked by: MB
Data Source: ARC Environmental, 1707054, 09/10/18	

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Lot 3, 14 Hamlet Street, Cheltenham, VIC

Figure 13 - Soil Vapour Investigation Locations



MAPLE AUDITING

Drawing Number: MA114	Chandos Bay Pty Ltd
Revision: A	Lot 3, 14 Hamlet Street, Cheltenham, VIC
Date: 18/02/2020	Figure 14 - Site Conceptual Model
Author: LZ / Checked by: MB	
Data Source: vvg.org.au	



0 10 20 30
SCALE 1:1000 (A4) METRES

MAPLE BUILDING

Drawing Number: MA114
Revision: A
Date: 18/02/2020
Author: LZ
Checked by: MB
Data Source: land.vic.gov.au

Chandos Bay Pty Ltd

Lot 3, 14 Hamlet Street, Cheltenham, VIC

Figure 15 - Groundwater Quality Restricted Use Zone (GQRUZ)

Tables

Environmental Audit Report

Lot 3, 14 Hamlet Street, Cheltenham, Victoria

Table A Summary of Potential Contaminants of Concern and Analytical Schedule for Soil and Groundwater

Potential Sources of Contamination	Potential contaminants of concern	On-site Location	Included in analytical schedule for soil? (Y/N, material)	Included in analytical schedule for groundwater? (Y/N)
On-Site				
Imported fill	Heavy metals	Potential for distribution throughout the site.	Y; 15 fill, 18 natural	Yes
	Polycyclic aromatic hydrocarbons (PAH)		Y; 12 fill, 6 natural	
Chemical storage (range of chemicals most recently known-hazardous substances) and sheet metal manufacturing	Heavy metals	Potential for distribution throughout the site.	Y; 15 fill, 18 natural	Yes
	Acids/alkalis		Y; 11 fill, 16 natural samples analysed for pH.	Yes; groundwater samples analysed for pH.
	Silanes		N. The Auditor considers that sufficient analysis of other contaminants associated with this potential source of contamination has been undertaken.	
	Sulphur		N. However, 4 fill, 3 natural samples analysed for sulphate.	No, however groundwater samples analysed for sulphate.
	Solvents		Y; 3 fill, 9 natural. Furthermore, 16 fill, 27 natural samples analysed for chlorinated hydrocarbons.	Yes
	Chloromethane		Y; 8 fill, 22 natural	Yes
	Dichloromethane		Y; 14 fill, 25 natural	Yes
	Phthalate esters		Y; 4 fill, 3 natural	Yes
	Amines		Y; 4 fill, 3 natural	Yes
	Polymers and resins		The Auditor considers that sufficient analysis of other contaminants this potential source of contamination which are associated with various polymers and resins has been undertaken.	
	PAHs		Y; 12 fill, 6 natural	Yes
	Polychlorinated biphenyls (PCBs)		Y; 6 fill, 3 natural	Yes
	Phenolic compounds		Y; 6 fill, 4 natural	Yes

Potential Sources of Contamination	Potential contaminants of concern	On-site Location	Included in analytical schedule for soil? (Y/N, material)	Included in analytical schedule for groundwater? (Y/N)
	Chlorinated hydrocarbons		Y; 16 fill, 27 natural	Yes
	Cyanides		Y; 5 fill, 3 natural	Yes
	Sodium salts		N. However sodium and chloride analysed in groundwater.	Groundwater samples analysed for sodium and chloride.
	Mineral acids		N. However, 11 fill, 16 natural samples analysed for pH.	Groundwater samples analysed for pH.
Former underground storage tank	Lead	Centre of the site and north western portion of the site.	Y; 25 fill, 19 natural	Yes
	Total recoverable hydrocarbons (TRH)		Y; 11 fill, 14 natural	Yes
	Benzene, toluene, ethylbenzene, xylenes, naphthalene (BTEXN)		Y; 18 fill, 29 natural	Yes
	Phenols		Y; 6 fill, 4 natural	Yes
Triple Interceptor trap	Lead	South western corner of the site.	Y; 25 fill, 19 natural	Yes
	TRH		Y; 11 fill, 14 natural	Yes
	BTEXN		Y; 18 fill, 29 natural	Yes
	Grease oil		Y; 1 natural.	No, however groundwater analysed for petroleum hydrocarbons.
	Phenols		Y; 6 fill, 4 natural	Yes
	Methanol		Y; 1 natural.	Yes
	Ammonia		Y; 1 natural.	Yes
	Acetone		Y; 5 natural	Yes
	Acids/alkalis		Y; 11 fill, 16 natural samples analysed for pH.	Yes, groundwater samples analysed for pH.

Potential Sources of Contamination	Potential contaminants of concern	On-site Location	Included in analytical schedule for soil? (Y/N, material)	Included in analytical schedule for groundwater? (Y/N)
	Chlorinated solvents		Y; 16 fill, 27 natural	Yes
Off-Site				
Former Nuplex chemical manufacturing facility located immediately north and north-east of the site, including underground bulk fuel and chemical storage	Heavy metals	Potential for distribution throughout regional groundwater.	Y; 15 fill, 18 natural	Yes
	Acids/alkalis		Y; 11 fill, 16 natural samples analysed for pH.	Yes; groundwater samples analysed for pH.
	Silanes		N. The Auditor considers that sufficient analysis of other contaminants associated with this potential source of contamination has been undertaken.	
	Sulphur		N. However, 4 fill, 3 natural samples analysed for sulphate.	No, however groundwater samples analysed for sulphate.
	Solvents		Y; 3 fill, 9 natural. Furthermore, 16 fill, 27 natural samples analysed for chlorinated hydrocarbons.	Yes
	Chloromethane		Y; 8 fill, 22 natural	Yes
	Dichloromethane		Y; 14 fill, 25 natural	Yes
	Phthalate esters		Y; 4 fill, 3 natural	Yes
	Amines		Y; 4 fill, 3 natural	Yes
	Polymers and resins		The Auditor considers that sufficient analysis of other contaminants this potential source of contamination which are associated with various polymers and resins has been undertaken.	
	PAHs		Y; 12 fill, 6 natural	Yes
	PCBs		Y; 6 fill, 3 natural	Yes
	Phenolic compounds		Y; 6 fill, 4 natural	Yes
	Chlorinated hydrocarbons		Y; 16 fill, 27 natural	Yes
	Cyanides		Y; 5 fill, 3 natural	Yes

Potential Sources of Contamination	Potential contaminants of concern	On-site Location	Included in analytical schedule for soil? (Y/N, material)	Included in analytical schedule for groundwater? (Y/N)
	Sodium salts		N. However sodium and chloride analysed in groundwater.	Groundwater samples analysed for sodium and chloride.
	TRH		Y; 11 fill, 14 natural	Yes
	BTEXN		Y; 18 fill, 29 natural	Yes
Electrical Substation located immediately north of the site	TRH	Potential for distribution throughout regional groundwater.	Y; 11 fill, 14 natural	Yes
	BTEXN		Y; 18 fill, 29 natural	Yes
	Phenols		Y; 6 fill, 4 natural	Yes
	Metals		Y; 15 fill, 18 natural	Yes
	PCBs		Y; 6 fill, 3 natural	Yes
Underground bulk fuel storage and use at 7 & 10 Hamlet Street, located approximately 20m to the south and south-west of the site	Lead	Potential for distribution throughout regional groundwater.	Y; 25 fill, 19 natural	Yes
	TRH		Y; 11 fill, 14 natural	Yes
	BTEXN		Y; 18 fill, 29 natural	Yes
	Phenols		Y; 6 fill, 4 natural	Yes
Oil storage and use at 15 Chandos Street, located immediately east of the site	Lead	Potential for distribution throughout regional groundwater.	Y; 25 fill, 19 natural	Yes
	TRH		Y; 11 fill, 14 natural	Yes
	BTEXN		Y; 18 fill, 29 natural	Yes
	Phenols		Y; 6 fill, 4 natural	Yes
Laminex manufacturing facility (adhesive resins, dyes and inks) located at 332 Bay Road,	Polyvinyl acetate	Potential for distribution throughout regional groundwater.	Y; 1 fill, 7 natural	Yes
	Phenols		Y; 6 fill, 4 natural	Yes

Potential Sources of Contamination	Potential contaminants of concern	On-site Location	Included in analytical schedule for soil? (Y/N, material)	Included in analytical schedule for groundwater? (Y/N)
approximately 50 m east, northeast and southeast of the site.	Formaldehyde		Y; 1 fill, 1 natural	Yes
	Phthalate esters		Y; 4 fill, 3 natural	Yes
	PCBs		Y; 6 fill, 3 natural	Yes
	Solvents		Y; 3 fill, 9 natural. Furthermore, 16 fill, 27 natural samples analysed for chlorinated hydrocarbons.	Yes
	Metals		Y; 15 fill, 18 natural	Yes
	Cresols		Y; 4 fill, 6 natural	Yes
	Chlorinated hydrocarbons		Y; 16 fill, 27 natural	Yes
Former nursery on the north side of Bay Road, approximately 150 m north of the site.	Organochlorine pesticides	Potential for distribution throughout regional groundwater.	Y; 6 fill, 3 natural	Yes
	Organophosphate pesticides		Y; 6 fill, 3 natural	Yes
	Herbicides		Y; 6 fill, 3 natural	Yes
	Calcium salts		N. However calcium, sodium and chloride analysed in groundwater.	Groundwater samples analysed for calcium, sodium and chloride.
	Nitrates		N. However, nitrate analysed in groundwater.	Yes
	Ammonium sulphate		1 natural sampled analysed for ammonia. Ammonia and sulphate analysed in groundwater.	Groundwater samples analysed for ammonia and sulphate.
	Potassium, magnesium		Y; 1 natural	Yes
	Molybdenum		N. However other metals associated with this potential source of contamination were analysed.	
	Copper, boron, cadmium		Y; 15 fill, 18 natural	Yes

Table B1 Adopted Soil Assessment Criteria (mg/kg)

Analyte	Residential A (low density)[1]		Residential B (high density)[2]		Recreational/ Open space C[3]		Commercial/Industrial D[4]		Intrusive maint. Worker[5]	Mgt. Limits[6]
	EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs	Human Health – HILs/HSLs	
pH	6-8[15]	6-8[15]	6-8[15]	6-8[15]	6-8[15]	6-8[15]	6-8[15]	6-8[15]	NE	NA
Aluminium	NE	77,000[10]	NE	77,000[10]	NE	77,000[10]	NE	1,100,000[11]	1,100,000[11]	NA
Antimony	20[12]	31[10]	20[12]	31[10]	20[12]	31[10]	40[12]	470[11]	470[11]	NA
Arsenic	100	100	100	500	100	300	160	3,000	3,000	NA
Barium	500[12]	15,000[10]	500[12]	15,000[10]	500[12]	15,000[10]	2,000[12]	220,000[11]	220,000[11]	NA
Beryllium	4[14]	60	4[14]	90	4[14]	90	4[14]	500	500	NA
Boron	NE	4,500	NE	40,000	NE	20,000	NE	300,000	300,000	NA
Cadmium	10[12]	20	10[12]	150	10[12]	90	22[12]	900	900	NA
Chromium VI	0.4[12]	100	0.4[12]	500	0.4[12]	300	1.4[12]	3,600	3,600	NA
Chromium III	370[16]	NE	370[16]	NE	370[16]	NE	610[16]	NE	NE	NA
Cobalt	50[12]	100	50[12]	600	50[12]	300	300[12]	4,000	4,000	NA
Copper	75[16]	6,000	75[16]	30,000	75[16]	17,000	110[16]	240,000	240,000	NA
Iron	NE	55,000[10]	NE	55,000[10]	NE	55,000[10]	NE	820,000[11]	820,000[11]	NA
Lead	1,100	300	1,100	1,200	1,100	600	1,800	1,500	1,500	NA
Manganese	220[17]	3,800	220[17]	14,000	220[17]	19,000	220[17]	60,000	60,000	NA

Analyte	Residential A (low density)[1]		Residential B (high density)[2]		Recreational/ Open space C[3]		Commercial/Industrial D[4]		Intrusive maint. Worker[5]	Mgt. Limits[6]
	EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs	Human Health – HILs/HSLs	
Molybdenum	10[12]	390[10]	10[12]	390[10]	10[12]	390[10]	40[12]	5,800[11]	5,800[11]	NA
Mercury (inorganic)	6.6[12]	40	6.6[12]	120	6.6[12]	80	24[12]	730	730	NA
Nickel	270[16]	400	270[16]	1,200	270[16]	1,200	450[16]	6,000	6,000	NA
Selenium	10[18]	200	10[18]	1,400	10[18]	700	10[18]	10,000	10,000	NA
Silver	20[12]	390[10]	20[12]	390[10]	20[12]	390[10]	40[12]	5,800[11]	5,800[11]	N/A
Tin	50[12]	47,000[10]	50[12]	47,000[10]	50[12]	47,000[10]	300[12]	700,000[11]	700,000[11]	N/A
Vanadium	130[12]	390[10]	130[12]	390[10]	130[12]	390[10]	130[12]	5,800[11]	5,800[11]	NA
Zinc	690[16]	7,400	690[16]	60,000	690[16]	30,000	1,100[16]	400,000	400,000	NA
Cyanide (free)	0.9[12]	250	0.9[12]	300	0.9[12]	240	8[12]	1,500	1,500	NA
Sulphate	2,000[14]	NE	2,000[14]	NE	2,000[14]	NE	NE	NE	NE	NA
Sulfur as S	600[15]	NE	600[15]	NE	600[15]	NE	600[15]	NE	NE	NE
Phosphate (reactive phosphorous)	NE	3,800,000[10]	NE	3,800,000[10]	NE	3,800,000[10]		57,000,000[11]	57,000,000[11]	NE
Nitrate	NE	130,000[10]	NE	130,000[10]	NE	130,000[10]	NE	1,900,000[11]	1,900,000[11]	NA
Fluoride	200[12]	3,100[10]	200[12]	3,100[10]	200[12]	3,100[10]	NE	47,000[11]	47,000[11]	NA
Benzene	50	0.5/100	50	0.5/140	50	NL/120	75	3/430	77/1,100	NE

Analyte	Residential A (low density)[1]		Residential B (high density)[2]		Recreational/ Open space C[3]		Commercial/Industrial D[4]		Intrusive maint. Worker[5]	Mgt. Limits[6]
	EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs	Human Health – HILs/HSLs	
Toluene	85	160/14,000	85	160/21,000	85	NL/18,000	135	NL/99,000	NL/120,000	NE
Ethylbenzene	70	55/4,500	70	55/5,900	70	NL/5,300	165	NL/27,000	NL/85,000	NE
Total Xylenes	105	40/12,000	105	40/17,000	105	NL/15,000	180	230/81,000	NL/130,000	NE
Styrene	8.6[14]	6,000[14]	8.6[14]	6,000[14]	8.6[14]	6,000[14]	8.6[14]	6,000[11]	NE	NE
1,2,4-Trimethylbenzene	NE	300[14]	NE	300[14]	NE	300[14]	NE	1,800[11]	NE	NE
TRH C_6-C_{10} minus BTEX (F1)[6]	180	45/4,400	180	45/5,600	180	NL/5,100	215	260/26,000	NL/82,000	700
TRH >C_{10}-C_{16} minus naphthalene (F2)[6,8]	120	110/3,300	120	110/4,200	120	NL/3,800	170	NL/20,000	NL/62,000	1,000
TRH >C_{16}-C_{34} (F3)	300	-/4,500	300	-/5,800	300	-/5,300	1,700	-/27,000	-/85,000	3,500
TRH>C_{34} (F4)	2,800	-/6,300	2,800	-/8,100	2,800	-/7,400	3,300	-/38,000	-/120,000	10,000
Oil and Grease	1,000[13]	1,000[13]	1,000[13]	1,000[13]	1,000[13]	1,000[13]	1,000[13]	1,000[13]	1,000[13]	N/A
Acetophenone	300[19]	7,800[10]	300[19]	7,800[10]	300[19]	7,800[10]	300[19]	120,000[11]	120,000[11]	N/A
Bis(2-ethylhexyl) phthalate	0.925[19]	39[10]	0.925[19]	39[10]	0.925[19]	39[10]	0.925[19]	160[11]	160[11]	N/A

Analyte	Residential A (low density)[1]		Residential B (high density)[2]		Recreational/ Open space C[3]		Commercial/Industrial D[4]		Intrusive maint. Worker[5]	Mgt. Limits[6]
	EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs	Human Health – HILs/HSLs	
Di-n-butyl phthalate	0.15[19]	6,300[10]	0.15[19]	6,300[10]	0.15[19]	6,300[10]	0.15[19]	82,000[11]	82,000[11]	N/A
Naphthalene	170	3/1,400	170	3/2,200	170	NL/1,900	370	NL/11,000	NL/29,000	NE
Benzo(a)pyrene[9]	0.7	3	0.7	4	0.7	3	1.4	40	40	N/A
Total PAH	40[14]	300	40[14]	400	40[14]	300	NE	4,000	4,000	N/A
Phenol	0.05[14]	3,000	0.05[14]	45,000	0.05[14]	40,000	NE	240,000	240,000	N/A
Pentachloro-phenol	7.6[15]	100	7.6[15]	130	7.6[15]	120	7.6[15]	660	660	N/A
Carbon Tetrachloride	5[12]	0.65[10]	5[12]	0.65[10]	5[12]	0.65[10]	50[12]	2.9[11]	2.9[11]	N/A
Methanol	7.7[12]	120,000[10]	7.7[12]	120,000[10]	7.7[12]	120,000[10]	7.7[12]	1,200,000[11]	1,200,000[11]	N/A
Cresols	NE	400	NE	4,700	NE	4,000	NE	25,000	25,000	N/A
PCBs	1.3[15]	1	33[15]	1	1.3[15]	1	33[15]	7	7	N/A
Dibenzofuran	NE	73[10]	NE	73[10]	NE	73[10]	NE	1,000[11]	1,000[11]	N/A
DDT[7]	180	240	180	600	180	400	640	3,600	3,600	N/A

Notes:

1: NEPM Schedule B(1) (NEPC 2013) EIL/ESL for urban residential/public open space, HIL/HSLfor residential with garden/accessible soil (A)– Unless otherwise specified.

2: NEPM Schedule B(1) (NEPC 2013) EIL/ESL for urban residential/public open space, HIL/HSLfor residential with minimal opportunities for soil access (B)– Unless otherwise specified.

3: NEPM Schedule B(1) (NEPC 2013) EIL/ESL for recreational/open space, HIL/HSL C– Unless otherwise specified.

4: NEPM Schedule B(1) (NEPC 2013) EIL/ESL for commercial/industrial, HIL/HSLfor commercial/industrial (D)– Unless otherwise specified.

5: NEPM Schedule B(1) (NEPC 2013) and Friebel and Nadebaum (2011) HIL for commercial/industrial (D) and HSL for intrusive maintenance worker– Unless otherwise specified.
6: NEPM Schedule B(1) (NEPC 2013). Do not subtract BTEX or naphthalene prior to comparison of TRH C6-C10 or >C10-C16 results with management limits.
7: HIL for DDT+DDD+DDE
8: Do not subtract naphthalene prior to comparison of TRH >C10-C16 results with ESL.
9: HILs for BaP TEQ.
10: US EPA Regional Screening Levels May 2018 (Residential Use). For direct contact exposure pathways only.
11: US EPA Regional Screening Levels May 2018 (Industrial Use). For direct contact exposure pathways only.
12: CCME (2007) Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health
13: NSW EPA (1994) Guidelines for Assessing Service Station Sites. Threshold Concentrations for Sensitive Land Use (criteria for the protection of terrestrial organism adopted in the absence of NEPM EILs and criteria for the protection of human health adopted in the absence of NEPM HILs).
14: Dutch 2009 (Target value) adopted in the absence of NEPM EIL and ANZECC B levels.
15: ANZECC B levels.
16: Site-specific EIL derived in accordance with NEPC (2013) by ARC (2018), noting that the same EIL has been adopted for fill and natural material based on similar properties observed.
17: US EPA Eco-Tox SSL (June 2017).
18: EPA Victoria IWRG621 Clean Fill Criteria (June 2009).
19: US EPA Region 5 ESLs (August 2003).
HIL: Health Investigation Level
HSL: Health Screening Level. HSL for vapour intrusion quoted first followed by HSL for direct contact, "-" indicates analyte is not volatile, vapour intrusion HSL for 0m - <1m in sand adopted for HSL-A, HSL-B and HSL-D, HSL for 0m - <2m in sand adopted for HSL-intrusive maintenance worker .
EIL: Ecological Investigation Level
ESL: Ecological Screening Level, ESL for coarse grained soil adopted.
NE: Not Established.
N/A: Not applicable (not a petroleum hydrocarbon)
NL: Not Limiting. Denotes that a soil vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario.
All values in mg/kg unless otherwise specified.

Table B2 Adopted Groundwater Assessment Criteria (µg/L)

Analyte	Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[1]	Cultural and spiritual values[1]	Buildings and structures[6]	Human Health – Vapour Intrusion		
									On-site: HSL A/B[7]	On-site: Intrusive Maintenance Worker[8]	Off-site: HSL A/B[7]
pH	NE	6.5-8.5	6-8.5	6.5-8.5	6.5-8.5	NE	NE	>5.5	NE	NE	NE
Metals											
Aluminium	55^	200#	5,000	5,000	200#	55^	55^	NE	NE	NE	NE
Arsenic	13^[10] (AsV)	10	100	500	100	13^[10] (AsV)	13^[10] (AsV)	NE	NE	NE	NE
Barium	625[14]	2,000	NE	2,000[2]	20,000	625[14]	625[14]	NE	NE	NE	NE
Beryllium	3.6[12]	60	100	60[2]	600	0.13[10]	0.13[10]	NE	NE	NE	NE
Boron	370^	4,000	500	5,000	40,000	370^	370^	NE	NE	NE	NE
Cadmium	5.5	2	10	10	20	5.5	5.5	NE	NE	NE	NE
Total Chromium	27.4[10] (Cr III)	50[13]	100	1,000	500[13]	27.4[10] (Cr III)	27.4[10] (Cr III)	NE	NE	NE	NE
Chromium VI	4.4	50	NE	50[2]	500	4.4	4.4	NE	NE	NE	NE
Cobalt	1	6[9]	50	1,000	60[9]	1	1	NE	NE	NE	NE
Copper	1.3	2,000/1,000#	200	400	20,000/1,000#	1.3	1.3	NE	NE	NE	NE
Iron	NE	300#	200	Not toxic	300#	NE	NE	NE	NE	NE	NE
Lead	4.4	10	2,000	100	100	4.4	4.4	NE	NE	NE	NE
Manganese	1,900^	500/100#	200	NE	5,000/100#	1,900^	1,900^	NE	NE	NE	NE
Mercury	0.4	1	2	2	10	0.4	0.4	NE	NE	NE	NE
Molybdenum	300[14]	50	10	150	500	300[14]	300[14]	NE	NE	NE	NE

Analyte	Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[1]	Cultural and spiritual values[1]	Buildings and structures[6]	Human Health – Vapour Intrusion		
									On-site: HSL A/B[7]	On-site: Intrusive Maintenance Worker[8]	Off-site: HSL A/B[7]
Nickel	70	20	200	1,000	200	70	70	NE	NE	NE	NE
Selenium	11^[10]	10	20	20	100	11^[10]	11^[10]	NE	NE	NE	NE
Silver	1.4	100	NE	100[2]	1,000	1.4	1.4	NE	NE	NE	NE
Tin	180[12] (total Sn)	12,000[9]	NE	12,000[9]	120,000[9]	180[12] (total Sn)	180[12] (total Sn)	NE	NE	NE	NE
Vanadium	100	86[10]	100	100[18]	860[10]	100	100	NE	NE	NE	NE
Zinc	15	3,000	2,000	20,000	3,000[#]	15	15	NE	NE	NE	NE
Inorganics											
Cyanide	4[10]	80	NE	80[2]	800[2]	4[10]	4[10]	NE	NE	NE	NE
Ammonia (as N)	910	412	NE	412[2]	412	910	910	NE	NE	NE	NE
Nitrate (as N)	2,400[15]	11,286	NE	90,293	112,866	2,400[15]	2,400[15]	NE	NE	NE	NE
Nitrite (as N)	60[18]	912	3,040[18]	9,119	9,119	60[18]	60[18]	NE	NE	NE	NE
Total Nitrogen	600[23]	NE	NE	NE	NE	600[23]	600[23]	NE	NE	NE	NE
Fluoride	NE	1,500	1,000	2,000	15,000	NE	NE	NE	NE	NE	NE
Sulphate (as SO_4)	NE	500,000/ 250,000[#]	1,000,000	1,000,000	250,000[#]	NE	NE	1,000,000	NE	NE	NE
Chloride	NE	250,000[#]	25,000[20]	NE	250,000[#]	NE	NE	6,000,000	NE	NE	NE
Sodium	NE	180,000[#]	115,000[21]	NE	180,000[#]	NE	NE	NE	NE	NE	NE
PAHs											

Analyte	Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[1]	Cultural and spiritual values[1]	Buildings and structures[6]	Human Health – Vapour Intrusion		
									On-site: HSL A/B[7]	On-site: Intrusive Maintenance Worker[8]	Off-site: HSL A/B[7]
Anthracene	0.1[10]	1,800[9]	NE	1,800[9]	1,800[9]	0.1[10]	0.1[10]	NE	NE	NE	NE
Acenaphthene	5.8[10]	530[9]	NE	530[9]	530[9]	5.8[10]	5.8[10]	NE	NE	NE	NE
Benzo(a)pyrene	0.1[10]	0.01	NE	0.01[2]	0.01	0.1[10]	0.1[10]	NE	NE	NE	NE
Fluorene	3[10]	290[9]	NE	290[9]	290[9]	3[10]	3[10]	NE	NE	NE	NE
Fluoranthene	1[10]	800[9]	NE	800[9]	800[9]	1[10]	1[10]	NE	NE	NE	NE
Naphthalene	70	1.7[9]	NE	1.7[9]	1.7[9]	70	70	NE	NL	NL	NL
Phenanthrene	0.6[10]	NE	NE	NE	NE	0.6[10]	0.6[10]	NE	NE	NE	NE
MAHs											
Benzene	700	1	NE	1[2]	1	700	700	NE	800	NL	800
Toluene	180[10]	800/25[#]	NE	800/25[2#]	800/25[#]	180[10]	180[10]	NE	NL	NL	NL
Ethylbenzene	5[10]	300/3[#]	NE	300/3[2#]	300/3[#]	5[10]	5[10]	NE	NL	NL	NL
Xylene (m&p)	75[10] (m) / 200[10] (p)	190[9]	NE	190[9]	190[9]	75[10] (m) / 200[10] (p)	75[10] (m) / 200[10] (p)	NE	NE	NE	NE
Xylene (o)	350[10]	190[9]	NE	190[9]	190[9]	350[10]	350[10]	NE	NE	NE	NE
Xylene (sum)	NE	600/20[#]	NE	600/20[2#]	600/20[#]	NE	NE	NE	NL	NL	NL
Isopropylbenzene (cumene)	30[10]	450[9]	NE	450[9]	450[9]	30[10]	30[10]	NE	NE	NE	NE
Styrene	32[12]	30/4[#]	NE	30/4[2#]	30/4[#]	32[12]	32[12]	NE	NE	NE	NE

Analyte	Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[1]	Cultural and spiritual values[1]	Buildings and structures[6]	Human Health – Vapour Intrusion		
									On-site: HSL A/B[7]	On-site: Intrusive Maintenance Worker[8]	Off-site: HSL A/B[7]
1,2,3-Trimethylbenzene	NE	55[9]	NE	55[9]	55[9]	NE	NE	NE	NE	NE	NE
1,2,4-Trimethylbenzene	NE	56[9]	NE	56[9]	56[9]	NE	NE	NE	NE	NE	NE
1,3,5-Trimethylbenzene	NE	60[9]	NE	60[9]	60[9]	NE	NE	NE	NE	NE	NE
TPHs											
TRH C_6-C_{10}	NE	300[11]	NE	NE	300[11]	NE	NE	NE	1,000	NL	1,000
TRH >C_{10}-C_{40}	600[14]	600[14]	600[14]	600[14]	600[14]	600[14]	600[14]	NE	NE	NE	NE
Phenols											
2-methylphenol (o-cresol)	NE	930[9]	NE	930[9]	930[9]	NE	NE	NE	NE	NE	NE
3-&4-methylphenol (m-&p-cresol)	NE	930[9]	NE	930[9]	930[9]	NE	NE	NE	NE	NE	NE
2,4- dimethylphenol	2[10]	360[9]	NE	360[9]	360[9]	2[10]	2[10]	NE	NE	NE	NE
Phenol	400[10]	NE	NE	NE	NE	400[10]	400[10]	NE	NE	NE	NE
Pentachlorophenol	22[10]	10	NE	10[2]	10	22[10]	22[10]	NE	NE	NE	NE
2,4,6-Trichlorophenol	3[10]	41[9]	NE	41[9]	41[9]	3[10]	3[10]	NE	NE	NE	NE

Analyte	Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[1]	Cultural and spiritual values[1]	Buildings and structures[6]	Human Health – Vapour Intrusion		
									On-site: HSL A/B[7]	On-site: Intrusive Maintenance Worker[8]	Off-site: HSL A/B[7]
4-Chloro 3-Methylphenol	NE	1,400	NE	1,400[2]	1,400	NE	NE	NE	NE	NE	NE
Halogenated Aliphatics and Aromatics											
1,1-Dichloroethene	700[10]	30	NE	30[2]	30	700[10]	700[10]	NE	NE	NE	NE
Cis-1,2 Dichloroethene	NE	60	NE	60[2]	60	NE	NE	NE	NE	NE	NE
Trans-1,2 Dichloroethene	970 ('trans' only)[12]	60	NE	60[2]	60	970 ('trans' only)[12]	970 ('trans' only)[12]	NE	NE	NE	NE
1,1 Dichloroethane	250[10]	2.8[9]	NE	2.8[9]	2.8[9]	250[10]	250[10]	NE	NE	NE	NE
1,2–Dichloroethane	1,900[10]	3	NE	3[2]	3	1,900[10]	1,900[10]	NE	NE	NE	NE
Tetrachloroethene	70[10]	50	NE	50[2]	50	70[10]	70[10]	NE	NE	NE	NE
Trichloroethene	330[10]	30[18]/2.8[9]	NE	30[18]/2.8[10]	30[18]/2.8[10]	330[10]	330[10]	NE	NE	NE	NE
Vinyl Chloride	930[12]	0.3	NE	0.3[2]	0.3	930[12]	930[12]	NE	NE	NE	NE
1,1,2-trichloroethane	1,900[10]	0.41[9]	NE	0.41[9]	0.41[9]	1,900[10]	1,900[10]	NE	NE	NE	NE
n-Butylbenzene	NE	1,000[9]	NE	1,000[9]	1,000[10]	NE	NE	NE	NE	NE	NE
sec-Butylbenzene	NE	2,000[9]	NE	2,000[9]	2,000[10]	NE	NE	NE	NE	NE	NE
tert-Butylbenzene	NE	690[9]	NE	690[9]	690[10]	NE	NE	NE	NE	NE	NE
Chlorobenzene	55[10]	300/10[#]	NE	300/10[2#]	300/10[#]	55[10]	55[10]	NE	NE	NE	NE

Analyte	Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[1]	Cultural and spiritual values[1]	Buildings and structures[6]	Human Health – Vapour Intrusion		
									On-site: HSL A/B[7]	On-site: Intrusive Maintenance Worker[8]	Off-site: HSL A/B[7]
1,2 Dichlorobenzene	160[10]	1,500/1[#]	NE	1,500/1[2#]	1,500/1[#]	160[10]	160[10]	NE	NE	NE	NE
1,4 Dichlorobenzene	60[10]	40/0.3[#]	NE	40/0.3[2#]	40/0.3[#]	60[10]	60[10]	NE	NE	NE	NE
p-isopropyltoluene	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
n-propylbenzene	NE	660[9]	NE	660[9]	660[9]	NE	NE	NE	NE	NE	NE
2-methylnaphthalene	NE	36[9]	NE	36[9]	36[9]	NE	NE	NE	NE	NE	NE
2 nitrophenol	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Acetone	NE	14,000[9]	NE	14,000[9]	14,000[9]	NE	NE	NE	NE	NE	NE
Isophorone	NE	78[9]	NE	78[9]	78[9]	NE	NE	NE	NE	NE	NE
Chloroform	370[10]	250	NE	250[2]	250	370[10]	370[10]	NE	NE	NE	NE
Carbon Tetrachloride	240[12]	3	NE	5[18]	3	240[12]	240[12]	NE	NE	NE	NE
4-chlorotoluene	NE	250[9]	NE	250[9]	250[9]	NE	NE	NE	NE	NE	NE
Dichloromethane	98[18]	4	NE	4[2]	4	98[18]	98[18]	NE	NE	NE	NE
Bromochloromethane	NE	83[9]	NE	83[9]	83[9]	NE	NE	NE	NE	NE	NE
Bromodichloromethane	NE	1.3[9]	NE	1.3[9]	1.3[9]	NE	NE	NE	NE	NE	NE

Analyte	Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[1]	Cultural and spiritual values[1]	Buildings and structures[6]	Human Health – Vapour Intrusion		
									On-site: HSL A/B[7]	On-site: Intrusive Maintenance Worker[8]	Off-site: HSL A/B[7]
Carbon disulphide	20[10]	810	NE	810[2]	810	20[10]	20[10]	NE	NE	NE	NE
Methyl Bromide	16[12]	1	NE	1	1	16[12]	16[12]	NE	NE	NE	NE
Methyl ethyl ketone (MEK)	2,200[12]	5,600[9]	NE	5,600[9]	5,600[9]	2,200[12]	2,200[12]	NE	NE	NE	NE
Methyl tert-butyl ether (MTBE)	NE	140[9]/15[22]	NE	NE	140[9]/15[22]	NE	NE	NE	NE	NE	NE
Trihalomethanes	NE	250	NE	250[2]	250	NE	NE	NE	NE	NE	NE
Formaldehyde	NE	500	NE	500[2]	500	NE	NE	NE	NE	NE	NE

Notes:

1: ANZECC (2000 revised 2018) National Water Quality Management Strategy. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. 95% trigger values for marine water.

2: NHMRC/NRMMC (2011 updated August 2018) National Water Quality Management Strategy. Australian Drinking Water Guidelines (# denotes aesthetic criteria).

3: ANZECC (2000 revised 2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Water Quality for Irrigation and General Water Use – Long-term Trigger Values. Unless otherwise specified.

4: ANZECC (2000 revised 2018) National Water Quality Management Strategy. Australian Water Quality Guidelines for Fresh and Marine Waters "Livestock Drinking Water" – Unless otherwise specified.

5: NHMRC/NRMMC (2008) Guidelines for Managing Risks in Recreational Water (Health / Aesthetic: # denotes aesthetic criteria). Unless otherwise specified. Adjusted by a factor of 10 in accordance with advice from NHMRC (2008). Adjustment was only applied to non-volatile chemicals.

6: Australian Standard AS2159-2009 Piling Design and Installation.

7: NEPC (2013) Health Screening Levels – Groundwater HSL-A (Low Density Residential) for Sand 2 to <4m.

8: NEPC (2013) Health Screening Levels – Groundwater HSL-A (Intrusive Maintenance Worker) for Sand 2 to <4m, adopted for information purposes only.

9: US EPA (November 2018) Regional Screening Levels for Tap Water. Adjusted to be consistent with Australian cancer risk policy. Adjusted by a factor of 10 in accordance with advice from NHMRC (2008) (adjustment was only applied to non-volatile chemicals).

10: ANZECC (2000 revised 2018) National Water Quality Management Strategy. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Marine Low Reliability Trigger Levels.

11: WHO (2005a) Note the values are based on health effects via ingestion and do not include aesthetic effects.

12: US EPA (2003) Region 5 Ecological Screening Levels.
13: Guideline for chromium VI adopted.
14: Netherlands (2009) Circular on Target Values and Intervention Values for Soil Remediation. Ministry of Housing, Spatial Planning and the Environment, Netherlands Government (Groundwater Intervention Value).
15: NIWA (2013) Site-specific nitrate guidelines for Hawke's Bay, 95% protection.
16: NSW EPA (1994) Guidelines for Assessing Service Station Sites
17: ANZECC (1992) Australian Water Quality Guidelines for Fresh and Marine Waters – Raw Water criteria.
18: CCME (2007) Canadian Water Quality Guidelines for the Protection of Aquatic Life/Agriculture - Freshwater or Livestock criteria.
19: ANZECC (2000 revised 2018) Long term trigger value for total nitrogen.
20: ANZECC (2000 revised 2018) Adopted range for chloride concentration is based on foliar injury to sensitive crops as detailed in Section 4.2.5.2 and Table 4.2.6.
21: ANZECC (2000 revised 2018) Adopted concentration range for sodium is based on Table 4.2.8 for the prevention of foliar injury to crops.
22: WHO (2005b). Odour threshold for MTBE in water.
23: ANZECC (2000 revised 2018) Long term trigger value for total nitrogen
#: Denotes Aesthetic number. NHMRC/NRMMC (2011 updated 2018) and NHMRC/NRMMC (2008).
NE: Not Established.
NL: Not Limiting. Denotes that a groundwater vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario.

Table C Auditor Review of the Adequacy of QA/QC Procedures Adopted by ARC

Consultant	Reports Reviewed ARC Environmental	
Assessment Report Name/Reference:	Detailed Site Investigation, Lot 3 on Plan of Subdivision PS802507T, 14 Hamlet Street, Cheltenham, Victoria (March 2019)	
Matrices sampled	Soil	Groundwater
Field QC samples:		
- Number of primary samples analysed:	26	65
- Number of duplicate samples analysed:	4	8
- Duplicate sample RPDs within recommended range? If No, list outliers	Yes.	No. Outliers for bromochloromethane (1), carbon tetrachloride (1), and vinyl chloride (1).
- Number of split samples analysed:	3	8
- Split sample RPDs within recommended range? If No, list outliers	No. Outlier for lead (1).	No. Outliers for TRH C_6-C_{10} (1), TRH F1 (1), 1,1-DCA (1), vinyl chloride (1), chlorobenzene (1), and chloride (1).
- Number of rinsate blank samples analysed:	7	23
- Number of trip blank samples analysed:	6	13
- Number of field blank samples analysed:	0	0
- All rinsate, trip and field blanks <LOR. If No, list outliers	Yes	Yes
- No. QC samples analysed in accordance with AS4482.1?	Yes	Yes
Laboratory QA/QC procedures:		

Consultant	Reports Reviewed ARC Environmental	
Assessment Report Name/Reference:	Detailed Site Investigation, Lot 3 on Plan of Subdivision PS802507T, 14 Hamlet Street, Cheltenham, Victoria (March 2019)	
Matrices sampled	Soil	Groundwater
- NATA Accredited laboratories utilised?	Yes	Yes
- Samples analysed within recommended holding time? If No, list outliers	No. Analysis of sample MW17A_4.0 for MAHs, oxygenated compounds, sulfonated compounds, fumigants, halogenated aliphatic and aromatic compounds and trihalomethanes was completed 7 days outside of holding time. This was due to analysis of this sample (which had been originally placed on hold) being requested subsequent to receipt and review of initial results. Analysis of samples NHS_ARC_SB203_0.5 and 1.0 for MAHs, naphthalene, VHCs and TRH was completed one day outside of holding time.	No. Analysis of glycols in MW34B, MW32 and MW35 collected on 27 October 2017 was completed 1 day outside of holding time. Analysis of ferrous iron in MW53 collected on 16 January 2018 was completed 2 days outside of holding time. Analysis of aldehydes in MW28, MW45A and MW45B collected on 17 January 2018 was completed 1 day outside of holding time.
- Laboratory internal QC samples analysed:	Blanks, laboratory control samples, duplicates, sample surrogates and spikes	Blanks, laboratory control samples, duplicates, sample surrogates and spikes.
- Laboratory internal QC samples within recommended ranges? If No, list outliers	No. - Laboratory control spike recovery outliers for TRH C_6-C_{10} (EM1714937), methapyrilene (EM1715986), hexachlorobenzene (EM1715986); - VOC surrogate recovery outliers (EM1714937); - Frequency of quality control samples (EM1715986, EM1807590 Amendment 2, EM1808305 and EM1809218); and - Matrix spike recovery outlier for lead (EM1803080).	No. - Laboratory control spike recovery outliers for dichlorodifluoromethane (EM1711267), pentachlorophenol (EM1714676), methapyrilene (EM1714676), 3-methylcholanthrene (EM1711357, EM1711441 Amendment 4 and EM1711516 Amendment 3), dimethylaminoazobenzene (EM1714855), tert-butylbenzene (EM1801513), iodomethane (EM1809115); - Matrix spike recovery outliers for sulphate (EM1711267, EM1711357, EM1711441 Amendment 4, EM1711516 Amendment 3 EM1714676, EM1714855, EM1810788),

Consultant	Reports Reviewed ARC Environmental	
Assessment Report Name/Reference:	Detailed Site Investigation, Lot 3 on Plan of Subdivision PS802507T, 14 Hamlet Street, Cheltenham, Victoria (March 2019)	
Matrices sampled	Soil	Groundwater
		manganese (EM1711267 and EM1714676), nitrite and nitrate (EM1711267, EM1714855, EM1801513, EM1808074, EM1810788), methane (EM1711267, EM1711516 Amendment 3, EM1714676, EM1714855, EM1808074), toluene (EM1711267, EM1714855), TRH C6-C10 (EM1711267, EM1714855), chloride (EM1711357, EM1711441 Amendment 4, EM1711516 Amendment 3, EM1714855, EM1801648 Amendment 4, EM1810788), nitrite (EM1711441 Amendment 4), ferrous iron (EM1714676), trichloroethene (EM1714855, EM1801648 Amendment 4, EM1803519), chlorobenzene EM1714855), formaldehyde (EM1714855), fluoride (EM1801513), MERCURY (EM1810788); - Frequency of quality control samples (EM1711267, EM1711357, EM1711441 Amendment 4, EM1711516 Amendment 3, EM1714676, EM1714855, EM1801513, EM1801648 Amendment 4, EM1808074, EM1809115, EM1810788, EM1815860); - Acid extractable surrogate recovery outliers (EM1711441 Amendment 4), base/neutral extractable surrogate recovery outliers (EM1711441 Amendment 4), VOC surrogate recovery outliers (EM1801513); - Laboratory duplicate outliers for alkalinity (EM1714855), ferrous iron (EM1801648 Amendment 4), 1,1,2-trichloroethane (EM1801648 Amendment 4).
Overall conclusion/s re QA/QC assessment	A sufficient number of QA/QC samples including duplicate, split duplicate, rinsate and trip blank samples were collected and analysed.	A sufficient number of QA/QC samples including duplicate, split duplicate, rinsate and trip blank samples were collected and analysed.

Consultant	Reports Reviewed ARC Environmental	
Assessment Report Name/Reference:	Detailed Site Investigation, Lot 3 on Plan of Subdivision PS802507T, 14 Hamlet Street, Cheltenham, Victoria (March 2019)	
Matrices sampled	Soil	Groundwater
	One RPD outlier was reported for lead in a split duplicate sample. Where elevated RPDs were reported, ARC adopted the highest concentrations for interpretive use as a conservative approach which the Auditor considers appropriate for the Audit. All rinsate and trip blank samples reported all analytical results below the laboratory LOR. Selected sample analysis was completed outside of holding time. Analysis of sample MW17A_4.0 for MAHs, oxygenated compounds, sulfonated compounds, fumigants, halogenated aliphatic and aromatic compounds and trihalomethanes was completed 7 days outside of holding time. This was due to analysis of this sample (which had been originally placed on hold) being requested subsequent to receipt and review of initial results. Analysis of samples NHS_ARC_SB203_0.5 and 1.0 for MAHs, naphthalene, VHCs and TRH was completed one day outside of holding time. The reported results have been reviewed by the Auditor, and it is not considered that the breach in holding time has affected the overall acceptability of the data set for interpretive use. Several laboratory internal QC outliers were reported. Spike recovery outliers were attributed to sample matrix interference. Several laboratory duplicate outliers were also reported. Upon review of the laboratory internal QC reports, and consideration of all analytical results reported over the course of soil investigations at the site, the Auditor does not	Several RPD outliers were reported for duplicate and split duplicate samples. Where elevated RPDs were reported, ARC adopted the highest concentrations for interpretive use as a conservative approach which the Auditor considers appropriate for the Audit. All rinsate and trip blank samples reported all analytical results below the laboratory LOR. Selected sample analysis was completed outside of holding time. Analysis of glycols in MW34B, MW32 and MW35 collected on 27 October 2017 was completed 1 day outside of holding time. Analysis of ferrous iron in MW53 collected on 16 January 2018 was completed 2 days outside of holding time. Analysis of aldehydes in MW28, MW45A and MW45B collected on 17 January 2018 was completed 1 day outside of holding time. The reported results have been reviewed by the Auditor, and it is not considered that the breach in holding time has affected the overall acceptability of the data set for interpretive use. Several laboratory internal QC outliers were reported. Spike recovery outliers were attributed to sample matrix interference. Several laboratory duplicate outliers were also reported. Upon review of the laboratory internal QC reports, and consideration of all analytical results reported over the course of groundwater investigations at the site, the Auditor does not consider the reported laboratory quality control outliers to have impacted on the acceptability of the quality of the data for interpretive use

Consultant	Reports Reviewed ARC Environmental	
Assessment Report Name/Reference:	Detailed Site Investigation, Lot 3 on Plan of Subdivision PS802507T, 14 Hamlet Street, Cheltenham, Victoria (March 2019)	
Matrices sampled	Soil	Groundwater
	consider the reported laboratory quality control outliers to have impacted on the acceptability of the quality of the data for interpretive use Overall, the Auditor considers the QA/QC program to be acceptable and that the analytical results reported by ARC are suitable for interpretive use.	Overall, the Auditor considers the QA/QC program to be acceptable and that the analytical results reported by ARC are suitable for interpretive use.

Table D Soil Results (2008 - 2018)

Table 1
Soil Analytical Results - October 2017 to July 2018
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

	TPH (NEPM 1999)					TRH (NEPM 2013)							BTEX							MAH									VOCs			Solvents							Halogenated Hydrocarbons				
	C6-C9	C10-C14	C15-C28	C29-C36	+C10-C36 (Sum of total)	C6-C10	F1 minus BTEX	C10-C16	F2 minus Naphthalene	C16-C34	C34-C40	C10-C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	Monocyclic aromatic hydrocarbons (MAHs)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	Pentachloroethane	Acetone	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Carbon disulfide	Isophorone	Vinyl acetate	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	10	50	100	100	50	10	10	50	50	100	100	50	0.2	0.5	0.5	0.5	0.5	0.5	0.2	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	5	5	5	0.5	0.5	5	0.5	5	0.5	5	5	5
NEPM 2013 Table 1A(1) HILs Res A Soil																																											
NEPM 2013 Table 1A(1) HILs Res B Soil																																											
NEPM 2013 Table 1A(1) HILs Rec C Soil																																											
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																																											
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m							45		110				0.5	160	55			40																									
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m							70		240				0.5	220	NL			60																									
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m							110		440				0.5	310	NL			95																									
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m							200		NL				0.5	540	NL			170																									
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m							NL		NL				NL	NL	NL			NL																									
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m							NL		NL				NL	NL	NL			NL																									
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m							NL		NL				NL	NL	NL			NL																									
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m							NL		NL				NL	NL	NL			NL																									
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m							260		NL				3	NL	NL			230																									
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m							370		NL				3	NL	NL			NL																									
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m							630		NL				3	NL	NL			NL																									
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m							NL		NL				3	NL	NL			NL																									
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m						NL		NL					77	NL	NL			NL																									
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m						NL		NL					160	NL	NL			NL																									
NEPM 2013 Table 1B(5) Generic and site-specific EILs - Comm/Ind																																											
NEPM 2013 Table 1B(5) Generic and site-specific EILs - Urban Res & Public Open Space																																											
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m						215		170		1,700	3,300		75	135	165			180																									
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m						180		120		300	2,800		50	85	70			105																									
International Screening Criteria - Residential																																											
International Screening Criteria - Commercial																																											
International Screening Criteria - Industrial																																											
USEPA RSLs Industrial Soil THQ=1.0																					240	12,000	9,900	58,000	24,000		120,000	35,000	120,000	0.032	0.032	36		190,000	1,300	140,000	3,500	2,400	3,800	0.16	30	370		350,000
USEPA RSLs Resident Soil THQ=1.0																					58	780	1,900	3,900	3,800		7,800	6,000	7,800	0.0074	0.0074	7.7		27,000	200	33,000	770	570	910	0.036	6.8	87		23,000

Location	Field ID	Depth (m)	Matrix Description	Date	Sample Code																																								
BF_EEC_SB101A	BF_EEC_SB101A_0.1	0.1	Fill	15-02-18	EM1803080-001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101B	BF_EEC_SB101B_0.1	0.1	Fill	15-02-18	EM1803080-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101C	BF_EEC_SB101C_0.1	0.1	Fill	15-02-18	EM1803080-005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101D	BF_EEC_SB101D_0.1	0.1	Fill	15-02-18	EM1803080-007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101E	BF_EEC_SB101E_0.3	0.3	Fill	15-02-18	EM1803080-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_101F	BF_EEC_101F_0.1	0.1	Fill	06-06-18	EM1809218-022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_101G	BF_EEC_101G_0.3	0.3	Fill	06-06-18	EM1809218-023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB104A	BF_EEC_SB104A_2.0	2.0	Sandy CLAY	20-11-17	EM1715986-003	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB105A	BF_EEC_SB105A_2.2	2.2	Sandy CLAY	20-11-17	EM1715986-008	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB106	BF_EEC_SB106_0.2	0.2	Fill	20-11-17	EM1715986-009	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	<0.5	-	-	-	-	-
BF_ARC_SB107	BF_ARC_SB107_0.2	0.2	Fill	06-06-18	EM1809218-015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_ARC_SB107	BF_ARC_SB107_0.5	0.5	Fill	06-06-18	EM1809218-016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_ARC_SB107	BF_ARC_SB107_1.0	1	Fill	06-06-18	EM1809218-017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17A_4.0	4.0	Sandy CLAY	30-04-18	EM1807590-006	24	170	<100	<100	170	56	56	140	140	<100	<100	140	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<5	<5	<5	<5	<0.5	-	<5	<0.5	<5	<5	<5
MW17	MW17A_7.0	7.0	Sandy CLAY	30-04-18	EM1807590-009	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17A_8.0	8.0	Sandy CLAY	30-04-18	EM1807590-010	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17C_Perched	2.0	Fill	21-05-18	EM1808305-015	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.2	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TIT2	EEC_TIT2_1	0.65	Sandy CLAY	25-10-17	EM1714937-006	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	-	<5	<0.5	<5	<5	<5
	EEC_TIT2_2	0.65	Sandy CLAY	25-10-17	EM1714937-007	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	-	<5	<0.5	<5	<5	<5
	EEC_TIT2_3	0.65	Sandy CLAY	25-10-17	EM1714937-008	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	-	<5	<0.5	<5	<5	<5
	EEC_TIT2_4	0.65	Sandy CLAY	25-10-17	EM1714937-009	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	-	<5	<0.5	<5	<5	<5
	EEC_TIT2_5	1.3	Sandy CLAY	25-10-17	EM1714937-010	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	-	<5	<0.5	<5	<5	<5
TIT2 (Backfill)	TIT2_0.2	0.2	Fill	22-02-18	EM1803513-004	<10	-	-	-	-	<10	<10	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
	TIT2_0.5	0.5	Fill	22-02-18	EM1803513-005	<10	-	-	-	-	<10	<10	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
	TIT2_0.8	0.8	Fill	22-02-18	EM1803513-006	<10	-	-	-	-	<10	<10	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
TIT2	ARC_TIT2A_1.5	1.5	Sandy CLAY	05-07-18	EM1810781-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1
Soil Analytical Results - October 2017 to July 2018
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

	Chlorinated Hydrocarbons																																Halogenated Benzenes									
	1,1,1,2-tetrachloroethane	Chlorinated hydrocarbons (CPAVs)	Other chlorinated hydrocarbons (OPAVs)	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethene	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	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene (TCE)	Tetrachloroethene (PCE)	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.01	0.01	0.01	0.01	0.02	0.04	0.5	0.01	0.5	0.5	0.5	0.02	0.5	0.5	0.5	0.5	0.5	0.01	0.5	5	0.02	5	0.01	0.5	0.5	0.4	0.02	2.5	0.5	0.02	0.02	0.02	0.5	0.02	0.5	0.01	0.02	0.5	0.02	0.5	0.5	0.5	0.02	0.05	0.5
NEPM 2013 Table 1A(1) HILs Res A Soil																																											10	
NEPM 2013 Table 1A(1) HILs Res B Soil																																											15	
NEPM 2013 Table 1A(1) HILs Rec C Soil																																											10	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																																											80	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m																																												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m																																												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m																																												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m																																												
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m																																												
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m																																												
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m																																												
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m																																												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																																												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m																																												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m																																												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m																																												
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m																																												
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m																																												
NEPM 2013 Table 1B(5) Generic and site-specific EILs - Comm/Ind																																												
NEPM 2013 Table 1B(5) Generic and site-specific EILs - Urban Res & Public Open Space																																												
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m																																												
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m																																												
International Screening Criteria - Residential				5	5	5	5	1				6.4	5					5			5		5								0.01	0.2												
International Screening Criteria - Commercial				50	50	50	50	1				6.4	50					50			50		50								0.01	0.6												
International Screening Criteria - Industrial				50	50	50	50	1				6.4	50					50			50		50								0.01	0.5												
USEPA RSLs Industrial Soil THQ=1.0	8.8			36,000	2.7	5	16	1,000		0.11	0.064	2	4.4	23,000		1.3	86	2.9	39	57,000	1.4	460	2,300			99	1,000	5.3	7.5	8	6	100	23,000		1.7	930	110	9,300		11	23,000	23,000	1,800	1,300		930
USEPA RSLs Resident Soil THQ=1.0	2			8,100	0.6	1.1	3.6	230		0.0051	0.0053	0.46	1	1,600		0.29	19	0.65	8.3	14,000	0.32	110	160			24	57	1.2	1.8	1.8	0.94	24	1,600		0.059	63	24	1,800		2.6	1,600	1,600	290	280		63

Location	Field ID	Depth (m)	Matrix Description	Date	Sample Code																																									
BF_EEC_SB101A	BF_EEC_SB101A_0.1	0.1	Fill	15-02-18	EM1803080-001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101B	BF_EEC_SB101B_0.1	0.1	Fill	15-02-18	EM1803080-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101C	BF_EEC_SB101C_0.1	0.1	Fill	15-02-18	EM1803080-005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101D	BF_EEC_SB101D_0.1	0.1	Fill	15-02-18	EM1803080-007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101E	BF_EEC_SB101E_0.3	0.3	Fill	15-02-18	EM1803080-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_101F	BF_EEC_101F_0.1	0.1	Fill	06-06-18	EM1809218-022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_101G	BF_EEC_101G_0.3	0.3	Fill	06-06-18	EM1809218-023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB104A	BF_EEC_SB104A_2.0	2.0	Sandy CLAY	20-11-17	EM1715986-003	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	-	-	<0.02	-	-	-	-	-	<0.01	-	-	<0.02	-	<0.01	-	-	<0.4	<0.02	-	-	<0.02	<0.02	<0.02	-	<0.02	-	<0.01	<0.02	-	<0.02	-	-	-	<0.02	-	-
BF_EEC_SB105A	BF_EEC_SB105A_2.2	2.2	Sandy CLAY	20-11-17	EM1715986-008	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	-	-	<0.02	-	-	-	-	-	<0.01	-	-	<0.02	-	<0.01	-	-	<0.4	<0.02	-	-	<0.02	<0.02	<0.02	-	<0.02	-	<0.01	<0.02	-	<0.02	-	-	-	<0.02	-	-
BF_EEC_SB106	BF_EEC_SB106_0.2	0.2	Fill	20-11-17	EM1715986-009	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	-	-	<0.02	-	-	-	-	-	<0.01	-	-	<0.02	-	<0.01	-	-	<0.4	<0.02	<2.5	<0.5	<0.02	<0.02	<0.02	-	<0.02	-	<0.01	<0.02	<0.5	<0.02	-	-	-	<0.02	<1	<0.5
BF_ARC_SB107	BF_ARC_SB107_0.2	0.2	Fill	06-06-18	EM1809218-015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_ARC_SB107	BF_ARC_SB107_0.5	0.5	Fill	06-06-18	EM1809218-016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_ARC_SB107	BF_ARC_SB107_1.0	1	Fill	06-06-18	EM1809218-017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17A_4.0	4.0	Sandy CLAY	30-04-18	EM1807590-006	<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	<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	<0.5	<0.5	<0.5	<0.5	-	-
MW17	MW17A_7.0	7.0	Sandy CLAY	30-04-18	EM1807590-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17A_8.0	8.0	Sandy CLAY	30-04-18	EM1807590-010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17C_Perched	2.0	Fill	21-05-18	EM1808305-015	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	-	-	<0.02	-	-	-	-	-	<0.01	-	-	<0.02	-	<0.01	-	-	<0.4	<0.02	-	-	<0.02	<0.02	<0.02	-	<0.02	-	<0.01	<0.02	-	<0.02	-	-	-	<0.02	-	-
TIT2	EEC_TIT2_1	0.65	Sandy CLAY	25-10-17	EM1714937-006	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	<0.5	<0.01	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.5	<5	<0.02	<5	<0.01	<0.5	<0.5	<0.4	<0.02	-	-	<0.02	<0.02	<0.02	<0.5	<0.02	<0.5	<0.01	<0.02	<0.5	<0.02	<0.5	<0.5	<0.5	<0.02	-	-
	EEC_TIT2_2	0.65	Sandy CLAY	25-10-17	EM1714937-007	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	<0.5	<0.01	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.5	<5	<0.02	<5	<0.01	<0.5	<0.5	<0.4	<0.02	-	-	<0.02	<0.02	<0.02	<0.5	<0.02	<0.5	<0.01	<0.02	<0.5	<0.02	<0.5	<0.5	<0.5	<0.02	-	-
	EEC_TIT2_3	0.65	Sandy CLAY	25-10-17	EM1714937-008	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	<0.5	<0.01	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.5	<5	<0.02	<5	<0.01	<0.5	<0.5	<0.4	<0.02	-	-	<0.02	<0.02	<0.02	<0.5	<0.02	<0.5	<0.01	<0.02	<0.5	<0.02	<0.5	<0.5	<0.5	<0.02	-	-
	EEC_TIT2_4	0.65	Sandy CLAY	25-10-17	EM1714937-009	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	<0.5	<0.01	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.5	<5	<0.02	<5	<0.01	<0.5	<0.5	<0.4	<0.02	-	-	<0.02	<0.02	<0.02	<0.5	<0.02	<0.5	<0.01	<0.02	<0.5	<0.02	<0.5	<0.5	<0.5	<0.02	-	-
	EEC_TIT2_5	1.3	Sandy CLAY	25-10-17	EM1714937-010	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	<0.5	<0.01	<0.5	<0.5	<0.5	<0.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	<0.5	<5	<0.02	<5	<0.01	<0.5	<0.5	<0.4	<0.02	-	-	<0.02	<0.02	<0.02	<0.5	<0.02	<0.5	<0.01	<0.02	<0.5	<0.02	<0.5	<0.5	<0.5	<0.02		
TIT2 (Backfill)	TIT2_0.2	0.2	Fill	22-02-18	EM1803513-004	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	-	-	<0.02	-	-	-	-	-	<0.01	-	-	<0.02	-	<0.01	-	-	<0.4	-	-	-	<0.02	<0.02	<0.02	-	<0.02	-	<0.01	<0.02	-	<0.02	-	-	-	<0.02	-	-
	TIT2_0.5	0.5	Fill	22-02-18	EM1803513-005	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	-	-	<0.02	-	-	-	-	-	<0.01	-	-	<0.02	-	<0.01	-	-	<0.4	-	-	-	<0.02	<0.02	<0.02	-	<0.02	-	<0.01	<0.02	-	<0.02	-	-	-	<0.02	-	-
	TIT2_0.8	0.8	Fill	22-02-18	EM1803513-006	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	-	-	<0.02	-	-	-	-	-	<0.01	-	-	<0.02	-	<0.01	-	-	<0.4	-	-	-	<0.02	<0.02	<0.02	-	<0.02	-	<0.01	<0.02	-	<0.02	-	-	-	<0.02	-	-
TIT2	ARC_TIT2A_1.5	1.5	Sandy CLAY	05-07-18	EM1810781-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1
Soil Analytical Results - October 2017 to July 2018
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

	Metals																															Inorganics									
	Antimony	Antimony (filtered)	Arsenic	Arsenic (filtered)	Barium	Barium (filtered)	Beryllium	Beryllium (filtered)	Boron	Boron (filtered)	Cadmium	Cadmium (filtered)	Calcium	Chromium (III+VI)	Chromium (III+VI) (filtered)	Cobalt	Cobalt (filtered)	Copper	Copper (filtered)	Iron	Lead	Lead (filtered)	Manganese	Manganese (filtered)	Mercury	Mercury (filtered)	Nickel	Nickel (filtered)	Selenium	Selenium (filtered)	Vanadium	Vanadium (filtered)	Zinc	Zinc (filtered)	Acidity	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (total) as CaCO3	pH (CaCl2)	pH (Final)	pH (Initial)	pH (aqueous extract)	pH (after HCl)	Sulphate
	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L		mg/kg	mg/kg	mg/kg	-	-	-	-	-	mg/kg
EQL	5	0.1	5	0.1	10	0.1	1	0.05	50	0.1	1	0.05	10	2	0.1	2	0.1	5	0.1	50	5	0.1	5	0.1	0.1	0.001	2	0.1	5	0.05	5	0.1	5	0.1	1	1	1	1	0.1	0.1	0.1	0.1	0.1	50
NEPM 2013 Table 1A(1) HILs Res A Soil			100				60		4,500		20			100		100		6,000			300		3,800		40		400		200				7,400									
NEPM 2013 Table 1A(1) HILs Res B Soil			500				90		40,000		150			500		600		30,000			1,200		14,000		120		1,200		1,400				60,000									
NEPM 2013 Table 1A(1) HILs Rec C Soil			300				90		20,000		90			300		300		17,000			600		19,000		80		1,200		700				30,000									
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil			3,000				500		300,000		900			3,600		4,000		240,000			1,500		60,000		730		6,000		10,000				400,000									
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m																																										
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m																																										
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m																																										
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m																																										
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m																																										
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m																																										
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m																																										
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m																																										
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																																										
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m																																										
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m																																										
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m																																										
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m																																										
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m																																										
NEPM 2013 Table 1B(5) Generic and site-specific EILs - Comm/Ind			160											610				110			1,800						450						1,100									
NEPM 2013 Table 1B(5) Generic and site-specific EILs - Urban Res & Public Open Space			100											370				75			1,100						270						690									
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m																																										
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m																																										
International Screening Criteria - Residential																																										
International Screening Criteria - Commercial																																										
International Screening Criteria - Industrial																																										
USEPA RSLs Industrial Soil THQ=1.0	470				220,000																										5,800											
USEPA RSLs Resident Soil THQ=1.0	31				15,000																										390											

Location	Field ID	Depth (m)	Matrix Description	Date	Sample Code																																							
BF_EEC_SB101A	BF_EEC_SB101A_0.1	0.1	Fill	15-02-18	EM1803080-001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	660[D]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101B	BF_EEC_SB101B_0.1	0.1	Fill	15-02-18	EM1803080-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101C	BF_EEC_SB101C_0.1	0.1	Fill	15-02-18	EM1803080-005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101D	BF_EEC_SB101D_0.1	0.1	Fill	15-02-18	EM1803080-007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	599	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101E	BF_EEC_SB101E_0.3	0.3	Fill	15-02-18	EM1803080-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_101F	BF_EEC_101F_0.1	0.1	Fill	06-06-18	EM1809218-022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	154	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_101G	BF_EEC_101G_0.3	0.3	Fill	06-06-18	EM1809218-023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB104A	BF_EEC_SB104A_2.0	2.0	Sandy CLAY	20-11-17	EM1715986-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB105A	BF_EEC_SB105A_2.2	2.2	Sandy CLAY	20-11-17	EM1715986-008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB106	BF_EEC_SB106_0.2	0.2	Fill	20-11-17	EM1715986-009	8	<0.1	<5	<0.1	<10	<0.1	<1	<0.05	<50	<0.1	<1	<0.05	-	3	<0.1	3	<0.1	12	<0.1	-	44	<0.1	10	<0.1	<0.1	<0.001	3	<0.1	<5	<0.05	7	<0.1	16	0.2	4	33	<1	33	7.3	4.9	8.4	5	1.2	80
BF_ARC_SB107	BF_ARC_SB107_0.2	0.2	Fill	06-06-18	EM1809218-015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_ARC_SB107	BF_ARC_SB107_0.5	0.5	Fill	06-06-18	EM1809218-016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_ARC_SB107	BF_ARC_SB107_1.0	1	Fill	06-06-18	EM1809218-017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17A_4.0	4.0	Sandy CLAY	30-04-18	EM1807590-006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17A_7.0	7.0	Sandy CLAY	30-04-18	EM1807590-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17A_8.0	8.0	Sandy CLAY	30-04-18	EM1807590-010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17C_Perched	2.0	Fill	21-05-18	EM1808305-015	-	-	11	-	-	-	-	-	<10	-	<1	-	<10	62	-	-	-	25	-	23,500	12	-	255	-	<0.1	-	42	-	-	-	-	-	153	-	-	-	-	-	-	-	-	-	-
TIT2	EEC_TIT2_1	0.65	Sandy CLAY	25-10-17	EM1714937-006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EEC_TIT2_2	0.65	Sandy CLAY	25-10-17	EM1714937-007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EEC_TIT2_3	0.65	Sandy CLAY	25-10-17	EM1714937-008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EEC_TIT2_4	0.65	Sandy CLAY	25-10-17	EM1714937-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EEC_TIT2_5	1.3	Sandy CLAY	25-10-17	EM1714937-010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TIT2 (Backfill)	TIT2_0.2	0.2	Fill	22-02-18	EM1803513-004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TIT2_0.5	0.5	Fill	22-02-18	EM1803513-005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TIT2_0.8	0.8	Fill	22-02-18	EM1803513-006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TIT2	ARC_TIT2A_1.5	1.5	Sandy CLAY	05-07-18	EM1810781-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9	-	-	-	-

Notes:

D: Concentration reported in duplicate sample

Table 1
Soil Analytical Results - October 2017 to July 2018
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

	Amino Aliphatics				Amino Aromatics		Anilines						Cyanides		Glycols						PAH																				
	N-nitrosodiethylamine	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	N-Nitrosomethylethylamine	1-naphthylamine	N-Nitrosodiphenyl & Diphenylamine	2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline	2-methyl-5-nitroaniline	Aniline	Cyanide (Free)	Cyanide Total	2-butoxyethanol	2-ethoxyethanol acetate	Diethylene glycol	Diethylene glycol, monobutyl ether	Ethylene glycol	Propylene glycol	Triethylene Glycol	2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-Dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(a)pyrene TEQ (zero LOR)	Benzo(a)pyrene TEQ (half LOR)	Benzo(a)pyrene TEQ (LOR)	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	0.5	1	1	1	0.5	0.5	0.5	0.5	1	1	2	2	2	2	2	2	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	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1A(1) HILs Res A Soil													250																		3	3	3										300
NEPM 2013 Table 1A(1) HILs Res B Soil													300																		4	4	4										400
NEPM 2013 Table 1A(1) HILs Rec C Soil													240																		3	3	3										300
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil													1,500																		40	40	40										4,000
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m																																								3			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m																																							NL			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m																																							NL			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m																																							NL			
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m																																							NL			
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m																																							NL			
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m																																							NL			
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m																																							NL			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																																							NL			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m																																							NL			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m																																							NL			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m																																							NL			
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m																																							NL			
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m																																							NL			
NEPM 2013 Table 1B(5) Generic and site-specific EILs - Comm/Ind																																							370			
NEPM 2013 Table 1B(5) Generic and site-specific EILs - Urban Res & Public Open Space																																							170			
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m																														1.4												
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m																														0.7												
International Screening Criteria - Residential														0.9																												
International Screening Criteria - Commercial														8																												
International Screening Criteria - Industrial														8																												
USEPA RSLs Industrial Soil THQ=1.0	0.015	0.46	0.33	0.091			8,000		11	110	260	400		150	82,000	14,000		24,000	1,600,000	6,000,000	1,600,000	60,000	3,000	0.1	0.0084	45,000		230,000	2.9						290	0.29	30,000	30,000	2.9			23,000	
USEPA RSLs Resident Soil THQ=1.0	0.00081	0.099	0.078	0.02			630		2.7	27	60	95		23	6,300	2,600		1,900	130,000	1,300,000	130,000	4,800	240	0.0055	0.00046	3,600		18,000	0.16						16	0.016	2,400	2,400	0.16			1,800	

Location	Field ID	Depth (m)	Matrix Description	Date	Sample Code																																						
BF_EEC_SB101A	BF_EEC_SB101A_0.1	0.1	Fill	15-02-18	EM1803080-001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101B	BF_EEC_SB101B_0.1	0.1	Fill	15-02-18	EM1803080-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101C	BF_EEC_SB101C_0.1	0.1	Fill	15-02-18	EM1803080-005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101D	BF_EEC_SB101D_0.1	0.1	Fill	15-02-18	EM1803080-007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101E	BF_EEC_SB101E_0.3	0.3	Fill	15-02-18	EM1803080-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_101F	BF_EEC_101F_0.1	0.1	Fill	06-06-18	EM1809218-022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_101G	BF_EEC_101G_0.3	0.3	Fill	06-06-18	EM1809218-023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB104A	BF_EEC_SB104A_2.0	2.0	Sandy CLAY	20-11-17	EM1715986-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-
BF_EEC_SB105A	BF_EEC_SB105A_2.2	2.2	Sandy CLAY	20-11-17	EM1715986-008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-
BF_EEC_SB106	BF_EEC_SB106_0.2	0.2	Fill	20-11-17	EM1715986-009	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	<2	<2	<2	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BF_ARC_SB107	BF_ARC_SB107_0.2	0.2	Fill	06-06-18	EM1809218-015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_ARC_SB107	BF_ARC_SB107_0.5	0.5	Fill	06-06-18	EM1809218-016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_ARC_SB107	BF_ARC_SB107_1.0	1	Fill	06-06-18	EM1809218-017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17A_4.0	4.0	Sandy CLAY	30-04-18	EM1807590-006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-
MW17	MW17A_7.0	7.0	Sandy CLAY	30-04-18	EM1807590-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-
MW17	MW17A_8.0	8.0	Sandy CLAY	30-04-18	EM1807590-010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-
MW17	MW17C_Perched	2.0	Fill	21-05-18	EM1808305-015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-
TIT2	EEC_TIT2_1	0.65	Sandy CLAY	25-10-17	EM1714937-006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-
	EEC_TIT2_2	0.65	Sandy CLAY	25-10-17	EM1714937-007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-
	EEC_TIT2_3	0.65	Sandy CLAY	25-10-17	EM1714937-008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-
	EEC_TIT2_4	0.65	Sandy CLAY	25-10-17	EM1714937-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-
	EEC_TIT2_5	1.3	Sandy CLAY	25-10-17	EM1714937-010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-
TIT2 (Backfill)	TIT2_0.2	0.2	Fill	22-02-18	EM1803513-004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-
	TIT2_0.5	0.5	Fill	22-02-18	EM1803513-005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-
	TIT2_0.8	0.8	Fill	22-02-18	EM1803513-006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-
TIT2	ARC_TIT2A_1.5	1.5	Sandy CLAY	05-07-18	EM1810781-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1
Soil Analytical Results - October 2017 to July 2018
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

	Organochlorine Pesticides																	Organochlorine Pesticides										Pesticides			Herbicides	Nitroaromatics			Other					PCB	Explosives				
	a,4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Prothiofos	Chlorobenzilate	Carbazole	Pirimphos-ethyl	Pronamide	2-Picoline	4-aminobiphenyl	Pentachloronitrobenzene	Acetophenone	Ammonia	Formaldehyde	Methanol	Oil and Grease	PCBs (sum of total)	1,3,5-Trinitrobenzene	2,4-Dinitrotoluene	2,6-dinitrotoluene	Nitrobenzene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	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	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	20	2	2	100	0.1	0.5	1	1	0.5
NEPM 2013 Table 1A(1) HILs Res A Soil				6					240					10		6			160																									
NEPM 2013 Table 1A(1) HILs Res B Soil				10					600					20		10			340																						1				
NEPM 2013 Table 1A(1) HILs Rec C Soil				10					400					20		10			250																						1				
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				45					3,600					100		50			2,000																						7				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m																																												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m																																												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m																																												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m																																												
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m																																												
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m																																												
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m																																												
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m																																												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																																												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m																																												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m																																												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m																																												
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m																																												
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m																																												
NEPM 2013 Table 1B(5) Generic and site-specific EILs - Comm/Ind								640																																				
NEPM 2013 Table 1B(5) Generic and site-specific EILs - Urban Res & Public Open Space								180																																				
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m																																												
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m																																												
International Screening Criteria - Residential																																												
International Screening Criteria - Commercial																																												
International Screening Criteria - Industrial																																												
USEPA RSLs Industrial Soil THQ=1.0	9.3	0.36	0.18		1.3		9.6	8.5		0.14					2.5		0.33	570		8,200	570	7.9	160	410		16,000					62,000		0.11	13	120,000		73				32,000	7.4	1.5	22
USEPA RSLs Resident Soil THQ=1.0	2	0.086	0.039		0.3		2.3	1.9		0.034					0.57		0.07	44		630	44	1.9	13	32		1,300					4,700		0.026	2.7	7,800		17				2,200	1.7	0.36	5.1

Location	Field ID	Depth (m)	Matrix Description	Date	Sample Code																																									
BF_EEC_SB101A	BF_EEC_SB101A_0.1	0.1	Fill	15-02-18	EM1803080-001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101B	BF_EEC_SB101B_0.1	0.1	Fill	15-02-18	EM1803080-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101C	BF_EEC_SB101C_0.1	0.1	Fill	15-02-18	EM1803080-005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101D	BF_EEC_SB101D_0.1	0.1	Fill	15-02-18	EM1803080-007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101E	BF_EEC_SB101E_0.3	0.3	Fill	15-02-18	EM1803080-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_101F	BF_EEC_101F_0.1	0.1	Fill	06-06-18	EM1809218-022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_101G	BF_EEC_101G_0.3	0.3	Fill	06-06-18	EM1809218-023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB104A	BF_EEC_SB104A_2.0	2.0	Sandy CLAY	20-11-17	EM1715986-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB105A	BF_EEC_SB105A_2.2	2.2	Sandy CLAY	20-11-17	EM1715986-008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB106	BF_EEC_SB106_0.2	0.2	Fill	20-11-17	EM1715986-009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<2	-	-	<0.1	<0.5	<1	<1	<0.5
BF_ARC_SB107	BF_ARC_SB107_0.2	0.2	Fill	06-06-18	EM1809218-015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_ARC_SB107	BF_ARC_SB107_0.5	0.5	Fill	06-06-18	EM1809218-016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_ARC_SB107	BF_ARC_SB107_1.0	1	Fill	06-06-18	EM1809218-017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17A_4.0	4.0	Sandy CLAY	30-04-18	EM1807590-006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17A_7.0	7.0	Sandy CLAY	30-04-18	EM1807590-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17A_8.0	8.0	Sandy CLAY	30-04-18	EM1807590-010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17C_Perched	2.0	Fill	21-05-18	EM1808305-015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TIT2	EEC_TIT2_1	0.65	Sandy CLAY	25-10-17	EM1714937-006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EEC_TIT2_2	0.65	Sandy CLAY	25-10-17	EM1714937-007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EEC_TIT2_3	0.65	Sandy CLAY	25-10-17	EM1714937-008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EEC_TIT2_4	0.65	Sandy CLAY	25-10-17	EM1714937-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EEC_TIT2_5	1.3	Sandy CLAY	25-10-17	EM1714937-010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TIT2 (Backfill)	TIT2_0.2	0.2	Fill	22-02-18	EM1803513-004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TIT2_0.5	0.5	Fill	22-02-18	EM1803513-005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TIT2_0.8	0.8	Fill	22-02-18	EM1803513-006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TIT2	ARC_TIT2A_1.5	1.5	Sandy CLAY	05-07-18	EM1810781-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1
Soil Analytical Results - October 2017 to July 2018
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

	Phthalates						Phenols											SVOCs															
	bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	3 & 4-methylphenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenol	2-(acetylamino) fluorene	3,3-Dichlorobenzidine	4-(dimethylamino) azobenzene	4-Bromophenyl phenyl ether	4-chlorophenyl phenyl ether	4-Nitroquinoline-N-oxide	Azobenzene	bis(2-chloroethoxy) methane	bis(2-chloroethyl)ether	Dibenzofuran	Hexachloropropene	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	Phenacetin
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	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	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5
NEPM 2013 Table 1A(1) HILs Res A Soil																	100	3,000																
NEPM 2013 Table 1A(1) HILs Res B Soil																	130	45,000																
NEPM 2013 Table 1A(1) HILs Rec C Soil																	120	40,000																
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																	660	240,000																
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m																																		
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m																																		
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m																																		
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m																																		
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m																																		
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m																																		
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m																																		
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m																																		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																																		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m																																		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m																																		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m																																		
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m																																		
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m																																		
NEPM 2013 Table 1B(5) Generic and site-specific EILs - Comm/Ind																																		
NEPM 2013 Table 1B(5) Generic and site-specific EILs - Urban Res & Public Open Space																																		
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m																																		
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m																																		
International Screening Criteria - Residential																																		
International Screening Criteria - Commercial																																		
International Screening Criteria - Industrial																																		
USEPA RSLs Industrial Soil THQ=1.0	160	1,200	660,000		82,000	8,200	82,000	210	2,500	16,000		5,800	41,000			82,000			0.6	5.1	0.5				26	2,500	1	1,000			0.34	0.24	1.1	1,000
USEPA RSLs Resident Soil THQ=1.0	39	290	51,000		6,300	630	6,300	49	190	1,300		390	3,200			6,300			0.14	1.2	0.12				5.6	190	0.23	73			0.081	0.058	0.26	250

Location	Field ID	Depth (m)	Matrix Description	Date	Sample Code																														
BF_EEC_SB101A	BF_EEC_SB101A_0.1	0.1	Fill	15-02-18	EM1803080-001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101B	BF_EEC_SB101B_0.1	0.1	Fill	15-02-18	EM1803080-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101C	BF_EEC_SB101C_0.1	0.1	Fill	15-02-18	EM1803080-005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101D	BF_EEC_SB101D_0.1	0.1	Fill	15-02-18	EM1803080-007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB101E	BF_EEC_SB101E_0.3	0.3	Fill	15-02-18	EM1803080-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_101F	BF_EEC_101F_0.1	0.1	Fill	06-06-18	EM1809218-022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_101G	BF_EEC_101G_0.3	0.3	Fill	06-06-18	EM1809218-023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB104A	BF_EEC_SB104A_2.0	2.0	Sandy CLAY	20-11-17	EM1715986-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB105A	BF_EEC_SB105A_2.2	2.2	Sandy CLAY	20-11-17	EM1715986-008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB106	BF_EEC_SB106_0.2	0.2	Fill	20-11-17	EM1715986-009	<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	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
BF_ARC_SB107	BF_ARC_SB107_0.2	0.2	Fill	06-06-18	EM1809218-015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_ARC_SB107	BF_ARC_SB107_0.5	0.5	Fill	06-06-18	EM1809218-016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_ARC_SB107	BF_ARC_SB107_1.0	1	Fill	06-06-18	EM1809218-017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17A_4.0	4.0	Sandy CLAY	30-04-18	EM1807590-006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17A_7.0	7.0	Sandy CLAY	30-04-18	EM1807590-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17A_8.0	8.0	Sandy CLAY	30-04-18	EM1807590-010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17	MW17C_Perched	2.0	Fill	21-05-18	EM1808305-015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TIT2	EEC_TIT2_1	0.65	Sandy CLAY	25-10-17	EM1714937-006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EEC_TIT2_2	0.65	Sandy CLAY	25-10-17	EM1714937-007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EEC_TIT2_3	0.65	Sandy CLAY	25-10-17	EM1714937-008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EEC_TIT2_4	0.65	Sandy CLAY	25-10-17	EM1714937-009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EEC_TIT2_5	1.3	Sandy CLAY	25-10-17	EM1714937-010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TIT2 (Backfill)	TIT2_0.2	0.2	Fill	22-02-18	EM1803513-004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TIT2_0.5	0.5	Fill	22-02-18	EM1803513-005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TIT2_0.8	0.8	Fill	22-02-18	EM1803513-006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TIT2	ARC_TIT2A_1.5	1.5	Sandy CLAY	05-07-18	EM1810781-003	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<2	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2
Soil Analytical Results - 2008 to 2017
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

ARC ENVIRONMENTAL

	TPH (NEPM 1999)					TRH (NEPM 2013)							BTEX						
	C6-C9	C10-C14	C15-C28	C29-C36	+C10-C36 (Sum of total)	C6-C10	F1 minus BTEX	C10-C16	F2 minus Naphthalene	C16-C34	C34-C40	C10-C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX
	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	10	50	100	100	50	10	10	50	50	100	100	50	0.2	0.5	0.5	0.5	0.5	0.5	0.2
NEPM 2013 Table 1A(1) HILs Res A Soil																			
NEPM 2013 Table 1A(1) HILs Res B Soil																			
NEPM 2013 Table 1A(1) HILs Rec C Soil																			
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m							45		110				0.5	160	55			40	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m							70		240				0.5	220	NL			60	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m							110		440				0.5	310	NL			95	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m							200		NL				0.5	540	NL			170	
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m							NL		NL				NL	NL	NL			NL	
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m							NL		NL				NL	NL	NL			NL	
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m							NL		NL				NL	NL	NL			NL	
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m							NL		NL				NL	NL	NL			NL	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m							260		NL				3	NL	NL			230	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m							370		NL				3	NL	NL			NL	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m							630		NL				3	NL	NL			NL	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m							NL		NL				3	NL	NL			NL	
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m						NL		NL					77	NL	NL			NL	
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m						NL		NL					160	NL	NL			NL	
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																			
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																			
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m						215		170		1,700	3,300		75	135	165			180	
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m						180		120		300	2,800		50	85	70			105	
International Screening Criteria - Residential																			
International Screening Criteria - Commercial																			
International Screening Criteria - Industrial																			
USEPA RSLs Industrial Soil THQ=1.0																			
USEPA RSLs Resident Soil THQ=1.0																			

	PAH																								
	2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ (zero LOR)	Benzo(a)pyrene TEQ (half LOR)	Benzo(a)pyrene TEQ (LOR)	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)	PAHs (Vic EPA List)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	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	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 1A(1) HILs Res A Soil										3	3	3												300	300
NEPM 2013 Table 1A(1) HILs Res B Soil										4	4	4												400	400
NEPM 2013 Table 1A(1) HILs Rec C Soil										3	3	3												300	300
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil										40	40	40												4,000	4,000
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m																					3				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m																					NL				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m																					NL				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m																					NL				
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m																					NL				
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m																					NL				
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m																					NL				
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m																					NL				
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																					NL				
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m																					NL				
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m																					NL				
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m																					NL				
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m																					NL				
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m																					NL				
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																					370				
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																					170				
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m									1.4																
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m									0.7																
International Screening Criteria - Residential																									
International Screening Criteria - Commercial																									
International Screening Criteria - Industrial																									
USEPA RSLs Industrial Soil THQ=1.0	60,000	3,000	0.1	0.0084	45,000		230,000	2.9							29	290	0.29	30,000	30,000	2.9			23,000		
USEPA RSLs Resident Soil THQ=1.0	4,800	240	0.0055	0.00046	3,600		18,000	0.16							1.6	16	0.016	2,400	2,400	0.16			1,800		

Location Code	Field ID	Depth	Matrix Description	Date	C6-C9	C10-C14	C15-C28	C29-C36	+C10-C36 (Sum of total)	C6-C10	F1 minus BTEX	C10-C16	F2 minus Naphthalene	C16-C34	C34-C40	C10-C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX
BF_EEC_SB101	BF_EEC_SB101_0.1	0.1	Fill	19-07-17	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	BF_EEC_SB101_1.0	1	Sandy CLAY	19-07-17	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
BF_EEC_SB102	BF_EEC_SB102_0.5	0.5	Fill	19-07-17	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	BF_EEC_SB102_1.5	1.5	Sandy CLAY	19-07-17	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
BF_EEC_SB103	BF_EEC_SB103_0.1	0.1	Fill	19-07-17	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	BF_EEC_SB103_1.0	1	Sandy CLAY	19-07-17	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
BF_EEC_SB104	BF_EEC_SB104_0.8	0.8	Fill	02-08-17	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
BF_EEC_SB105	BF_EEC_SB105_0.6	0.6	Fill	02-08-17	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
MW50A	MW50A_0.5	0.5	Fill	28-07-17	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	MW50A_0.7	0.7	Sandy CLAY	28-07-17	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
VP101	VP101	0.5	Fill	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
	VP101	2.7	Clayey SAND	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
VP102	VP102	1.0	Fill	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
	VP102	2.5	CLAY	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
VP103	VP103	1.0	Fill	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
	VP103	2.6	Clayey SAND	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
VP104	VP104	0.5	Fill	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
	VP104	2.8	SAND	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
VP105	VP105	0.5	Fill	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
VP106	VP106	1.0	Clayey SAND	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
	VP106	3.0	SAND	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
VP107	VP107	1.0	CLAY	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
	VP107	3.0	Sandy CLAY	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
VP108	VP108	2.0	Clayey SAND	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
	VP108	3.0	Clayey SAND	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
VP109	VP109	1.0	Sandy CLAY	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
	VP109	3.0	SAND	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
VP110	VP110	2.0	Fill	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
	VP110	2.5	SAND	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
	VP110	3.5	SAND	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
VP111	VP111	0.5	Fill	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-
	VP111	1.0	CLAY	16-05-08	<10	<50	<100	<100	<250	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-

Location Code	Field ID	Depth	2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ (zero LOR)	Benzo(a)pyrene TEQ (half LOR)	Benzo(a)pyrene TEQ (LOR)	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)	PAHs (Vic EPA List)
BF_EEC_SB101	BF_EEC_SB101_0.1	0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
	BF_EEC_SB101_1.0	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BF_EEC_SB102	BF_EEC_SB102_0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	<0.5	-	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<0.5	1	2.1	-
	BF_EEC_SB102_1.5	1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BF_EEC_SB103	BF_EEC_SB103_0.1	0.1	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
	BF_EEC_SB103_1.0	1	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
BF_EEC_SB104	BF_EEC_SB104_0.8	0.8	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
BF_EEC_SB105	BF_EEC_SB105_0.6	0.6	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
MW50A	MW50A_0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
	MW50A_0.7	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
VP101	VP101	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	<0.5	<0.5	<0.5	<0.5	-
	VP101	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP102	VP102	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP102	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP103	VP103	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP103	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP104	VP104	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	<0.5	<0.5	<0.5	-
	VP104	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP105	VP105	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	<0.5	<0.5	<0.5	-
VP106	VP106	1.0	-	-	-	-	<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	<0.5	<0.5	-
	VP106	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
VP107	VP107	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
	VP107	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
VP108	VP108	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
	VP108	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
VP109	VP109	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
	VP109	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
VP110	VP110	2.0	-	-	-	-	<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	<0.5	<0.5	-
	VP110	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-
	VP110	3.5	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
VP111	VP111	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	<0.5	<0.5	<0.5	-
	VP111	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-

Table 2
Soil Analytical Results - 2008 to 2017
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

	Metals																			Soil Properties and Nutrients																					Solvents					
	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium	Zinc	pH (CaCl2)	Acidity	Benzo(b+j+k)fluoranthene	Clay in soils <2um	Moisture Content	Organic Matter	DENSITY	Exchangeable Calcium	Exchangeable Magnesium	Exchangeable Potassium	Exchangeable Sodium	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (total) as CaCO3	CEC	Sulphate	Sulphate (filtered)	TOC	Methyl Ethyl Ketone	2-Hexanone (MBK)	4-Methyl-2-pentanone	Carbon disulfide	Isophorone	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	%	%	%	g/cm3	meq/100g	meq/100g	meq/100g	meq/100g	mg/kg	mg/kg	mg/kg	meq/100g	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	5	5	10	1	50	1	0.5	2	2	5		5	5	0.1	2	5	5	5	0.1	1	1		1	0.5		0.2	0.2	0.2	0.2	1		1	0.2	50	10		5	5	5	0.5	0.5	5
NEPM 2013 Table 1A(1) HILs Res A Soil		100		60	4,500	20	100		100	6,000		300	3,800	40	400	200		7,400																									
NEPM 2013 Table 1A(1) HILs Res B Soil		500		90	40,000	150	500		600	30,000		1,200	14,000	120	1,200	1,400		60,000																									
NEPM 2013 Table 1A(1) HILs Rec C Soil		300		90	20,000	90	300		300	17,000		600	19,000	80	1,200	700		30,000																									
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil		3,000		500	300,000	900	3,600		4,000	240,000		1,500	60,000	730	6,000	10,000		400,000																									
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m																																											
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m																																											
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m																																											
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m																																											
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m																																											
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m																																											
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m																																											
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m																																											
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																																											
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m																																											
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m																																											
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m																																											
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m																																											
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m																																											
NEPM 2013 Table 1B(5) Generic and site-specific EILs - Comm/Ind		160						610		110		1,800			450			1,100																									
NEPM 2013 Table 1B(5) Generic and site-specific EILs - Urban Res & Public Open Space		100						370		75		1,100			270			690																									
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m																																											
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m																																											
International Screening Criteria - Residential																																											
International Screening Criteria - Commercial																																											
International Screening Criteria - Industrial																																											
USEPA RSLs Industrial Soil THQ=1.0	470		220,000														5,800																					190,000	1,300	140,000	3,500	2,400	3,800
USEPA RSLs Resident Soil THQ=1.0	31		15,000														390																					27,000	200	33,000	770	570	910

Location Code	Field ID	Depth	Matrix Description	Date																																										
BF_EEC_SB101	BF_EEC_SB101_0.1	0.1	Fill	19-07-17	<5	6	20	<1	<50	4	-	13	103	701	-	5,120	242	4.3	20	<5	8	4,180	7.4	3	<1	-	11.8	-	-	-	-	-	-	38	<1	54	-	-	<10	-	-	-	-	-	<0.5	-
	BF_EEC_SB101_1.0	1	Sandy CLAY	19-07-17	<5	16	20	2	<50	<1	-	80	10	<5	6.53	20	16	0.2	24	<5	130	13	6.4	28	<1	76	36.9	0.8	2.68	44.5	68.8	5	23.5	54	<1	103	142	-	50	<0.5	-	-	-	-	<0.5	-
BF_EEC_SB102	BF_EEC_SB102_0.5	0.5	Fill	19-07-17	<5	<5	10	<1	<50	<1	-	21	92	20	-	25	22	1.8	4	<5	22	42	6.8	5	<1	-	8.6	-	-	-	-	-	-	103	<1	10	-	-	10	-	-	-	-	-	<0.5	-
	BF_EEC_SB102_1.5	1.5	Sandy CLAY	19-07-17	<5	16	20	2	<50	<1	-	73	10	<5	-	21	10	<0.1	18	<5	134	6	5.9	48	<1	-	26.3	-	-	-	-	-	-	10	<1	41	-	-	90	-	-	-	-	-	<0.5	-
BF_EEC_SB103	BF_EEC_SB103_0.1	0.1	Fill	19-07-17	8	6	60	<1	<50	1	-	22	82	357	-	377	79	0.7	10	<5	8	1,230	-	-	-	-	18.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BF_EEC_SB103_1.0	1	Sandy CLAY	19-07-17	<5	10	20	2	<50	<1	-	73	8	<5	-	16	17	0.2	24	<5	95	13	-	-	-	-	27.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB104	BF_EEC_SB104_0.8	0.8	Fill	02-08-17	-	10	120	2	<50	<1	<0.5	72	22	31	-	9	385	<0.1	47	<5	53	67	-	-	-	-	13.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB105	BF_EEC_SB105_0.6	0.6	Fill	02-08-17	-	14	120	2	<50	<1	<0.5	81	21	32	-	13	355	<0.1	57	<5	58	78	-	-	-	-	9.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW50A	MW50A_0.5	0.5	Fill	28-07-17	12	8	<10	<1	<50	<1	-	135	125	32	-	<5	18	2.2	3	<5	45	<5	6.6	10	<1	-	13.6	-	-	-	-	-	-	22	<1	22	-	<50	-	-	<5	<5	<5	<0.5	<0.5	<5
	MW50A_0.7	0.7	Sandy CLAY	28-07-17	<5	12	30	1	<50	<1	-	80	20	<5	-	12	21	0.4	24	<5	102	6	6.5	69	<1	-	26.2	-	-	-	-	-	-	184	<1	184	-	<50	-	-	<5	<5	<5	<0.5	<0.5	<5
VP101	VP101	0.5	Fill	16-05-08	-	7	33	<1	-	8.9	-	67	79	817	-	1540	394	0.15	67	-	9	176	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP101	2.7	Clayey SAND	16-05-08	-	48	5	<1	-	<0.1	-	22	3	<2	-	5	<5	<0.05	5	-	88	<5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP102	VP102	1.0	Fill	16-05-08	-	5	16	<1	-	<0.1	-	19	3	11	-	19	10	0.09	6	-	28	19	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP102	2.5	CLAY	16-05-08	-	3	<5	<1	-	<0.1	-	11	<1	<2	-	2	<5	<0.05	2	-	20	<5	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP103	VP103	1.0	Fill	16-05-08	-	<1	<5	<1	-	<0.1	-	1	<1	<2	-	3	<5	<0.05	<1	-	5	<5	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP103	2.6	Clayey SAND	16-05-08	-	7	<5	<1	-	<0.1	-	10	<1	<2	-	2	<5	<0.05	3	-	20	<5	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP104	VP104	0.5	Fill	16-05-08	-	7	23	<1	-	0.7	-	21	13	9	-	13	8	0.32	2	-	30	18	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP104	2.8	SAND	16-05-08	-	12	<5	<1	-	<0.1	-	12	2	<2	-	3	<5	<0.05	2	-	39	<5	7.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP105	VP105	0.5	Fill	16-05-08	-	16	40	<1	-	1.7	-	21	22	175	-	308	181	0.26	45	-	19	137	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP106	VP106	1.0	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP106	3.0	SAND	16-05-08	-	<1	<5	<1	-	<0.1	-	10	<1	<2	-	<2	<5	<0.05	5	-	5	<5	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP107	VP107	1.0	CLAY	16-05-08	-	14	27	2	-	<0.1	-	62	84	<2	-	13	6	0.21	14	-	111	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP107	3.0	Sandy CLAY	16-05-08	-	16	<5	<1	-	<0.1	-	8	1	<2	-	2	<5	<0.05	4	-	20	6	5.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP108	VP108	2.0	Clayey SAND	16-05-08	-	3	<5	<1	-	<0.1	-	7	8	<2	-	3	<5	<0.05	2	-	16	<5	6.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP108	3.0	Clayey SAND	16-05-08	-	8	8	<1	-	0.1	-	14	40	<2	-	4	5	<0.05	12	-	32	13	6.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP109	VP109	1.0	Sandy CLAY	16-05-08	-	10	13	1	-	<0.1	-	43	4	<2	-	13	<5	<0.05	8	-	87	<5	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP109	3.0	SAND	16-05-08	-	3	15	<1	-	<0.1	-	18	3	<2	-	3	<5	<0.05	10	-	41	<5	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP110	VP110	2.0	Fill	16-05-08	-	<1	10	<1	-	<0.1	-	17	1	<2	-	2	<5	<0.05	10	-	<5	<5	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP110	2.5	SAND	16-05-08	-	3	28	<1	-	0.2	-	16	4	14	-	10	49	0.06	11	-	13	62	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP110	3.5	SAND	16-05-08	-	<1	<5	<1	-	<0.1	-	10	<1	<2	-	<2	<5	<0.05	5	-	<5	<5	7.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP111	VP111	0.5	Fill	16-05-08	-	<1	<5	<1	-	<0.1	-	5	4	2	-	<2	<5	0.63	<1	-	<5	8	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP111	1.0	CLAY	16-05-08	-	11	15	1	-	<0.1	-	48	6	<2	-	13	<5	0.1	7	-	105	<5	6.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2

Soil Analytical Results - 2008 to 2017

Detailed Site Investigation

Lot 3, 14 Hamlet Street, Cheltenham

1707054

Chlorinated Hydrocarbons

Location Code	Field ID	Depth	Matrix Description	Date	1,1,1,2-tetrachloroethane	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons EPAVic	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	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene (TCE)	Tetrachloroethene (PCE)	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.01	0.01	0.01	0.01	0.02	0.04	0.5	0.01	0.5	0.5	0.5	0.02	0.5	0.5	0.5	0.5	0.5	0.01	0.5	5	0.02	5	0.01	0.5	0.5	0.4	0.02	2.5	0.5	0.02	0.02	0.02	0.5	0.02
NEPM 2013 Table 1A(1) HILs Res A Soil																																						
NEPM 2013 Table 1A(1) HILs Res B Soil																																						
NEPM 2013 Table 1A(1) HILs Rec C Soil																																						
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																																						
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m																																						
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m																																						
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m																																						
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m																																						
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m																																						
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m																																						
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m																																						
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m																																						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																																						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m																																						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m																																						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m																																						
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m																																						
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m																																						
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																																						
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																																						
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m																																						
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m																																						
International Screening Criteria - Residential								5	5	5	5	1				6.4	5						5			5		5							0.01	0.2			
International Screening Criteria - Commercial								50	50	50	50	1				6.4	50						50			50		50							0.01	0.6			
International Screening Criteria - Industrial								50	50	50	50	1				6.4	50						50			50		50							0.01	0.5			
USEPA RSLs Industrial Soil THQ=1.0					8.8			36,000	2.7	5	16	1,000		0.11	0.064	2	4.4	23,000		1.3	86	2.9	39	57,000	1.4	460	2,300		99	1,000	5.3	7.5	8	6	100	23,000		1.7
USEPA RSLs Resident Soil THQ=1.0					2			8,100	0.6	1.1	3.6	230		0.0051	0.0053	0.46	1	1,600		0.29	19	0.65	8.3	14,000	0.32	110	160		24	57	1.2	1.8	1.8	0.94	24	1,600		0.059
BF_EEC_SB101	BF_EEC_SB101_0.1	0.1	Fill	19-07-17	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	-	-	<0.02	-	-	-	-	-	<0.01	-	-	<0.02	-	<0.01	-	-	<0.4	<0.02	<2.5	<0.5	<0.02	<0.02	<0.02	-	<0.02
	BF_EEC_SB101_1.0	1	Sandy CLAY	19-07-17	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	-	-	<0.02	-	-	-	-	-	<0.01	-	-	<0.02	-	<0.01	-	-	<0.4	<0.02	<2.5	<0.5	<0.02	<0.02	<0.02	-	<0.02
BF_EEC_SB102	BF_EEC_SB102_0.5	0.5	Fill	19-07-17	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	-	-	<0.02	-	-	-	-	-	<0.01	-	-	<0.02	-	<0.01	-	-	<0.4	<0.02	<2.5	<0.5	<0.02	<0.02	<0.02	-	<0.02
	BF_EEC_SB102_1.5	1.5	Sandy CLAY	19-07-17	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	-	-	<0.02	-	-	-	-	-	<0.01	-	-	<0.02	-	<0.01	-	-	<0.4	<0.02	<2.5	<0.5	<0.02	<0.02	<0.02	-	<0.02
BF_EEC_SB103	BF_EEC_SB103_0.1	0.1	Fill	19-07-17	<0.01	0.41	0.41	<0.01	<0.02	<0.04	-	<0.01	-	-	-	<0.02	-	-	-	-	-	0.41	-	-	<0.02	-	<0.01	-	-	<0.4	<0.02	-	-	<0.02	<0.02	<0.02	-	<0.02
	BF_EEC_SB103_1.0	1	Sandy CLAY	19-07-17	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	-	<0.01	-	-	-	<0.02	-	-	-	-	-	<0.01	-	-	<0.02	-	<0.01	-	-	<0.4	<0.02	-	-	<0.02	<0.02	<0.02	-	<0.02
BF_EEC_SB104	BF_EEC_SB104_0.8	0.8	Fill	02-08-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB105	BF_EEC_SB105_0.6	0.6	Fill	02-08-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW50A	MW50A_0.5	0.5	Fill	28-07-17	<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	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
	MW50A_0.7	0.7	Sandy CLAY	28-07-17	<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	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
VP101	VP101	0.5	Fill	16-05-08	<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	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
	VP101	2.7	Clayey SAND	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
VP102	VP102	1.0	Fill	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
	VP102	2.5	CLAY	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
VP103	VP103	1.0	Fill	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
	VP103	2.6	Clayey SAND	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
VP104	VP104	0.5	Fill	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
	VP104	2.8	SAND	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
VP105	VP105	0.5	Fill	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
VP106	VP106	1.0	Clayey SAND	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
	VP106	3.0	SAND	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
VP107	VP107	1.0	CLAY	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
	VP107	3.0	Sandy CLAY	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
VP108	VP108	2.0	Clayey SAND	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
	VP108	3.0	Clayey SAND	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
VP109	VP109	1.0	Sandy CLAY	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
	VP109	3.0	SAND	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
VP110	VP110	2.0	Fill	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
	VP110	2.5	SAND	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
	VP110	3.5	SAND	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
VP111	VP111	0.5	Fill	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
	VP111	1.0	CLAY	16-05-08	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5

Halogenated Benzenes

Location Code	Field ID	Depth	Matrix Description	Date	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene
					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	0.01	0.02	0.5	0.02	0.5	0.5	0.5	0.02	0.05	0.5
NEPM 2013 Table 1A(1) HILs Res A Soil														10	
NEPM 2013 Table 1A(1) HILs Res B Soil														15	
NEPM 2013 Table 1A(1) HILs Rec C Soil														10	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil														80	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m															
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m															
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m															
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m															
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m															
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m															
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m															
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m															
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m															
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m															
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m															
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m															
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m															
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m															
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind															
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space															
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m															
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m															
International Screening Criteria - Residential															
International Screening Criteria - Commercial															
International Screening Criteria - Industrial															
USEPA RSLs Industrial Soil THQ=1.0					930	110	9,300		11	23,000	23,000	1,800	1,300		930
USEPA RSLs Resident Soil THQ=1.0					63	24	1,800		2.6	1,600	1,600	290	280		63
BF_EEC_SB101	BF_EEC_SB101_0.1	0.1	Fill	19-07-17	-	<0.01	<0.02	<0.5	<0.02	-	-	-	<0.02	<1	<0.5
	BF_EEC_SB101_1.0	1	Sandy CLAY	19-07-17	-	<0.01	<0.02	<0.5	<0.02	-	-	-	<0.02	<1	<0.5
BF_EEC_SB102	BF_EEC_SB102_0.5	0.5	Fill	19-07-17	-	<0.01	<0.02	<0.5	<0.02	-	-	-	<0.02	<1	<0.5
	BF_EEC_SB102_1.5	1.5	Sandy CLAY	19-07-17	-	<0.01	<0.02	<0.5	<0.02	-	-	-	<0.02	<1	<0.5
BF_EEC_SB103	BF_EEC_SB103_0.1	0.1	Fill	19-07-17	-	<0.01	<0.02	-	<0.02	-	-	-	<0.02	-	-
	BF_EEC_SB103_1.0	1	Sandy CLAY	19-07-17	-	<0.01	<0.02	-	<0.02	-	-	-	<0.02	-	-
BF_EEC_SB104	BF_EEC_SB104_0.8	0.8	Fill	02-08-17	-	-	-	-	-	-	-	-	-	<0.05	-
BF_EEC_SB105	BF_EEC_SB105_0.6	0.6	Fill	02-08-17	-	-	-	-	-	-	-	-	-	<0.05	-
MW50A	MW50A_0.5	0.5	Fill	28-07-17	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5
	MW50A_0.7	0.7	Sandy CLAY	28-07-17	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5
VP101	VP101	0.5	Fill	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5
	VP101	2.7	Clayey SAND	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP102	VP102	1.0	Fill	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	VP102	2.5	CLAY	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP103	VP103	1.0	Fill	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	VP103	2.6	Clayey SAND	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP104	VP104	0.5	Fill	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	VP104	2.8	SAND	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP105	VP105	0.5	Fill	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP106	VP106	1.0	Clayey SAND	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	VP106	3.0	SAND	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP107	VP107	1.0	CLAY	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	VP107	3.0	Sandy CLAY	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP108	VP108	2.0	Clayey SAND	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	VP108	3.0	Clayey SAND	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP109	VP109	1.0	Sandy CLAY	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	VP109	3.0	SAND	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP110	VP110	2.0	Fill	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	VP110	2.5	SAND	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	VP110	3.5	SAND	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP111	VP111	0.5	Fill	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	VP111	1.0	CLAY	16-05-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table 2
Soil Analytical Results - 2008 to 2017
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

	Amino Aliphatics				Amino Aromatics		Anilines						Cyanides			Explosives				Glycols							Halogenated Hydrocarbons					Herbicides		MAH										
	N-nitrosodiethylamine	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	N-nitrosomethylethylamine	1-naphthylamine	N-Nitrosodiphenyl & Diphenylamine	2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline	2-methyl-5-nitroaniline	Aniline	Cyanide (free)	Cyanide Total	Cyanide (WAD)	1,3,5-Trinitrobenzene	2,4-Dinitrotoluene	2,6-dinitrotoluene	Nitrobenzene	2-butoxyethanol	2-Ethoxyethanol acetate	Diethylene glycol	Diethylene glycol, monobutyl ether	Ethylene glycol	Propylene glycol	Triethylene Glycol	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	Atrazine	Pronamide	Monocyclic aromatic hydrocarbons EPAV/c	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	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	0.5	1	1	1	0.5	0.5	0.5	0.5	1	1	1	0.5	1	1	0.5	2	2	2	2	2	2	2	0.5	5	5	0.5	5	0.05	0.5	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1A(1) HILs Res A Soil													250																			320											
NEPM 2013 Table 1A(1) HILs Res B Soil													300																			470											
NEPM 2013 Table 1A(1) HILs Rec C Soil													240																			400											
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil													1,500																			2,500											
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m																																										
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m																																										
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m																																										
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m																																										
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m																																										
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m																																										
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m																																										
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m																																										
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																																										
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m																																										
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m																																										
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m																																										
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m																																										
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m																																										
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																																										
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																																										
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m																																										
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m																																										
International Screening Criteria - Residential														0.9																													
International Screening Criteria - Commercial														8																													
International Screening Criteria - Industrial														8																													
USEPA RSLs Industrial Soil THQ=1.0	0.015	0.46	0.33	0.091			8,000		11	110	260	400		150		32,000	7.4	1.5	22	82,000	14,000		24,000	1,600,000	6,000,000	1,600,000	0.16	30	370		350,000		62,000		240	12,000	9,900	58,000	24,000		120,000	35,000	120,000
USEPA RSLs Resident Soil THQ=1.0	0.00081	0.099	0.078	0.02			630		2.7	27	60	95		23		2,200	1.7	0.36	5.1	6,300	2,600		1,900	130,000	1,300,000	130,000	0.036	6.8	87		23,000		4,700		58	780	1,900	3,900	3,800		7,800	6,000	7,800

Location Code	Field ID	Depth	Matrix Description	Date																																							
BF_EEC_SB101	BF_EEC_SB101_0.1	0.1	Fill	19-07-17	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	-	<0.5	<1	<1	<0.5	<2	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	<0.5	<0.2	-	-	-	-	-	-	-	<0.5	-
	BF_EEC_SB101_1.0	1	Sandy CLAY	19-07-17	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	-	<0.5	<1	<1	<0.5	<2	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	<0.5	<0.2	-	-	-	-	-	-	-	<0.5	-
BF_EEC_SB102	BF_EEC_SB102_0.5	0.5	Fill	19-07-17	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	-	<0.5	<1	<1	<0.5	<2	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	<0.5	<0.2	-	-	-	-	-	-	-	<0.5	-
	BF_EEC_SB102_1.5	1.5	Sandy CLAY	19-07-17	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<1	<1	-	<0.5	<1	<1	<0.5	<2	<2	<2	<2	<2	<2	<2	-	-	-	-	-	-	<0.5	<0.2	-	-	-	-	-	-	-	<0.5	-
BF_EEC_SB103	BF_EEC_SB103_0.1	0.1	Fill	19-07-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	<0.5	-
	BF_EEC_SB103_1.0	1	Sandy CLAY	19-07-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	<0.5	-
BF_EEC_SB104	BF_EEC_SB104_0.8	0.8	Fill	02-08-17	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB105	BF_EEC_SB105_0.6	0.6	Fill	02-08-17	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-
MW50A	MW50A_0.5	0.5	Fill	28-07-17	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<1	<1	-	<0.5	<1.0	<1.0	<0.5	<2	<2	<2	<2	<2	<2	<2	<0.5	<5	<5	<5	<0.5	<5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	MW50A_0.7	0.7	Sandy CLAY	28-07-17	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<1	<1	-	<0.5	<1.0	<1.0	<0.5	<2	<2	<2	<2	<2	<2	<2	<0.5	<5	<5	<5	<0.5	<5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP101	VP101	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	VP101	2.7	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP102	VP102	1.0	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	VP102	2.5	CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP103	VP103	1.0	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	VP103	2.6	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP104	VP104	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	VP104	2.8	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VP105	VP105	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
VP106	VP106	1.0	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
	VP106	3.0	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
VP107	VP107	1.0	CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
	VP107	3.0	Sandy CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
VP108	VP108	2.0	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
	VP108	3.0	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
VP109	VP109	1.0	Sandy CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
	VP109	3.0	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
VP110	VP110	2.0	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
	VP110	2.5	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
	VP110	3.5	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
VP111	VP111	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
	VP111	1.0	CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<5	<5	<5	<0.5	<5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-

Table 2
Soil Analytical Results - 2008 to 2017
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

	Organochlorine Pesticides																						
	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	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	0.05	0.05	0.2
NEPM 2013 Table 1A(1) HILs Res A Soil				6							240		270				10				6		300
NEPM 2013 Table 1A(1) HILs Res B Soil				10							600		400				20				10		500
NEPM 2013 Table 1A(1) HILs Rec C Soil				10							400		340				20				10		400
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				45							3,600		2,000				100				50		2,500
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m																							
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m																							
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m																							
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m																							
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m																							
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m																							
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m																							
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m																							
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																							
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m																							
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m																							
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m																							
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m																							
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m																							
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind										640													
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space										180													
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m																							
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m																							
International Screening Criteria - Residential																							
International Screening Criteria - Commercial																							
International Screening Criteria - Industrial																							
USEPA RSLs Industrial Soil THQ=1.0	9.3	0.36	0.18		1.3				9.6	8.5		0.14								2.5		0.33	
USEPA RSLs Resident Soil THQ=1.0	2	0.086	0.039		0.3				2.3	1.9		0.034								0.57		0.07	

	Organophosphorous Pesticides															Nitroaromatics			Other	PCB
	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Methyl parathion	Monocrotophos	Prothiofos	2-Picoline	4-aminobiphenyl	Pentachloronitrobenzene	Acetophenone	PCBs (Sum of total)
	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	0.05	0.2	0.2	0.05	0.5	0.5	0.5	0.5	0.1
NEPM 2013 Table 1A(1) HILs Res A Soil					160															
NEPM 2013 Table 1A(1) HILs Res B Soil					340															1
NEPM 2013 Table 1A(1) HILs Rec C Soil					250															1
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil					2,000															7
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m																				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m																				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m																				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m																				
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m																				
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m																				
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m																				
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m																				
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																				
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m																				
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m																				
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m																				
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m																				
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m																				
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																				
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																				
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m																				
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m																				
International Screening Criteria - Residential																				
International Screening Criteria - Commercial																				
International Screening Criteria - Industrial																				
USEPA RSLs Industrial Soil THQ=1.0	2,500			570		8,200	570	7.9	160	410		16,000	210				0.11	13	120,000	
USEPA RSLs Resident Soil THQ=1.0	190			44		630	44	1.9	13	32		1,300	16				0.026	2.7	7,800	

Location Code	Field ID	Depth	Matrix Description	Date	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
BF_EEC_SB101	BF_EEC_SB101_0.1	0.1	Fill	19-07-17	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-
	BF_EEC_SB101_1.0	1	Sandy CLAY	19-07-17	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-
BF_EEC_SB102	BF_EEC_SB102_0.5	0.5	Fill	19-07-17	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-
	BF_EEC_SB102_1.5	1.5	Sandy CLAY	19-07-17	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-
BF_EEC_SB103	BF_EEC_SB103_0.1	0.1	Fill	19-07-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BF_EEC_SB103_1.0	1	Sandy CLAY	19-07-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB104	BF_EEC_SB104_0.8	0.8	Fill	02-08-17	<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	<0.05	<0.05	<0.2
BF_EEC_SB105	BF_EEC_SB105_0.6	0.6	Fill	02-08-17	<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	<0.05	<0.05	<0.2
MW50A	MW50A_0.5	0.5	Fill	28-07-17	<0.5	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	<1.0	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-
	MW50A_0.7	0.7	Sandy CLAY	28-07-17	<0.5	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	<1.0	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-
VP101	VP101	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP101	2.7	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP102	VP102	1.0	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP102	2.5	CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP103	VP103	1.0	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP103	2.6	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP104	VP104	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP104	2.8	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP105	VP105	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP106	VP106	1.0	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP106	3.0	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP107	VP107	1.0	CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP107	3.0	Sandy CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP108	VP108	2.0	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP108	3.0	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP109	VP109	1.0	Sandy CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP109	3.0	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP110	VP110	2.0	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP110	2.5	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP110	3.5	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP111	VP111	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP111	1.0	CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Location Code	Field ID	Depth	Matrix Description	Date	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Methyl parathion	Monocrotophos	Prothiofos	2-Picoline	4-aminobiphenyl	Pentachloronitrobenzene	Acetophenone	PCBs (Sum of total)
BF_EEC_SB101	BF_EEC_SB101_0.1	0.1	Fill	19-07-17	-	-	-	<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	<0.1
	BF_EEC_SB101_1.0	1	Sandy CLAY	19-07-17	-	-	-	<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	<0.1
BF_EEC_SB102	BF_EEC_SB102_0.5	0.5	Fill	19-07-17	-	-	-	<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	<0.1
	BF_EEC_SB102_1.5	1.5	Sandy CLAY	19-07-17	-	-	-	<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	<0.1
BF_EEC_SB103	BF_EEC_SB103_0.1	0.1	Fill	19-07-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BF_EEC_SB103_1.0	1	Sandy CLAY	19-07-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB104	BF_EEC_SB104_0.8	0.8	Fill	02-08-17	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	-	-	-	-	<0.1
BF_EEC_SB105	BF_EEC_SB105_0.6	0.6	Fill	02-08-17	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	-	-	-	-	<0.1
MW50A	MW50A_0.5	0.5	Fill	28-07-17	-	-	-	<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	<0.1
	MW50A_0.7	0.7	Sandy CLAY	28-07-17	-	-	-	<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	<0.1
VP101	VP101	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP101	2.7	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP102	VP102	1.0	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP102	2.5	CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP103	VP103	1.0	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP103	2.6	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP104	VP104	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP104	2.8	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP105	VP105	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP106	VP106	1.0	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP106	3.0	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP107	VP107	1.0	CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP107	3.0	Sandy CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP108	VP108	2.0	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP108	3.0	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP109	VP109	1.0	Sandy CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP109	3.0	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP110	VP110	2.0	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP110	2.5	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP110	3.5	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP111	VP111	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP111	1.0	CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2
Soil Analytical Results - 2008 to 2017
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

	Pesticides								Phthalates					
	Bifenthrin	Chlorobenzilate	Carbazole	Demeton-S-methyl	Fenamiphos	Mirex	Parathion	Pirimphos-ethyl	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate
	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	0.5	0.5	0.05	0.05	0.2	0.2	0.05	5	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1A(1) HILs Res A Soil	600					10								
NEPM 2013 Table 1A(1) HILs Res B Soil	840					20								
NEPM 2013 Table 1A(1) HILs Rec C Soil	730					20								
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil	4,500					100								
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m														
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m														
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m														
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m														
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m														
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m														
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m														
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m														
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m														
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m														
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m														
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m														
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m														
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m														
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind														
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space														
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m														
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m														
International Screening Criteria - Residential														
International Screening Criteria - Commercial														
International Screening Criteria - Industrial														
USEPA RSLs Industrial Soil THQ=1.0		21			210		4,900		160	1,200	660,000		82,000	8,200
USEPA RSLs Resident Soil THQ=1.0		4.9			16		380		39	290	51,000		6,300	630

	Phenols											
	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	3 & 4-methylphenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenol
	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	0.5	1	0.5
NEPM 2013 Table 1A(1) HILs Res A Soil											100	3,000
NEPM 2013 Table 1A(1) HILs Res B Soil											130	45,000
NEPM 2013 Table 1A(1) HILs Rec C Soil											120	40,000
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil											660	240,000
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m												
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m												
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m												
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m												
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m												
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m												
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m												
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind												
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space												
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m												
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m												
International Screening Criteria - Residential												
International Screening Criteria - Commercial												
International Screening Criteria - Industrial												
USEPA RSLs Industrial Soil THQ=1.0	82,000	210	2,500	16,000		5,800	41,000			82,000		
USEPA RSLs Resident Soil THQ=1.0	6,300	49	190	1,300		390	3,200			6,300		

	SVOCs																VOCs		
	2-(acetylamino) fluorene	3,3-Dichlorobenzidine	4-(dimethylamino) azobenzene	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	4-Nitroquinoline-N-oxide	Azobenzene	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Dibenzofuran	Hexachloropropene	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	Phenacetin	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	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	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5
NEPM 2013 Table 1A(1) HILs Res A Soil																			
NEPM 2013 Table 1A(1) HILs Res B Soil																			
NEPM 2013 Table 1A(1) HILs Rec C Soil																			
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 0-1m																			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 1-2m																			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, 2-4m																			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand, >4m																			
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 0-1m																			
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 1-2m																			
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, 2-4m																			
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand, >4m																			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 0-1m																			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 1-2m																			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, 2-4m																			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand, >4m																			
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 0-2m																			
CRC CARE Intrusive Maintenance Worker Soil HSL for Vapour Intrusion, Sand, 2-4m																			
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																			
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																			
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil, 0-2m																			
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil, 0-2m																			
International Screening Criteria - Residential																			
International Screening Criteria - Commercial																			
International Screening Criteria - Industrial																			
USEPA RSLs Industrial Soil THQ=1.0	0.6	5.1	0.5				26	2,500	1	1,000			0.34	0.24	1.1	1,000	0.032	0.032	36
USEPA RSLs Resident Soil THQ=1.0	0.14	1.2	0.12				5.6	190	0.23	73			0.081	0.058	0.26	250	0.0074	0.0074	7.7

Location Code	Field ID	Depth	Matrix Description	Date	Bifenthrin	Chlorobenzilate	Carbazole	Demeton-S-methyl	Fenamiphos	Mirex	Parathion	Pirimphos-ethyl	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate
BF_EEC_SB101	BF_EEC_SB101_0.1	0.1	Fill	19-07-17	-	<0.5	<0.5	-	-	-	-	<0.5	<5	<0.5	<0.5	<0.5	1.2	<0.5
	BF_EEC_SB101_1.0	1	Sandy CLAY	19-07-17	-	<0.5	<0.5	-	-	-	-	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5
BF_EEC_SB102	BF_EEC_SB102_0.5	0.5	Fill	19-07-17	-	<0.5	<0.5	-	-	-	-	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5
	BF_EEC_SB102_1.5	1.5	Sandy CLAY	19-07-17	-	<0.5	<0.5	-	-	-	-	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5
BF_EEC_SB103	BF_EEC_SB103_0.1	0.1	Fill	19-07-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BF_EEC_SB103_1.0	1	Sandy CLAY	19-07-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB104	BF_EEC_SB104_0.8	0.8	Fill	02-08-17	<0.05	-	-	<0.05	<0.05	<0.20	<0.2	<0.05	-	-	-	-	-	-
BF_EEC_SB105	BF_EEC_SB105_0.6	0.6	Fill	02-08-17	<0.05	-	-	<0.05	<0.05	<0.20	<0.2	<0.05	-	-	-	-	-	-
MW50A	MW50A_0.5	0.5	Fill	28-07-17	-	<0.5	<0.5	-	-	-	-	<0.5	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
	MW50A_0.7	0.7	Sandy CLAY	28-07-17	-	<0.5	<0.5	-	-	-	-	<0.5	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
VP101	VP101	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP101	2.7	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP102	VP102	1.0	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP102	2.5	CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP103	VP103	1.0	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP103	2.6	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP104	VP104	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP104	2.8	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP105	VP105	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP106	VP106	1.0	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP106	3.0	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP107	VP107	1.0	CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP107	3.0	Sandy CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP108	VP108	2.0	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP108	3.0	Clayey SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP109	VP109	1.0	Sandy CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP109	3.0	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP110	VP110	2.0	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP110	2.5	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP110	3.5	SAND	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP111	VP111	0.5	Fill	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VP111	1.0	CLAY	16-05-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Field ID	Depth	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	3 & 4-methylphenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenol
BF_EEC_SB101_0.1	0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
BF_EEC_SB101_1.0	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
BF_EEC_SB102_0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
BF_EEC_SB102_1.5	1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
BF_EEC_SB103_0.1	0.1	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB103_1.0	1	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB104_0.8	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<2	<0.5
BF_EEC_SB105_0.6	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<2	<0.5
MW50A_0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
MW50A_0.7	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5
VP101	0.5	-	-	-	-	-	-	-	-	-	-	-	-
VP101	2.7	-	-	-	-	-	-	-	-	-	-	-	-
VP102	1.0	-	-	-	-	-	-	-	-	-	-	-	-
VP102	2.5	-	-	-	-	-	-	-	-	-	-	-	-
VP103	1.0	-	-	-	-	-	-	-	-	-	-	-	-
VP103	2.6	-	-	-	-	-	-	-	-	-	-	-	-
VP104	0.5	-	-	-	-	-	-	-	-	-	-	-	-
VP104	2.8	-	-	-	-	-	-	-	-	-	-	-	-
VP105	0.5	-	-	-	-	-	-	-	-	-	-	-	-
VP106	1.0	-	-	-	-	-	-	-	-	-	-	-	-
VP106	3.0	-	-	-	-	-	-	-	-	-	-	-	-
VP107	1.0	-	-	-	-	-	-	-	-	-	-	-	-
VP107	3.0	-	-	-	-	-	-	-	-	-	-	-	-
VP108	2.0	-	-	-	-	-	-	-	-	-	-	-	-
VP108	3.0	-	-	-	-	-	-	-	-	-	-	-	-
VP109	1.0	-	-	-	-	-	-	-	-	-	-	-	-
VP109	3.0	-	-	-	-	-	-	-	-	-	-	-	-
VP110	2.0	-	-	-	-	-	-	-	-	-	-	-	-
VP110	2.5	-	-	-	-	-	-	-	-	-	-	-	-
VP110	3.5	-	-	-	-	-	-	-	-	-	-	-	-
VP111	0.5	-	-	-	-	-	-	-	-	-	-	-	-
VP111	1.0	-	-	-	-	-	-	-	-	-	-	-	-

Field ID	Depth	2-(acetylamino) fluorene	3,3-Dichlorobenzidine	4-(dimethylamino) azobenzene	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	4-Nitroquinoline-N-oxide	Azobenzene	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Dibenzofuran	Hexachloropropene	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	Phenacetin	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	Pentachloroethane
BF_EEC_SB101_0.1	0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	-	-	-
BF_EEC_SB101_1.0	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	-	-	-
BF_EEC_SB102_0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	-	-	-
BF_EEC_SB102_1.5	1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	-	-	-
BF_EEC_SB103_0.1	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB103_1.0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB104_0.8	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF_EEC_SB105_0.6	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW50A_0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
MW50A_0.7	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
VP101	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP101	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP102	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP102	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP103	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP103	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP104	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP104	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP105	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP106	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP106	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP107	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP107	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP108	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP108	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP109	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP109	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP110	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP110	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP110	3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP111	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP111	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table E Summary of Final On-Site Soil Conditions – Results Exceeding Investigation Levels (mg/kg)

Analyte	Reported Concentration Range (mg/kg)	Exceedances in Fill or Natural	Residential A (low density)[1]		Residential B (high density)[2]		Recreational/Open Space C[3]		Commercial/Industrial D[4]	
			EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs	EILs/ESLs	Human Health – HILs/HSLs
pH	5.9 – 8.5	Fill and Natural	6-8[15]	6-8[15]	6-8[15]	6-8[15]	6-8[15]	6-8[15]	6-8[15]	6-8[15]
Cobalt	8 - 125	Fill and Natural	50[12]	100	50[12]	600	50[12]	600	300[12]	4,000
Copper	<5 - 817	Fill	75[16]	6,000	75[16]	30,000	75[16]	17,000	110[16]	240,000
Lead	<5 – 1,540	Fill	1,100	300	1,100	1,200	1,100	1,200	1,800	1,500
Manganese	10 - 394	Fill	220[17]	3,800	220[17]	14,000	220[17]	14,000	NE	60,000
Vanadium	8 - 134	Natural	130[12]	390[10]	130[12]	390[10]	130[12]	390[10]	130[12]	5,800[11]
Zinc	<5 – 1,230	Fill	690[16]	7,400	690[16]	60,000	690[16]	30,000	1,100[16]	400,000
TRH C_6-C_{10} minus BTEX (F1)[6]	<10 - 56	Natural	180	45/4,400	180	45/5,600	180	NL/5,100	215	260/26,000
TRH >C_{10}-C_{16} minus naphthalene (F2)[6,8]	<50 - 140	Natural	120	110/3,300	120	110/4,200	120	NL/3,800	170	NL/20,000
TCE	<0.02-0.43	Fill	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Chromium VI	<0.5-0.6	Fill	0.4[12]	100	0.4[12]	500	0.4[12]	300	1.4[12]	3,600

Notes:

1: NEPM Schedule B(1) (NEPC 2013) EIL/ESL for urban residential/public open space, HIL/HSLfor residential with garden/accessible soil (A)– Unless otherwise specified.

2: NEPM Schedule B(1) (NEPC 2013) EIL/ESL for urban residential/public open space, HIL/HSLfor residential with minimal opportunities for soil access (B)– Unless otherwise specified.

3: NEPM Schedule B(1) (NEPC 2013) EIL/ESL for recreational/open space, HIL/HSL C– Unless otherwise specified.

4: NEPM Schedule B(1) (NEPC 2013) EIL/ESL for commercial/industrial, HIL/HSLfor commercial/industrial (D)– Unless otherwise specified.

5: NEPM Schedule B(1) (NEPC 2013) and Friebel and Nadebaum (2011) HIL for commercial/industrial (D) and HSL for intrusive maintenance worker– Unless otherwise specified.
6: NEPM Schedule B(1) (NEPC 2013). Do not subtract BTEX or naphthalene prior to comparison of TRH C6-C10 or >C10-C16 results with management limits.
7: HIL for DDT+DDD+DDE
8: Do not subtract naphthalene prior to comparison of TRH >C10-C16 results with ESL.
9: HILs for BaP TEQ.
10: US EPA Regional Screening Levels May 2018 (Residential Use). For direct contact exposure pathways only.
11: US EPA Regional Screening Levels May 2018 (Industrial Use). For direct contact exposure pathways only.
12: CCME (2007) Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health
13: NSW EPA (1994) Guidelines for Assessing Service Station Sites. Threshold Concentrations for Sensitive Land Use (criteria for the protection of terrestrial organism adopted in the absence of NEPM EILs and criteria for the protection of human health adopted in the absence of NEPM HILs).
14: Dutch 2009 (Target value) adopted in the absence of NEPM EIL and ANZECC B levels.
15: ANZECC B levels.
16: Site-specific EIL derived in accordance with NEPC (2013) by ARC (2018), noting that the same EIL has been adopted for fill and natural material based on similar properties observed.
17: US EPA Eco-Tox SSL (June 2017).
18: EPA Victoria IWRG621 Clean Fill Criteria (June 2009).
19: US EPA Region 5 ESLs (August 2003).
HIL: Health Investigation Level
HSL: Health Screening Level. HSL for vapour intrusion quoted first followed by HSL for direct contact, "-" indicates analyte is not volatile, vapour intrusion HSL for 0m - <1m in sand adopted for HSL-A, HSL-B and HSL-D, HSL for 0m - <2m in sand adopted for HSL-intrusive maintenance worker .
EIL: Ecological Investigation Level
ESL: Ecological Screening Level, ESL for coarse grained soil adopted.
NE: Not Established.
N/A: Not applicable (not a petroleum hydrocarbon)
NL: Not Limiting. Denotes that a soil vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario.
All values in mg/kg unless otherwise specified.

Table F Groundwater Monitoring Well Construction Details

Well ID	Total Depth (mbgl)	Screened Interval (mbgl)	Water Strike (mbgl)	Stabilised Groundwater Level (mBTOC / mAHD)								
				Prior to the Audit	During the Audit							
				May. 2008 – Jan. 2014	Jan/Feb 2017	Aug. 2017	Oct. 2017	Jan. 2018	May. 2018	Jun. 2018	Jul. 2018	Oct. 2018
On-Site Groundwater Monitoring Wells												
MW2 (ERM, Feb 2001)	8.9	1.5 – 8.0	Not noted	8.89 / 29.25 (May 2008). Well dry Aug 2008 – Jan 2009. Decommissioned from April 2009.	Well decommissioned prior to the Audit.							
MW02A (ARC, 08/05/2018)	11.5	8.5 – 11.5	9.5	-	-	-	-	-	10.20 / 28.01	-	10.13 / 28.08	10.22 / 27.99
MW16/1 (ERM, May 2001)	14.7	13.7 – 14.3	Not noted	9.48 – 10.03 / 28.92 – 28.37	Well decommissioned prior to the Audit.							
MW16/2 (ERM, May 2001)	10.8	10.3 – 10.8	Not noted	9.43 – 9.74 / 28.96 – 28.65	Well decommissioned prior to the Audit.							
MW16/3 (ERM, May 2001)	8.6	5.3 – 8.6	Not noted	Dry	Well decommissioned prior to the Audit.							
MW17/1 (ERM, May 2001)	14.3	13.7 – 14.3	Not noted	8.74 – 9.42 / 29.03 – 28.35	Well decommissioned prior to the Audit.							
MW17/2 (ERM, May 2001)	11.1	10.6 – 11.1	Not noted	8.26 – 9.15 / 28.94 – 28.62	Well decommissioned prior to the Audit.							
MW17/3 (ERM, May 2001)	8.7	6.1 – 8.6	Not noted	8.70 - 8.72 / 29.06 - 29.05 Well dry Nov 2008 – Jul 2009.	Well decommissioned prior to the Audit.							
MW17A (ARC, 30/04/2018)	11.5	6.5 – 11.5	9.0	-	-	-	-	-	5.65 / NS	-	-	-

Well ID	Total Depth (mbgl)	Screened Interval (mbgl)	Water Strike (mbgl)	Stabilised Groundwater Level (mBTOC / mAHD)								
				Prior to the Audit	During the Audit							
				May. 2008 – Jan. 2014	Jan/Feb 2017	Aug. 2017	Oct. 2017	Jan. 2018	May. 2018	Jun. 2018	Jul. 2018	Oct. 2018
MW17B (ARC, 21/05/2018)	7.5	4.5 – 7.5	7.0	-	-	-	-	-	-	5.25 / 32.47	5.07 / 32.65	5.26 / 32.46
MW23 (GHD, 19/10/2006)	20.1	12.0 – 20.1	Not noted	8.38 – 9.25 / 29.22 – 28.35	9.37 / 28.23	9.47 / 28.14	9.59 / 28.01	9.58 / 28.03	-	-	-	-
MW23A (ARC, 30/04/2018)	11.5	8.5 – 11.5	9.5	-	-	-	-	-	9.48 / 28.09	-	9.53 / 28.04	9.63 / 27.94
MW33 (GHD, 11/03/2010)	17.0	15.0 – 17.0	Not noted	Not gauged/sampled. Well replaced by MW33R due to blockage and decommissioned March 2018.								
MW33R (GHD, 15/03/2010)	17.0	15.0 – 17.0	Not noted	9.11 – 9.97 / 29.23 / 28.38	10.12 / 28.22	10.19 / 28.15	10.41 / 27.93	10.32 / 28.02	10.42 / 27.92	-	10.36 / 27.98	-
MW50A (ARC, 07/08/2017)	15.0	12.0 – 15.0	9.5	-	-	10.31 / 28.15	10.66 / 27.80	10.32 / 28.14	10.51 / 27.95	-	10.46 / 28.00	-
MW50B (ARC, 01/08/2017)	18.0	15.0 – 18.0	9.5	-	-	10.30 / 28.17	10.69 / 27.78	10.42 / 28.06	10.53 / 27.94	-	10.47 / 28.00	-
MW50C (ARC, 02/08/2017)	20.7	18.5 – 20.0	9.5	-	-	10.34 / 28.15	10.58 / 27.90	10.47 / 28.01	10.56 / 27.92	-	10.51 / 27.97	-
CMW1 (EEC, 16/02/2017)	12.5	9.5 – 12.5	9.5	-	-	10.17 / 28.17	10.39 / 27.95	10.20 / 28.14	10.37 / 27.97	-	10.32 / 28.02	-
Off-Site Groundwater Monitoring Wells												
MW24A (GHD, 17/07/2008)	20.5	18.0 – 20.0	Not noted	9.88 – 10.70 / 29.20 – 28.39	10.88 / 28.21	-	-	-	-	-	-	-

Well ID	Total Depth (mbgl)	Screened Interval (mbgl)	Water Strike (mbgl)	Stabilised Groundwater Level (mBTOC / mAHD)							
				Prior to the Audit	During the Audit						
				May. 2008 – Jan. 2014	Jan/Feb 2017	Aug. 2017	Oct. 2017	Jan. 2018	May. 2018	Jun. 2018	Jul. 2018	Oct. 2018
MW24AR (EEC, 08/06/2017)	20.5	18.5 – 20.0	10.0	-	-	11.67 / 28.15	11.99 / 27.83	11.78 / 28.04	11.89 / 27.93	-	11.84 / 27.98	-
MW24B (GHD, 16/07/2008)	15.0	13.0 – 15.0	11.5	9.79 – 10.62 / 29.22 – 28.39	10.80 / 28.22	-	-	-	-	-	-	-
MW24BR (EEC, 09/06/2017)	15.0	13.5 – 15.0	10.0	-	-	11.65 / 28.17	12.41 / 27.41	11.74 / 28.08	11.84 / 27.98	-	11.78 / 28.04	-
MW24C (GHD, 15/07/2008)	11.0	8.2 – 10.6	Not noted	9.71 – 10.57 / 29.36 – 28.49	10.65 / 28.41	-	-	-	-	-	-	-
MW24CR (EEC, 09/06/2017)	12.0	9.0 – 12.0	10.5	-	-	11.69 / 28.09	12.67 / 27.11	11.57 / 28.21	11.71 / 28.07	-	11.68 / 28.10	-
MW25	15.0	13.0 – 15.0	Not noted	9.93 – 10.23 / 28.83 – 28.53	-	-	-	-	10.66 / 28.10 (April)	-	10.86 / 27.90	10.87 / 27.89
MW26 (GHD, 07/08/2008)	18.0	16.0 – 18.0	10.0	9.53 – 10.28 / 29.13 – 28.38	10.46 / 28.21	10.56 / 28.10	10.85/ 27.81	10.65 / 28.01	10.67 / 27.99	-	10.71 / 27.95	-
MW29 (GHD, 02/10/2008)	11.0	8.0 – 11.0	Not noted	8.82 – 9.15 / 29.04 – 28.71	9.65 / 28.21	9.71 / 28.15	9.74 / 28.12	9.83 / 28.03	NA	-	9.91 / 27.95	-
MW30 (GHD, 02/10/2008)	11.0	8.0 – 11.0	Not noted	7.94 – 8.77 / 29.32 – 28.49	8.86 / 28.40	9.04 / 28.22	9.05 / 28.21	9.15 / 28.11	9.27 / 27.99	-	9.24 / 28.02	9.31 / 27.95
MW34A	13.0	9.0 – 13.0	Not noted	10.15 – 10.22 / 28.54 – 28.47	-	-	-	-	10.59 / 28.10 (April)	-	10.71 / 27.99	10.75 / 27.94

Well ID	Total Depth (mbgl)	Screened Interval (mbgl)	Water Strike (mbgl)	Stabilised Groundwater Level (mBTOC / mAHD)							
				Prior to the Audit	During the Audit						
				May. 2008 – Jan. 2014	Jan/Feb 2017	Aug. 2017	Oct. 2017	Jan. 2018	May. 2018	Jun. 2018	Jul. 2018	Oct. 2018
MW34B	16.0	14.0 – 16.0	Not noted	10.14 – 10.21 / 28.54 – 28.47	-	-	-	-	10.66 / 28.02 (April)	-	10.81 / 27.87	10.81 / 27.87
MW40 (GHD, 13/03/2010)	11.0	8.0 – 11.0	8.0	7.43 – 7.92 / 29.77 – 29.28	-	8.64 / 28.57	8.64 / 28.57	8.42 / 28.78	8.86 / 28.34	-	8.67 / 28.53	-
BMW1 (EEC, 15/02/2017)	12.0	9.0 – 12.0	9.6	-	-	10.41 / 28.21	10.54 / 28.08	10.48 / 28.14	-	-	10.52 / 28.10	-
BMW2 (EEC, 15/02/2017)	12.0	9.0 – 12.0	9.5	-	-	10.46 / 28.21	10.70 / 27.96	10.49 / 28.18	10.60 / 28.07	-	10.54 / 28.13	-

mbgl: Metres below ground level mAHD: Metres Australian Height Datum

NA: No access to groundwater monitoring well

NS: Groundwater monitoring well not surveyed

Table G1 Groundwater Results (ARC 2017 - 2018)

Table 6
Groundwater Analytical Results - August 2017 to October 2018
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

				TPH					TRH							BTEX							MAH										Halogenated Hydrocarbons				
				C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16	C10-C16 (F2 minus Naphthalene)	C16-C34	C34-C40	C10-C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-Isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane
				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	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
EQL				20	50	100	50	50	20	20	100	100	100	100	100	1	1	1	1	1	1	0.001	1	1	1	1	1	1	1	1	1	1	1	10	10	1	10
Potable Water Supply				600[D5]				600[D5]								1	800 / 25[A]	300 / 3[A]			600 / 20[A]																
Primary Contact Recreation				600[D5]				600[D5]								1	800 / 25[A]	300 / 3[A]			600 / 20[A]			5.6[D5]	6[D5]	45[D5]	100[D5]	66[D5]		200[D5]	30 / 4[A]	69[D5]	1	1			
Stock Watering				600[D5]				600[D5]								1	800 / 25[A]	300 / 3[A]			600 / 20[A]			5.6[D5]	6[D5]	45[D5]	100[D5]	66[D5]		200[D5]	30 / 4[A]	69[D5]	1	1			
Agriculture, Parks and Gardens				600[D5]				600[D5]																												
Maintenance of Ecosystems				600[D5]				600[D5]								700																				
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand, >8m										1,000		1,000				900	NL	NL			NL															
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand, >8m										NL		NL				NL	NL	NL			NL															
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand, >8m										7,000		NL				5,000	NL	NL			NL															
Derived Groundwater Risk Based Contminant Screening Level - Residential																																				59,000
Derived Groundwater Risk Based Contminant Screening Level - Commercial/Industrial																																				940,000
Field ID	**Location**	**Date**	**Sample Code**																																	
BMW1	Lot 4	24-08-17	EM1711516002	130	<50	<100	<50	<50	120	120	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		24-10-17	EM1714676006	420	<50	<100	<50	<50	400	400	<100	<100	<100	<100	<100	2	<1	<1	<1	<1	<1	0.002	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		17-01-18	EM1801648004	250	<50	<100	<50	<50	250	250	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
BMW2	Lot 4	24-08-17	EM1711441008	140	<50	<100	<50	<50	130	130	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		24-10-17	EM1714676007	450	<50	<100	<50	<50	420	410	<100	<100	<100	<100	<100	1	5	<1	<1	<1	<1	0.006	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		17-01-18	EM1801648003	220	<50	<100	<50	<50	210	210	<100	<100	<100	<100	<100	<1	3	<1	<1	<1	<1	0.003	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
CMW1	Lot 3 (On-site)	24-08-17	EM1711516003	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		23-10-17	EM1714618003	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		16-01-18	EM1801513009	30	<50	<100	<50	<50	30	30	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		15-05-18	EM1808074003	30	<50	<100	<50	<50	30	30	<100	<100	<100	<100	<100	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.001	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		05-07-18	EM1810788004	30	<50	<100	<50	<50	40	40	<100	<100	<100	<100	<100	<1	1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
MW2A	Lot 3 (On-site)	15-05-18	EM1808074001	110	<50	<100	<50	<50	110	100	<100	<100	<100	<100	<100	8	<1	<1	<1	<1	<1	0.008	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		04-07-18	EM1810788003	80	<50	110	<50	110	90	90	<100	<100	110	<100	110	4	<1	<1	<1	<1	<1	0.004	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		03-10-18	EM1815860004	90	<50	<100	<50	<50	80	80	<100	<100	<100	<100	<100	3	<2	<2	<2	<2	<2	0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17B	Lot 3 (On-site)	05-06-18	EM1809115001	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<1	<1	2	3	5	0.005	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		04-07-18	EM1810788002	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		03-10-18	EM1815860002	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<2	<2	<2	<2	<2	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW23	Lot 3 (On-site)	23-08-17	EM1711357005	30	80	<100	<50	80	30	30	<100	<100	<100	<100	<100	<1	<2	<2	<2	<2	<1	<0.001	-	<1	<1	5	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		23-10-17	EM1714618005	50	190	<100	<50	190	60	50	150	140	<100	<100	150	4	<1	10	<1	<1	<1	0.012	-	<1	<1	9	<1	4	<1	<1	<1	<1	<1	<10	<10	<1	<10
		16-01-18	EM1801513019	<20	80	120	<50	200	<20	<20	120	120	<100	<100	120	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
MW23A	Lot 3 (On-site)	15-05-18	EM1808074002	40	<50	<100	<50	<50	40	30	<100	<100	<100	<100	<100	<1	<1	11	<1	<1	<1	0.011	<1	<1	-	2	<1	2	<1	<1	<1	<1	<1	<10	<10	<1	<10
		04-07-18	EM1810788001	80	<50	<100	<50	<50	100	70	<100	<100	110	<100	110	11	<1	23	<1	<1	<1	0.034	-	<1	<1	3	<1	3	<1	<1	<1	<1	<1	<10	<10	<1	<10
		03-10-18	EM1815860003	100	120	<100	<50	120	100	60	120	120	<100	<100	120	2	<2	38	<2	<2	<2	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW24AR	Lot 2	25-08-17	EM1711516012	4,480	<50	<100	<50	<50	4,120	4,080	<100	<100	<100	<100	<100	3	30	<1	<1	3	3	0.036	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		27-10-17	EM1714855014	8,700	<50	<100	<50	<50	8,810	8,780	<100	<100	<100	<100	<100	2	1	<1	<1	28	28	0.030		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		18-01-18	EM1801648022	10,800	<50	<100	<50	<50	10,200	10,200	<100	<100	<100	<100	<100	<10	<10	<10	<10	28	28	0.028		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<100
MW24BR	Lot 2	25-08-17	EM1711516011	61,000[D]	<50	<100	<50	<50	61,000[D]	61,000[D]	<100	<100	<100	<100	<100	9	71	<1	8	6	14	0.094	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		27-10-17	EM1714855015	3,930	<50	<100	<50	<50	4,140	4,140	<100	<100	<100	<100	<100	<1	2	<1	<1	<1	<1	0.002	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		18-01-18	EM1801648020	2,200	<50	<100	<50	<50	2,120	2,120	<100	<100	<100	<100	<100	<10	<10	<10	<10	<10	<10	<0.01		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<100
MW24CR	Lot 2	25-08-17	EM1711516010	45,800	21,900	870	<50	22,800	42,400	38,200	5,850	5,850	690	<100	6,540	27	4,100	41	29	16	45	4.210	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		27-10-17	EM1714855016	1,740	4,670	390	<50	5,060	1,720	1,720	980	980	340	<100	1,320	<1	5	<1	<1	<1	<1	0.005	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		17-01-18	EM1801648008	940	6,490	650	<50	7,140	900	890	1,920	1,920	520	<100	2,440	<1	6	<1	<1	<1	<1	0.006		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
MW26	Off Site	22-08-17	EM1711267005	136,000	<50	<100	<50	<50	132,000	132,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<0.1	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1,000	<1,000	<100	<1,000
		27-10-17	EM1714855013	119,000	70	<100	<50	70	114,000	114,000	<100	<100	110	<100	110	19	136	15	51	42	93	0.257	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		17-01-18	EM1801648012	33,000	<50	<100	<50	<50	31,900	31,900	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<0.1		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1,000	<1,000	<100	<1,000
MW29	Off Site	21-08-17	EM1711267001	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		16-01-18	EM1801513016	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
MW30	Off Site	22-08-17	EM1711267011	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		23-10-17	EM1714618006	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		15-01-18	EM1801513005	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		03-10-18	EM1815860001	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<2	<2	<2	<2	<2	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW33R	Lot 3 (On-site)	24-08-17	EM1711441009	190	<50	<100	<50	<50	170	170	<100	<100	<100	<100	<100	1	<1	<1	<1	<1	<1	0.001		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		24-10-17	EM1714676004	260	<50	<100	<50	<50	250	250	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		16-01-18	EM1801513012	330	<50	<100	<50	<50	310	310	<100	<100	<100	<100	<100	1	<1	<1	<1	<1	<1	0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		22-02-18	EM1803519001	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-
		15-05-18	EM1808074004	360	<50	<100	<50	<50	340	340	<100	<100	<100	<100	<100	1	<1	<1	<1	<1	<1	0.001	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		05-07-18	EM1810788005	360	<50	140	<50	140	330	350	<100	<100	150	<100	150	1[D]	<1	<1	<1	<1	<1	<0.001	-	-	-	-	-	-	-	-	-	-	-	<1	<10	<10	<1	<10
MW40	Off Site	22-08-17	EM1711267012	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		24-10-17	EM1714676014	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		16-01-18	EM1801513017	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
MW50A	Lot 3 (On-site)	25-08-17	EM1711516006	620	<50	<100	<50	<50	570	570	<100	<100	<100	<100	<100	2	<1	<1	<1	<1	<1	0.002	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		27-10-17	EM1714855010	900	<50	<100	<50	<50	840	840	<100	<100	<100	<100	<100	4	<1	<1	<1	<1	<1	0.004		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		18-01-18	EM1801648021	1,000	<50	<100	<50	<50	900	900	<100	<100	<100	<100	<100	5	<1	<1	<1	<1	<1	0.005	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		15-05-18	EM1808074005	1,560	<50	<100	<50	<50	1,420	1,410	<100	<100	<100	<100	<100	10	<1	<1	<1	<1	<1	0.01	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		05-07-18	EM1810788007	1,320	<50	330	200	530	1,220	1,190	<100	<100	470	<100	470	9	<1	<1	<1	<1	<1	0.009	-	-	-	-	-	-	-	-	-	-	-	<1	<10	<10	<1	<10
MW50B	Lot 3 (On-site)	25-08-17	EM1711516005	26,700	<50	<100	<50	<50	24,700	24,600	<100	<100	<100	<100	<100	4	30	3	13	8	21	0.058	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		27-10-17	EM1714855011	67,600	<50	<100	<50	<50	64,600	64,400	<100	<100	<100	<100	<100	8	70	8	37	23	60	0.145	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		18-01-18	EM1801648024	50,900	<50	<100	<50	<50	49,500	49,500	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<0.1	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1,000	<1,000	<100	<1,000
		15-05-18	EM1808074006	35,600	<50	<100	<50	<50	34,000	34,000	<100	<100	<100	<100	<100	7	5	1	2	3	3	0.015	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		05-07-18	EM1810788008	20,200	<50	130	<50	130	19,800	4,510	<100	<100	140	<100	140	7	2	<1	3	4	7	0.016	-	-	-	-	-	-	-	-	-	-	-	<1	<10	<10	<1	<10
MW50C	Lot 3 (On-site)	25-08-17	EM1711516004	4,220	<50	<100	<50	<50	3,870	3,870	<100	<100	<100	<100	<100	1	2	<1	<1	<1	<1	0.003	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		27-10-17	EM1714855012	28,100	<50	<100	<50	<50	26,700	26,700	<100	<100	<100	<100	<100	4	19	<1	5	7	12	0.035		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		18-01-18	EM1801648023	30,000	<50	<100	<50	<50	29,200	29,200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<0.1	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1,000	<1,000	<100	<1,000
		15-05-18	EM1808074007	13,900	<50	<100	<50	<50	13,200	13,200	<100	<100	<100	<100	<100	2	6	<1	<1	<1	<1	0.008	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<1	<10
		05-07-18	EM1810788006	22,700	<50	300	150	450	22,100	4,420	<100	<100	400	<100	400	4	4	<1	<1	<1	<1	0.008	-	-	-	-	-	-	-	-	-	-	-	<1	<10	<10	<1	<10

Table 6
Groundwater Analytical Results - August 2017 to October 2018
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

	Chlorinated Hydrocarbons																																
	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	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10	1	10	1	2	1	2	0.5	10	2	1	1	1	2	0.2
Potable Water Supply	0.57[US]	800[US]	0.076[US]	0.041[US]	2.8[US]	30[A]			1[WH]	3	40[WH]	20[NZ]		40[WR]	250	250	3		2,100[US]	250	19[US]	60		0.83[US]	4	0.7	0.041[US]	0.33[US]	20[WH]	50	60[NZ]		0.3
Primary Contact Recreation	0.57[US]	800[US]	0.076[US]	0.041[US]	2.8[US]	30[A]			1[WH]	3	40[WH]	20[NZ]		40[WR]	250	250	3		2,100[US]	250	19[US]	60		0.83[US]	4	0.7	0.041[US]	0.33[US]	20[WH]	50	60[NZ]		0.3
Stock Watering	0.57[US]	800[US]	0.076[US]	0.041[US]	2.8[US]	30[A]			1[WH]	3	40[WH]	20[NZ]		40[WR]	250	250	3		2,100[US]	250	19[US]	60		0.83[US]	4	0.7	0.041[US]	0.33[US]	20[WH]	50	60[NZ]		0.3
Agriculture, Parks and Gardens																																	
Maintenance of Ecosystems		300[ZR]		1,900	90[AR]	10[ZR]				700[AR]							240[C]			400[ZR]		20[ZR]				1,000[NE]				330[AR]	70[AR]	20[ZR]		100[AR]
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand, >8m																																	
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand, >8m																																	
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand, >8m																																	
Derived Groundwater Risk Based Contminant Screening Level - Residential		1,100,000		10,000	53,000	27,000				2,000							600			26,000		2,000								500	45,000			200
Derived Groundwater Risk Based Contminant Screening Level - Commercial/Industrial		S		110,000	790,000	420,000				24,000							10,000			380,000		35,000								8,000	690,000			4,000
Field ID	**Location**	**Date**	**Sample Code**																															
BMW1	Lot 4	24-08-17	EM1711516002	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	135	<1	<10	131	<10	<1	<2	<1	<2	<0.5	-	-	1	<1	<1	<2	11.9
		24-10-17	EM1714676006	<1	<1	<1	<1	2	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	37	<1	<10	77	<10	27	<2	<1	6	<0.5	<10	<2	275	5	<1	<2	1.5
		17-01-18	EM1801648004	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	47	<1	<10	70	<10	16	<2	<1	<2	<0.5	-	-	186	3	<1	<2	5.4
BMW2	Lot 4	24-08-17	EM1711441008	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	165	<1	<10	74	<10	<1	<2	<1	<2	<0.5	-	-	6	4	<1	<2	2.0
		24-10-17	EM1714676007	<1	<1	<1	<1	22	58	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	28	<1	<10	140	<10	20	<2	<1	4	<0.5	<10	<2	330	7	<1	<2	0.4
		17-01-18	EM1801648003	<1	<1	<1	<1	16	29	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	21	<1	<10	124	<10	17	<2	<1	4	<0.5	-	-	156	2	<1	<2	0.6
CMW1	Lot 3 (On-site)	24-08-17	EM1711516003	<1	<1	<1	<1	2	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	4	<10	<1	<2	<1	<2	<0.5	-	-	<1	<1	<1	<2	7.0
		23-10-17	EM1714618003	<1	<1	<1	<1	6	70	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	9	<10	4	<2	<1	<2	<0.5	<10	<2	8	<1	<1	<2	2.6
		16-01-18	EM1801513009	<1	<1	<1	<1	9	46	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	14	<10	6	<2	<1	<2	<0.5	-	-	14	<1	<1	<2	9.6
		15-05-18	EM1808074003	<1	<1	<1	<1	8	42	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	10	<10	4	<2	<1	<2	<0.5	-	-	11	<1	<1	<2	11.2
		05-07-18	EM1810788004	<1	<1	<1	<1	7	28	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	10	<10	3	<2	<1	<3	<0.5	-	-	9	<1	<1	<2	6.3
MW2A	Lot 3 (On-site)	15-05-18	EM1808074001	<1	<1	<1	<1	<1	7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	1	<10	<1	<2	<1	<2	<0.5	-	-	105	6	<1	<2	<0.2
		04-07-18	EM1810788003	<1	<1	<1	<1	<1	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	-	-	70	4	<1	<2	<0.2
		03-10-18	EM1815860004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17B	Lot 3 (On-site)	05-06-18	EM1809115001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	-	-	2	<1	<1	<2	<0.2
		04-07-18	EM1810788002	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	-	-	<1	<1	<1	<2	<0.2
		03-10-18	EM1815860002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW23	Lot 3 (On-site)	23-08-17	EM1711357005	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	-	-	<1	<1	<1	<2	<0.2
		23-10-17	EM1714618005	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	<10	<2	<1	<1	<1	<2	<0.2
		16-01-18	EM1801513019	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	-	-	<1	<1	<1	<2	<0.2
MW23A	Lot 3 (On-site)	15-05-18	EM1808074002	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	-	-	<1	<1	<1	<2	<0.2
		04-07-18	EM1810788001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	-	-	<1	<1	<1	<2	<0.2
		03-10-18	EM1815860003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW24AR	Lot 2	25-08-17	EM1711516012	<1	2	<1	10	4	20	<1	<1	<1	134	<1	<1	<1	1	<1	<1	10	<1	<10	181	<10	343	<2	<1	589	<0.5	-	-	11,300	174	1	<2	1.7
		27-10-17	EM1714855014	<1	<1	<1	7	2	17	<1	<1	<1	240	<1	<1	<1	<1	<1	<1	118	<1	<10	339	<10	186	<2	<1	52	<0.5	-	-	8,310	443	2	<2	1.2
		18-01-18	EM1801648022	<10	<10	<10	<10	<10	19	<10	<10	<10	270	<10	<10	<10	<10	<10	<10	146	<10	<100	367	<100	222	<10	<10	31	<1.0	-	-	8,910	489	<10	<10	1.8
MW24BR	Lot 2	25-08-17	EM1711516011	<1	7	<1	24	34	147	<1	<1	<1	126	<1	<1	<1	2	<1	<1	<1	<1	<1	<10	478	<10	2,360	<2	<1	830	<0.5	-	-	25,300	412	5	<2	6.4
		27-10-17	EM1714855015	<1	<1	<1	20	1.9[D]	3[D]	<1	<1	<1	87	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	28	<10	227	<2	<1	50	<0.5	-	-	4,630	77[D]	<1	<2	<0.2
		18-01-18	EM1801648020	<10	<10	<10	<10	<10	<10	<10	<10	<10	74	<10	<10	<10	<10	<10	<10	<10	<10	<100	15	<100	100	<10	<10	<10	<1.0	-	-	2,230	51	<10	<10	<1.0
MW24CR	Lot 2	25-08-17	EM1711516010	<1	9	<1	196	165	577	<1	<1	<1	9	<1	<1	<1	12	<1	<1	<1	<1	<1	<10	1,660	<10	10,200	<2	<1	4,100	<0.5	-	-	39,800	494	29	<2	2.8
		27-10-17	EM1714855016	<1	<1	<1	13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	26	<10	48	<2	<1	10	<0.5	-	-	110	1	<1	<2	<0.2
		17-01-18	EM1801648008	<1	<1	<1	5	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	2	<10	90	<2	<1	3	<0.5	-	-	35	2	<1	<2	<0.2
MW26	Off Site	22-08-17	EM1711267005	<100	<100	<100	108	<100	<100	<100	<100	<100	1,130	<100	<100	<100	<100	<100	<100	<100	<100	<1,000	441	<1,000	683	<100	<100	10,500	<10.0	-	-	188,000	1,950	<100	<100	<10.0
		27-10-17	EM1714855013	1	3	<1	143	12	97	<1	<1	<1	1,550	<1	<1	<1	32[B]	<1	<1	30	<1	<10	502	<10	909	<2	<1	12,600	<0.5	-	-	178,000	2,200	19	<2	10.3
		17-01-18	EM1801648012	<100	<100	<100	<100	<100	<100	<100	<100	<100	423	<100	<100	<100	<100	<100	<100	<100	<100	<1,000	133	<1,000	180	<100	<100	<100	<10.0	-	-	35,600	332	<100	<100	<10.0
MW29	Off Site	21-08-17	EM1711267001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	1	<2	<1	<2	<0.5	-	-	1	<1	<1	<2	<0.2
		16-01-18	EM1801513016	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	-	-	<1	<1	<1	<2	<0.2
MW30	Off Site	22-08-17	EM1711267011	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	-	-	5	<1	<1	<2	<0.2
		23-10-17	EM1714618006	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	-	-	<1	<1	<1	<2	<0.2
		15-01-18	EM1801513005	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	-	-	<1	<1	<1	<2	<0.2
		03-10-18	EM1815860001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW33R	Lot 3 (On-site)	24-08-17	EM1711441009	<1	<1	<1	<1	16	16	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	14	<10	185	<2	<1	<2	<0.5	-	-	85	<1	2	<2	0.7
		24-10-17	EM1714676004	<1	<1	<1	<1	14	11	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	13	<10	255	<2	<1	<2	<0.5	<10	<2	75	<1	2	<2	0.6
		16-01-18	EM1801513012	<1	<1	<1	<1	20	20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	17	<10	351	<2	<1	<2	<0.5	-	-	120	<1	2	<2	0.8
		22-02-18	EM1803519001	<1	<1	<1	<1	13	11	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	11	<10	253	<2	<1	<2	<0.5	-	-	91	<1	2	<2	1.6
		15-05-18	EM1808074004	<1	<1	<1	<1	17	18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	14	<10	311	<2	<1	<2	<0.5	-	-	123	<1	2	<2	0.9
		05-07-18	EM1810788005	<1	<1	<1	<1	17	16	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	14	<10	376	<2	<1	<2	<0.5	-	-	115	<1	2	<2	0.6
MW40	Off Site	22-08-17	EM1711267012	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	-	-	3	<1	<1	<2	<0.2
		24-10-17	EM1714676014	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	-	-	<1	<1	<1	<2	<0.2
		16-01-18	EM1801513017	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<10	<1	<2	<1	<2	<0.5	-	-	<1	<1	<1	<2	<0.2
MW50A	Lot 3 (On-site)	25-08-17	EM1711516006	<1	<1	<1	<1	24	48	<1	<1	<1	9	<1	<1	<1	<1	2	<1	<1	<1	<1	<10	68	<10	98	<2	<1	32	<0.5	-	-	916	13	<1	<2	3.7
		27-10-17	EM1714855010	<1	<1	<1	2	60	57	<1	<1	<1	7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	181	<10	51	<2	<1	18	<0.5	-	-	817	14	<1	<2	0.5
		18-01-18	EM1801648021	<1	<1	<1	3	123	90	<1	<1	<1	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	330	<10	82	<2	<1	14	<0.5	-	-	760	10	<1	<2	0.4
		15-05-18	EM1808074005	<1	<1	<1	4	184	190	<1	<1	<1	7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	343	<10	170	<2	<1	15	<0.5	-	-	814	18	<1	<2	1.7
		05-07-18	EM1810788007	<1	<1	<1	4	158	195	<1	<1	<1	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	356	<10	198	<2	<1	9	<0.5	-	-	792	12	<1	<2	1.3
MW50B	Lot 3 (On-site)	25-08-17	EM1711516005	<1	<1	<1	16	8	26	<1	<1	<1	390	<1	<1	<1	8	<1	<1	4	<1	<10	169	<10	329	<2	<1	2,740	<0.5	-	-	37,700	500	2	<2	4.7
		27-10-17	EM1714855011	<1	<1	<1	37	13	42	<1	<1	<1	800	<1	<1	<1	16	<1	<1	8	<1	<10	544	<10	652	<2	<1	5,040	<0.5	-	-	77,200	1,540	4	<2	5.3
		18-01-18	EM1801648024	<100	<100	<100	<100	<100	<100	<100	<100	<100	684	<100	<100	<100	<100	<100	<100	<100	<100	<1,000	523	<1,000	552	<100	<100	4,120	<10.0	-	-	56,700	1,030	<100	<100	<10.0
		15-05-18	EM1808074006	<1	<1	<1	17	26	76	<1	<1	<1	353	<1	<1	<1	14	<1	<1	8	<1	<10	425	<10	390	<2	<1	2,050	<0.5	-	-	37,500	794	3	<2	7
		05-07-18	EM1810788008	<1	<1	<1	15	25	59	<1	<1	<1	358	<1	<1	<1	10	<1	<1	7	<1	<10	469	<10	428	<2	<1	1,930	<0.5	-	-	23,800	526	3	<2	4.8
MW50C	Lot 3 (On-site)	25-08-17	EM1711516004	<1	<1	<1	8	5	11	<1	<1	<1	68	<1	<1	<1	2	<1	<1	<1	<1	<10	36	<10	49	<2	<1	691	<0.5	-	-	12,700	161	1	<2	0.9
		27-10-17	EM1714855012	<1	<1	<1	19	8	24	<1	<1	<1	319	<1	<1	<1	4	<1	<1	4	<1	<10	156	<10	239	<2	<1	1,740	<0.5	-	-	33,000	536	3	<2	3.9
		18-01-18	EM1801648023	<100	<100	<100	<100	<100	<100	<100	<100	<100	331	<100	<100	<100	<100	<100	<100	<100	<100	<1,000	174	<1,000	208	<100	<100	1,450	<10.0	-	-	36,900	599	<100	<100	<10.0
		15-05-18	EM1808074007	<1	<1	<1	10	8	15	<1	<1	<1	177	<1	<1	<1	<1	<1	<1	1	<1	<10	94	<10	108	<2	<1	52	<0.5	-	-	13,100	200	1	<2	1.3
		05-07-18	EM1810788006	<1	<1	<1	19	7	18	<1	<1	<1	377	<1	<1	<1	<1	<1	<1	3	<1	<10	175	<10	238	<2	<1	52	<0.5	-	-	40,600	796	3	<2	2.6

Table 6
Groundwater Analytical Results - August 2017 to October 2018
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

				Solvents													Halogenated Benzenes												VOCs					Aldehydes	
				1-Butanol	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Acetone	Carbon disulfide	Ethanol	Isophorone	Methanol	Isobutanol	2-Propanol	1-Propanol	Vinyl acetate	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-Chloronitrobenzene & 3-Chloronitrobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene	Trichlorobenzene (total)	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	Acrolein	Pentachloroethane	Trihalomethanes	Acetaldehyde	Formaldehyde
				µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/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	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L
EQL				50	10	10	10	0.01	1	50	2	1	50	50	0.05	10	1	1	1	1	0.1	1	1	1	1	1	4	2	0.001	1	1	2	1	1	2	0.002
Potable Water Supply								140				20[ns]				410	10[NZ]	5[NZ]	1,500 / 1[A]	20[A]	40 / 0.3[A]		24[US]	25[US]	6.2[US]	300 / 10[A]	0.0098[US]	0.32[US]	0.03 / 0.005[A]	0.0013[US]	0.0013[US]		0.65[US]	250		
Primary Contact Recreation								140	810[ns]		780[ns]	20[ns]				410	10[NZ]	5[NZ]	1,500 / 1[A]	20[A]	40 / 0.3[A]		24[US]	25[US]	6.2[US]	300 / 10[A]	0.0098[US]	0.32[US]	0.03 / 0.005[A]	0.0013[US]	0.0013[US]		0.65[US]	250		
Stock Watering								140				20[ns]				410	10[NZ]	5[NZ]	1,500 / 1[A]	20[A]	40 / 0.3[A]		24[US]	25[US]	6.2[US]	300 / 10[A]	0.0098[US]	0.32[US]	0.03 / 0.005[A]	0.0013[US]	0.0013[US]		0.65[US]	250		
Agriculture, Parks and Gardens																																				
Maintenance of Ecosystems								1.7[F]										80																		
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand, >8m																																				
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand, >8m																																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand, >8m																																				
Derived Groundwater Risk Based Contminant Screening Level - Residential								70,000											S		S					220,000										
Derived Groundwater Risk Based Contminant Screening Level - Commercial/Industrial								520,000											S		S					3,200,000										
Field ID	**Location**	**Date**	**Sample Code**																																	
BMW1	**Lot 4**	**24-08-17**	**EM1711516002**	<50	<10	<10	<10	<0.01	<1	<50	<2	-	<50	<50	<0.05	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	131	-	-
		24-10-17	**EM1714676006**	<50	<10	<10	<10	<0.01	<1	<50	<2	-	<50	<50	<0.05	<10	<1	<1	<1	<1	<0.1	<2	<1	<1	<1	<1	<4	<2	<0.001	<1	<1	<2.0	<1	77	<2.0	<0.0020
		17-01-18	**EM1801648004**	-	<10	<10	<10	<0.01	<1	<50	-	-	-	-	-	<10	<1	<1	<1	<1	0.2	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	70	-	-
BMW2	**Lot 4**	**24-08-17**	**EM1711441008**	<50	<10	<10	<10	<0.01	<1	<50	<2	-	<50	<50	<0.05	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	74	-	-
		24-10-17	**EM1714676007**	<50	<10	<10	<10	<0.01	<1	<50	<2	-	<50	<50	<0.05	<10	<1	<1	15	<1	2.0	<2	<1	<1	<1	4	<4	<2	<0.001	<1	<1	<2.0	<1	140	<2.0	<0.0020
		17-01-18	**EM1801648003**	-	<10	<10	<10	<0.01	<1	<50	-	-	-	-	-	<10	<1	<1	15	<1	1.6	-	<1	<1	<1	3	-	-	<0.001	<1	<1	-	<1	124	-	-
CMW1	**Lot 3 (On-site)**	**24-08-17**	**EM1711516003**	<50	<10	<10	<10	<0.01	<1	<50	<2	<1	<50	<50	<0.05	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	4	-	-
		23-10-17	**EM1714618003**	<50	<10	<10	<10	<0.01	<1	<50	<2	<1	<50	<50	<0.05	<10	<1	<1	3	<1	0.3	<2	<1	<1	<1	<1	<4	<2	<0.001	<1	<1	<2.0	<1	9	<2.0	<0.0020
		16-01-18	**EM1801513009**	-	<10	<10	<10	<0.01	<1	<50	-	-	-	-	-	<10	<1	<1	3	<1	0.5	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	14	-	-
		15-05-18	**EM1808074003**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	1	<1	0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	10	-	-
		05-07-18	**EM1810788004**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	10	-	-
MW2A	**Lot 3 (On-site)**	**15-05-18**	**EM1808074001**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	1	-	-
		04-07-18	**EM1810788003**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	-
		03-10-18	**EM1815860004**	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17B	**Lot 3 (On-site)**	**05-06-18**	**EM1809115001**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	-
		04-07-18	**EM1810788002**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	-
		03-10-18	**EM1815860002**	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW23	**Lot 3 (On-site)**	**23-08-17**	**EM1711357005**	<50	<10	<10	<10	<0.01	<1	<50	<2	<1	<50	<50	<0.05	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	-
		23-10-17	**EM1714618005**	<50	<10	<10	<10	<0.01	<1	<50	<2	<1	<50	<50	<0.05	<10	<1	<1	<1	<1	<0.1	<2	<1	<1	<1	<1	<4	<2	<0.001	<1	<1	<2.0	<1	<1	<2.0	<0.0020
		16-01-18	**EM1801513019**	-	<10	<10	<10	<0.01	<1	<50	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	<0.002
MW23A	**Lot 3 (On-site)**	**15-05-18**	**EM1808074002**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	-
		04-07-18	**EM1810788001**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	-
		03-10-18	**EM1815860003**	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW24AR	**Lot 2**	**25-08-17**	**EM1711516012**	-	<10	<10	<10	<0.01	<1	-	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	27	-	-	<0.001	<1	<1	-	<1	181	-	-
		27-10-17	**EM1714855014**	-	<10	<10	<10	<0.01	<1	-	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	5	-	-	<0.001	<1	<1	-	<1	339	-	-
		18-01-18	**EM1801648022**	-	<100	<100	<100	<0.1	<10	<50	-	-	-	-	-	<100	<10	<10	<10	<10	<1.0	-	<10	<10	<10	<10	-	-	<0.01	<10	<10	-	<10	367	-	-
MW24BR	**Lot 2**	**25-08-17**	**EM1711516011**	-	<10	<10	<10	<0.06	<1	<50	-	-	-	-	-	<10	<1	<1	6	<1	0.5	-	<1	<1	<1	50	-	-	<0.001	<1	<1	-	<1	478	-	-
		27-10-17	**EM1714855015**	-	<10	<10	<10	0.01	<1	<50	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	5	-	-	<0.001	<1	<1	-	<1	28	-	-
		18-01-18	**EM1801648020**	-	<100	<100	<100	<0.1	<10	<50	-	-	-	-	-	<100	<10	<10	<10	<10	<1.0	-	<10	<10	<10	<10	-	-	<0.01	<10	<10	-	<10	15	-	-
MW24CR	**Lot 2**	**25-08-17**	**EM1711516010**	-	300	<10	490	66.00	2	-	-	-	-	-	-	<10	<1	<1	2	<1	0.2	-	<1	<1	<1	369	-	-	<0.001	<1	<1	-	<1	1,660	-	-
		27-10-17	**EM1714855016**	-	<10	<10	30	9.71	<1	-	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	1	-	-	<0.001	<1	<1	-	<1	26	-	-
		17-01-18	**EM1801648008**	-	190	<10	140	17.80	2	131	-	-	-	-	-	<10	<1	<1	<1	<1	0.2	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	2	-	-
MW26	**Off Site**	**22-08-17**	**EM1711267005**	-	<1,000	<1,000	<1,000	<1	<100	<50	-	-	-	-	-	<1,000	<100	<100	<100	<100	<10.0	-	<100	<100	<100	<100	-	-	<0.1	<100	<100	-	<100	441	-	-
		27-10-17	**EM1714855013**	-	<10	<10	<10	0.86	<1	<50	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	54	-	-	<0.001	<1	<1	-	<1	502	-	-
		17-01-18	**EM1801648012**	-	<1,000	<1,000	<1,000	<1	<100	<50	-	-	-	-	-	<1,000	<100	<100	<100	<100	<10.0	-	<100	<100	<100	<100	-	-	<0.1	<100	<100	-	<100	133	-	-
MW29	**Off Site**	**21-08-17**	**EM1711267001**	<50	<10	<10	<10	<0.01	<1	<50	<2	-	<50	<50	<0.05	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	-
		16-01-18	**EM1801513016**	-	<10	<10	<10	<0.01	<1	<50	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	-
MW30	**Off Site**	**22-08-17**	**EM1711267011**	<50	<10	<10	<10	<0.01	<1	<50	<2	-	<50	<50	<0.05	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	-
		23-10-17	**EM1714618006**	-	<10	<10	<10	<0.01	<1	-	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	-
		15-01-18	**EM1801513005**	-	<10	<10	<10	<0.01	<1	<50	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	-
		03-10-18	**EM1815860001**	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW33R	**Lot 3 (On-site)**	**24-08-17**	**EM1711441009**	<50	<10	<10	<10	<0.01	<1	<50	<2	-	<50	<50	<0.05	<10	<1	<1	25	<1	2.2	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	14	-	-
		24-10-17	**EM1714676004**	<50	<10	<10	<10	<0.01	<1	<50	<2	-	<50	<50	<0.05	<10	<1	<1	19	<1	1.4	<2	<1	<1	<1	<1	<4	<2	<0.001	<1	<1	<2.0	<1	13	<2.0	<0.0020
		16-01-18	**EM1801513012**	-	<10	<10	<10	<0.01	<1	<50	-	-	-	-	-	<10	<1	<1	39	<1	3.0	-	<1	<1	<1	1	-	-	<0.001	<1	<1	-	<1	17	-	-
		22-02-18	**EM1803519001**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	25	<1	2.1	-	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	11	-	-
		15-05-18	**EM1808074004**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	34	<1	2.5	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	14	-	-
		05-07-18	**EM1810788005**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	35	<1	2.6	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	14	-	-
MW40	**Off Site**	**22-08-17**	**EM1711267012**	<50	<10	<10	<10	<0.01	<1	<50	<2	-	<50	<50	<0.05	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	-
		24-10-17	**EM1714676014**	-	<10	<10	<10	<0.01	<1	-	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	-
		16-01-18	**EM1801513017**	-	<10	<10	<10	<0.01	<1	<50	-	-	-	-	-	<10	<1	<1	<1	<1	<0.1	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	<1	-	<0.002
MW50A	**Lot 3 (On-site)**	**25-08-17**	**EM1711516006**	<50	<10	<10	<10	<0.01	<1	<50	<2	-	<50	<50	<0.05	<10	<1	<1	11	<1	0.8	-	<1	<1	<1	1	-	-	<0.001	<1	<1	-	<1	70	-	-
		27-10-17	**EM1714855010**	<50	<10	<10	<10	<0.01	<1	<50	<2	-	<50	<50	<0.05	<10	<1	<1	18	<1	1.9	<2	<1	<1	<1	3	-	-	<0.001	<1	<1	<2.0	<1	181	<2.0	<0.0020
		18-01-18	**EM1801648021**	-	<10	<10	<10	<0.01	<1	<50	-	-	-	-	-	<10	<1	<1	4	<1	2.4	-	<1	<1	<1	2	-	-	<0.001	<1	<1	-	<1	330	-	-
		15-05-18	**EM1808074005**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	17	<1	4.8	-	<1	<1	<1	8	-	-	<0.001	<1	<1	-	<1	343	-	-
		05-07-18	**EM1810788007**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	13	<1	3.6	-	<1	<1	<1	6	-	-	<0.001	<1	<1	-	<1	356	-	-
MW50B	**Lot 3 (On-site)**	**25-08-17**	**EM1711516005**	<50	<10	<10	<10	<0.01	<1	<50	<2	-	<50	<50	<0.05	<10	<1	<1	8	<1	0.6	-	<1	<1	<1	2	-	-	<0.001	<1	<1	-	<1	169	-	-
		27-10-17	**EM1714855011**	<50	<10	<10	<10	0.02	<1	<50	2	-	<50	<50	<0.05	<10	<1	<1	21	<1	1.4	<2	<1	<1	<1	3	-	-	<0.001	<1	<1	<2.0	<1	544	<2.0	<0.0020
		18-01-18	**EM1801648024**	-	<1,000	<1,000	<1,000	<1	<100	<50	-	-	-	-	-	<1,000	<100	<100	<100	<100	<10.0	-	<100	<100	<100	<100	-	-	<0.1	<100	<100	-	<100	523	-	-
		15-05-18	**EM1808074006**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	30	<1	2.2	-	<1	<1	<1	4	-	-	<0.001	<1	<1	-	<1	425	-	-
		05-07-18	**EM1810788008**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	26	<1	2.0	-	<1	<1	<1	4	-	-	<0.001	<1	<1	-	<1	469	-	-
MW50C	**Lot 3 (On-site)**	**25-08-17**	**EM1711516004**	<50	<10	<10	<10	<0.01	<1	<50	<2	-	<50	<50	<0.05	<10	<1	<1	3	<1	0.3	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	36	-	-
		27-10-17	**EM1714855012**	<50	<10	<10	<10	<0.01	<1	<50	<2	-	<50	<50	<0.05	<10	<1	<1	5	<1	0.4	<2	<1	<1	<1	1	-	-	<0.001	<1	<1	<2.0	<1	156	<2.0	<0.0020
		18-01-18	**EM1801648023**	-	<1,000	<1,000	<1,000	<1	<100	<50	-	-	-	-	-	<1,000	<100	<100	<100	<100	<10.0	-	<100	<100	<100	<100	-	-	<0.1	<100	<100	-	<100	174	-	-
		15-05-18	**EM1808074007**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	2	<1	0.2	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	94	-	-
		05-07-18	**EM1810788006**	-	<10	<10	<10	-	<1	-	-	-	-	-	-	<10	<1	<1	3	<1	0.3	-	<1	<1	<1	<1	-	-	<0.001	<1	<1	-	<1	175	-	-

Table 6
Groundwater Analytical Results - August 2017 to October 2018
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

				Metals																		Inorganics																	
				Antimony (filtered)	Arsenic (filtered)	Barium (filtered)	Beryllium (filtered)	Boron (filtered)	Cadmium (filtered)	Chromium (III+VI) (filtered)	Cobalt (filtered)	Copper (filtered)	Iron (filtered)	Lead (filtered)	Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Selenium (filtered)	Silver (filtered)	Vanadium (filtered)	Zinc (filtered)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Hydroxide) as CaCO3	Alkalinity (total) as CaCO3	Ammonia as N	Anions Total	Cations Total	Calcium (filtered)	Chloride	Fluoride	Ionic Balance	Magnesium (filtered)	Nitrate (as N)	Nitrite (as N)	Nitrite + Nitrate as N	Potassium (filtered)	Sodium (filtered)
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	meq/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				0.001	0.001	0.001	0.001	0.05	0.0001	0.001	0.001	0.001	0.05	0.001	0.001	0.0001	0.001	0.01	0.001	0.01	0.005	1	1	1	1	0.01	0.01	0.01	1	1	0.1	0.01	1	0.01	0.01	0.01	1	1
Potable Water Supply				0.003	0.01	2			0.002	0.05	0.0006[25]	2 / 1[A]	0.3[A]	0.01	0.5 / 0.1[A]	0.001	0.02				3[A]										250[A]	1.5			50[WR]	3[WR]			180[A]
Primary Contact Recreation				0.03	0.1	20		40[AR]	0.02	0.5	0.006[25]	20 / 1[A]	0.3[A]	0.1	5 / 0.1[A]	0.01	0.2		1[AR]		3[A]					0.5[N]					250[A]	15			112.87[N]	9.12[N]			180[A]
Stock Watering				0.003	0.5	2		5[AR]	0.01	1	1	0.4	0.3[A]	0.1	0.5 / 0.1[A]	0.002	1				20								1,000	250[A]	2			50[WR]	3[WR]			180[A]
Agriculture, Parks and Gardens					0.1			0.5[AR]	0.01	0.1	0.05	0.2	0.2	2	0.2	0.002	0.2				2										1								
Maintenance of Ecosystems					0.024[F]				0.0055		0.001	0.0013		0.0044		0.0004	0.07		0.0014[AR]		0.015					0.91								2.4[N]	0.06[C]			
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand, >8m																																							
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand, >8m																																							
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand, >8m																																							
Derived Groundwater Risk Based Contminant Screening Level - Residential																																							
Derived Groundwater Risk Based Contminant Screening Level - Commercial/Industrial																																							
Field ID	**Location**	**Date**	**Sample Code**																																				
BMW1	Lot 4	24-08-17	EM1711516002	<0.001	0.003	0.031	-	-	<0.0001	<0.001	0.017	0.008	<0.05	<0.001	0.028	<0.0001	0.011	-	-	-	0.145	45	<1	<1	45	0.03	41.90	42.30	11	1,220	-	0.45	46	-	-	-	1	872
		24-10-17	EM1714676006	<0.001	0.002	0.022	-	-	<0.0001	<0.001	0.008	0.007	<0.05	<0.001	0.011	<0.0001	0.028	-	-	-	0.038	20	<1	<1	20	0.15	33.80	36.30	3	941	-	3.52	30	-	-	-	<1	775
		17-01-18	EM1801648004	-	0.002	-	-	-	<0.0001	<0.001	-	0.011	<0.05	<0.001	0.018	<0.0001	0.030	-	-	-	0.058	16	<1	<1	16	0.05	36.40	37.60	4	1,040	0.2	1.71	37	33.10	<0.01	-	<1	791
BMW2	Lot 4	24-08-17	EM1711441008	<0.001	0.002	0.041	-	-	<0.0001	<0.001	0.005	0.008	<0.05	<0.001	0.009	<0.0001	0.058	-	-	-	0.020	41	<1	<1	41	<0.01	53.10	55.60	14	1,660	-	2.31	70	-	-	-	<1	1,130
		24-10-17	EM1714676007	<0.001	0.002	0.042	-	-	<0.0001	<0.001	0.008	0.007	<0.05	<0.001	0.007	<0.0001	0.050	-	-	-	0.033	22	<1	<1	22	0.04	85.10	83.20	21	2,760	-	1.10	132	-	-	-	<1	1,640
		17-01-18	EM1801648003	-	0.002	-	-	-	<0.0001	<0.001	-	0.006	<0.05	<0.001	0.007	<0.0001	0.013	-	-	-	0.033	<1	<1	<1	<1	0.03	66.60	66.70	18	2,120	0.1	0.04	102	21.50	<0.01	-	<1	1,320
CMW1	Lot 3 (On-site)	24-08-17	EM1711516003	-	<0.001	0.039	<0.001	<0.05	<0.0001	<0.001	0.005	0.002	<0.05	<0.001	0.022	<0.0001	0.027	<0.01	<0.001	<0.01	0.020	60	<1	<1	60	0.06	71.10	69.60	22	2,120	-	1.02	114	-	-	-	<1	1,360
		23-10-17	EM1714618003	-	0.001	0.031	<0.001	<0.05	<0.0001	<0.001	0.005	0.006	<0.05	<0.001	0.015	<0.0001	0.098	<0.01	0.001	<0.01	0.073	64	<1	<1	64	0.07	67.30	68.60	18	1,980	-	0.94	114	-	-	-	2	1,340
		16-01-18	EM1801513009	-	<0.001	-	-	-	<0.0001	0.002	-	<0.001	<0.05	<0.001	0.014	0.0001	0.012	-	-	-	0.020	59	<1	<1	59	0.02	58.80	61.30	18	1,680	<0.1	2.13	100	15.70	<0.01	-	<1	1,200
		15-05-18	EM1808074003	-	0.001	-	-	-	0.0001	<0.001	-	0.087	<0.05	0.006	0.014	<0.0001	0.076	-	-	-	0.172	-	-	-	-	0.06	-	-	13	1,740	-	-	90	15.5	0.03	15.5	<1	1,230
		05-07-18	EM1810788004	-	0.002	-	-	-	<0.0001	<0.001	-	0.002	0.07	<0.001	0.009	<0.0001	1.1	-	-	-	0.026	-	-	-	-	0.05	-	-	13	1,880	-	-	94	17.5	<0.01	17.5	<1	1,160
MW2A	Lot 3 (On-site)	15-05-18	EM1808074001	-	0.039	-	-	-	<0.0001	<0.001	-	0.047	0.16	0.002	0.029	<0.0001	0.013	-	-	-	0.078	-	-	-	-	0.02	-	-	2	110	-	-	7	0.06	0.02	0.08	<1	216
		04-07-18	EM1810788003	-	0.155	-	-	-	<0.0001	0.003	-	0.008	1.87	0.015	0.021	<0.0001	0.028	-	-	-	0.024	-	-	-	-	0.05	-	-	<1	111	-	-	4	0.08	<0.01	0.08	<1	174
		03-10-18	EM1815860004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17B	Lot 3 (On-site)	05-06-18	EM1809115001	-	0.002	-	-	-	<0.0001	<0.001	-	0.001	<0.05	<0.001	0.005	<0.0001	0.002	-	-	-	<0.005	-	-	-	-	<0.01	-	-	2	12	-	-	2	<0.01	<0.01	-	<1	74
		04-07-18	EM1810788002	-	0.002	-	-	-	<0.0001	<0.001	-	<0.001	<0.05	<0.001	0.009	<0.0001	0.018	-	-	-	0.01	-	-	-	-	0.03	-	-	1	14	-	-	6	0.02	<0.01	0.02	<1	63
		03-10-18	EM1815860002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW23	Lot 3 (On-site)	23-08-17	EM1711357005	-	0.064	0.005	<0.001	<0.05	<0.0001	<0.001	0.001	0.002	<0.05	<0.001	0.006	<0.0001	0.004	<0.01	<0.001	<0.01	0.008	227	<1	<1	227	0.01	10.60	11.50	1	111	-	3.70	6	-	-	-	<1	251
		23-10-17	EM1714618005	-	0.100	0.004	<0.001	<0.05	<0.0001	<0.001	0.001	0.002	0.16	<0.001	0.007	<0.0001	0.003	<0.01	<0.001	<0.01	0.022	238	<1	<1	238	0.03	11.00	10.50	1	110	-	1.94	7	-	-	-	<1	228
		16-01-18	EM1801513019	-	0.091	-	-	-	<0.0001	0.001	-	0.001	0.16	<0.001	0.012	<0.0001	0.002	-	-	-	0.005	-	-	-	-	0.01	-	-	-	-	-	-	-	-	-	8.87	<1	-
MW23A	Lot 3 (On-site)	15-05-18	EM1808074002	-	0.01	-	-	-	<0.0001	<0.001	-	0.026	0.14	0.002	0.006	<0.0001	0.013	-	-	-	0.066	-	-	-	-	0.05	-	-	2	136	-	-	6	2.97	0.05	3.02	<1	283
		04-07-18	EM1810788001	-	0.046	-	-	-	<0.0001	<0.001	-	0.001	0.24	<0.001	0.003	<0.0001	0.095	-	-	-	0.017	-	-	-	-	<0.01	-	-	<1	135	-	-	4	3.54	0.02	3.56	<1	222
		03-10-18	EM1815860003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW24AR	Lot 2	25-08-17	EM1711516012	-	<0.001	-	-	-	0.0004	<0.001	-	0.006	<0.05	<0.001	0.664	<0.0001	0.018	-	-	-	0.024	146	<1	<1	146	0.47	52.50	50.40	144	1,610	-	2.05	89	-	-	-	3	823
		27-10-17	EM1714855014	-	<0.001	-	-	-	<0.0001	<0.001	-	<0.001	<0.05	<0.001	0.430	<0.0001	0.042	-	-	-	0.014	153	<1	<1	153	0.10	55.50	58.90	153	1,680	-	2.96	95	-	-	-	3	997
		18-01-18	EM1801648022	-	<0.001	-	-	-	0.0003	<0.001	-	0.001	<0.05	<0.001	0.497	<0.0001	0.042	-	-	-	0.017	119	<1	<1	119	0.14	24.10	22.60	24	659	0.2	3.14	37	14.10	<0.01	-	<1	423
MW24BR	Lot 2	25-08-17	EM1711516011	-	0.003	-	-	-	<0.0001	0.013[D]	-	0.002	<0.05	<0.001	0.207	<0.0001	0.054	-	-	-	0.027	126	<1	<1	126	0.12	16.90	14.80	8	331	-	6.49	16	6.05	0.35	-	<1	302
		27-10-17	EM1714855015	-	0.002	-	-	-	<0.0001	<0.001	-	0.002	<0.05	<0.001	0.052	<0.0001	0.004	-	-	-	0.014	12	<1	<1	12	0.05	27.10	30.60	5	621	-	6.10	29	21.40	0.89	-	<1	644
		18-01-18	EM1801648020	-	0.002	-	-	-	<0.0001	<0.001	-	0.001	<0.05	<0.001	0.014	<0.0001	0.002	-	-	-	0.013	25	<1	<1	25	0.04	23.20	22.20	4	492	0.3	2.21	20	19.10	0.02	-	<1	468
MW24CR	Lot 2	25-08-17	EM1711516010	-	0.011	-	-	-	<0.0001	<0.001	-	0.001	0.39	<0.001	0.110	<0.0001	0.103	-	-	-	0.017	174	<1	<1	174	0.05	37.30	36.00	12	925	-	1.76	33	-	-	-	<1	752
		27-10-17	EM1714855016	-	0.008	-	-	-	<0.0001	<0.001	-	<0.001	<0.05	<0.001	0.045	<0.0001	0.003	-	-	-	0.010	93	<1	<1	93	0.04	31.70	34.80	5	806	-	4.67	25	-	-	-	<1	748
		17-01-18	EM1801648008	-	0.050	-	-	-	<0.0001	<0.001	-	<0.001	4.75	<0.001	0.306	<0.0001	0.040	-	-	-	0.009	130	<1	<1	130	<0.01	32.30	29.40	3	769	0.6	4.62	26	0.04	0.02	-	<1	624
MW26	Off Site	22-08-17	EM1711267005	-	0.001	-	-	-	<0.0001	<0.001	-	<0.001	<0.05	<0.001	0.584	<0.0001	0.011	-	-	-	0.034	119	<1	<1	119	0.07	30.60	34.50	25	827	-	5.91	44	26.80	-	-	5	678
		27-10-17	EM1714855013	-	<0.001	-	-	-	<0.0001	<0.001	-	0.012[D]	<0.05	<0.001	0.596	<0.0001	0.045	-	-	-	0.019	120	<1	<1	120	0.05	33.60	38.50	23	909	-	6.84	48	33.60	0.03	33.60	1	767
		17-01-18	EM1801648012	-	0.003	-	-	-	<0.0001	<0.001	-	0.004	<0.05	<0.001	0.177	<0.0001	0.016	-	-	-	0.152	125	<1	<1	125	0.13	15.40	16.00	27	374	0.1	1.91	17	15.80	<0.01	-	25	290
MW29	Off Site	21-08-17	EM1711267001	-	0.007	0.007	<0.001	<0.05	<0.0001	<0.001	<0.001	0.003	<0.05	<0.001	0.004	<0.0001	0.015	<0.01	0.001	<0.01	0.022	68	<1	<1	68	<0.01	6.08	7.25	<1	72	-	8.81	3	-	-	-	<1	161
		16-01-18	EM1801513016	-	0.012	-	-	-	<0.0001	<0.001	-	0.019	0.10	0.008	0.003	<0.0001	0.021	-	-	-	0.235	37	<1	<1	37	0.02	6.37	6.08	1	60	0.6	2.31	3	18.70	<0.01	18.70	<1	133
MW30	Off Site	22-08-17	EM1711267011	-	0.002	0.002	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.05	<0.001	0.001	<0.0001	0.015	<0.01	<0.001	<0.01	0.007	164	<1	<1	164	<0.01	5.50	5.64	<1	36	-	1.30	2	-	-	-	<1	126
		23-10-17	EM1714618006	-	0.003	-	-	-	<0.0001	<0.001	-	<0.001	0.51	<0.001	0.002	<0.0001	0.002	-	-	-	0.008	160	<1	<1	160	0.04	5.41	5.25	<1	37	-	1.43	2	-	-	-	<1	117
		15-01-18	EM1801513005	-	0.004	-	-	-	<0.0001	0.001	-	0.001	0.09	<0.001	0.002	<0.0001	0.002	-	-	-	0.013	144	<1	<1	144	0.62	4.77	4.82	<1	28	1.2	0.50	2	0.11	<0.01	-	<1	107
		03-10-18	EM1815860001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW33R	Lot 3 (On-site)	24-08-17	EM1711441009	-	0.005	0.013	<0.001	<0.05	<0.0001	<0.001	0.004	0.002	<0.05	<0.001	0.068	<0.0001	0.021	<0.01	<0.001	<0.01	0.013	133	<1	<1	133	<0.01	21.30	19.40	2	470	-	4.53	12	8.05	0.03	8.08	<1	422
		24-10-17	EM1714676004	-	0.004	0.010	<0.001	<0.05	<0.0001	<0.001	0.003	0.001	<0.05	<0.001	0.054	<0.0001	0.035	<0.01	<0.001	<0.01	0.016	137	<1	<1	137	0.08	18.90	17.90	2	398	-	2.71	12	8.75	0.04	-	<1	387
		16-01-18	EM1801513012	-	0.004	-	-	-	<0.0001	<0.001	-	0.004	<0.05	<0.001	0.060	<0.0001	0.016	-	-	-	0.046	96	<1	<1	96	<0.01	16.00	16.20	2	331	0.1	0.44	11	8.93	0.04	-	<1	349
		22-02-18	EM1803519001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-05-18	EM1808074004	-	0.004	-	-	-	0.0001	<0.001	-	0.03	<0.05	0.01	0.055	<0.0001	0.046	-	-	-	0.101	-	-	-	-	0.02	-	-	2	363	-	-	11	10	0.06	10.1	<1	404
		05-07-18	EM1810788005	-	0.005	-	-	-	<0.0001	<0.001	-	<0.001	0.06	0.001	0.052	<0.0001	0.014	-	-	-	0.009	-	-	-	-	0.03	-	-	2	381	-	-	11	11.8	0.05	11.8	<1	345
MW40	Off Site	22-08-17	EM1711267012	-	0.126	0.022	<0.001	0.13	<0.0001	0.004	0.471	<0.001	7.75	<0.001	0.075	<0.0001	0.011	<0.01	<0.001	<0.01	0.009	121	<1	<1	121	1.10	3.80	3.86	20	18	-	0.80	12	-	-	-	7	39
		24-10-17	EM1714676014	-	0.174	-	-	-	<0.0001	0.002	-	<0.001	8.74	<0.001	0.080	<0.0001	0.009	-	-	-	<0.005	119	<1	<1	119	0.67	3.84	3.87	22	18	-	0.31	11	-	-	-	7	28
		16-01-18	EM1801513017	-	0.092	-	-	-	<0.0001	0.002	-	<0.001	4.95	<0.001	0.066	<0.0001	0.008	-	-	-	0.014	74	<1	<1	74	0.88	2.94	3.20	20	18	0.1	4.12	9	0.10	<0.01	-	6	30
MW50A	Lot 3 (On-site)	25-08-17	EM1711516006	-	0.002	0.028	<0.001	0.06	<0.0001	<0.001	0.004	0.001	<0.05	<0.001	0.094	<0.0001	0.013	<0.01	<0.001	<0.01	0.008	150	<1	<1	150	0.09	11.80	10.30	16	242	-	6.62	16	-	-	-	<1	189
		27-10-17	EM1714855010	-	<0.001	0.071	<0.001	<0.05	<0.0001	0.003	0.016	0.003	0.18	<0.001	0.160	<0.0001	0.106	<0.01	<0.001	<0.01	0.035	98	<1	<1	98	0.08	25.70	26.30	21	742	-	1.08	40	-	-	-	<1	505
		18-01-18	EM1801648021	-	<0.001	-	-	-	0.0001	<0.001	-	0.003	<0.05	<0.001	0.067	<0.0001	0.066	-	-	-	0.044	153	<1	<1	153	0.39	53.20	50.10	143	1,620	0.1	2.97	80	1.90	0.23	-	4	834
		15-05-18	EM1808074005	-	<0.001	-	-	-	<0.0001	0.001	-	0.045	<0.05	0.003	0.04	<0.0001	0.09	-	-	-	0.098	-	-	-	-	0.04	-	-	15	745	-	-	39	1.69	0.03	1.72	<1	531
		05-07-18	EM1810788007	-	0.002	-	-	-	<0.0001	0.008	-	0.002	0.16	<0.001	0.034	0.0006	0.175	-	-	-	0.028	-	-	-	-	0.04	-	-	13	816	-	-	42	1.67	<0.01	1.67	<1	457
MW50B	Lot 3 (On-site)	25-08-17	EM1711516005	-	<0.001	0.024	<0.001	0.07	<0.0001	<0.001	0.023	0.002	<0.05	<0.001	0.418	<0.0001	0.008	<0.01	<0.001	<0.01	0.020	96	<1	<1	96	0.30	17.70	17.40	13	401	-	0.73	21	30.10	1.51	-	1	345
		27-10-17	EM1714855011	-	0.001	0.041	<0.001	0.06	<0.0001	<0.001	0.027	0.002	<0.05	<0.001	0.582	<0.0001	0.017	<0.01	<0.001	<0.01	0.027	131	<1	<1	131	0.29	34.70	36.30	28	705	-	2.22	43	72.60	2.59	-	2	720
		18-01-18	EM1801648024	-	0.001	-	-	-	<0.0001	<0.001	-	0.002	<0.05	<0.001	0.714	<0.0001	0.119	-	-	-	0.020	118	<1	<1	118	0.40	26.70	28.80	28	615	0.2	3.63	38	69.70	1.82	-	2	556
		15-05-18	EM1808074006	-	<0.001	-	-	-	0.0002	<0.001	-	0.117	<0.05	0.005	0.581	<0.0001	0.058	-	-	-	0.248	-	-	-	-	0.34	-	-	24	573	-	-	35	44.2	0.51	44.7	9	579
		05-07-18	EM1810788008	-	0.002	-	-	-	<0.0001	0.001	-	0.002	0.11	<0.001	0.745	<0.0001	0.063	-	-	-	0.062	-	-	-	-	0.19	-	-	23	697	-	-	40	60.8	0.62	61.4	6	553
MW50C	Lot 3 (On-site)	25-08-17	EM1711516004	-	0.002	0.042	<0.001	<0.05	<0.0001	<0.001	0.006	0.004	<0.05	<0.001	0.331	<0.0001	0.006	<0.01	<0.001	<0.01	0.016	208	<1	<1	208	0.26	43.10	43.40	119	1,250	-	0.39	80	-	-	-	3	708
		27-10-17	EM1714855012	-	<0.001	0.032	<0.001	0.06	<0.0001	<0.001	0.005	0.001	<0.05	<0.001	0.311	<0.0001	0.014	<0.01	<0.001	<0.01	0.016	182	<1	<1	182	0.18	39.60	43.70	98	1,110	-	5.00	76	-	-	-	2	748
		18-01-18	EM1801648023	-	<0.001	-	-	-	<0.0001	<0.001	-	<0.001	<0.05	<0.001	0.384	<0.0001	0.046	-	-	-	0.012	124	<1	<1	124	0.16	36.50	38.90	108	1,060	0.2	3.25	71	35.10	0.61	-	3	635
		15-05-18	EM1808074007	-	0.003	-	-	-	<0.0001	0.006	-	0.01	<0.05	<0.001	0.062	<0.0001	0.018	-	-	-	0.053	-	-	-	-	0.2	-	-	111	1,020	-	-	64	31.1	0.03	31.1	8	684
		05-07-18	EM1810788006	-	0.001	-	-	-	<0.0001	<0.001	-	0.001	<0.05	<0.001	0.586	<0.0001	0.102	-	-	-	0.032	-	-	-	-	0.18	-	-	107	1,250	-	-	83	45	0.12	45.1	4	687

Table 6
Groundwater Analytical Results - August 2017 to October 2018
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

				PAH																				Phenols												Cyanides	
				2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b&j)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ calc (Zero)	PAHs (Sum of total)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	3-Methylphenol	4-Nitrophenol	3 & 4-methylphenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenol	Cyanide (WAD)	Cyanide Total
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L
EQL				2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	2	4	2	0.004	0.004
Potable Water Supply												0.01		25[US]	0.025[US]	80[US]	29[US]	0.25[US]	1.7[US]	150[WR]	150[WR]			120[US]	20 / 2[A]	200 / 0.3[A]	36[US]	10[WR]	300 / 0.1[A]	93[US]			140[US]	10	150[WR]		0.08
Primary Contact Recreation					36[RI]							0.01		25[US]	0.025[US]	80[US]	29[US]	0.25[US]	1.7[US]	150[WR]	150[WR]			120[US]	20 / 2[A]	200 / 0.3[A]	36[US]	10[WR]	300 / 0.1[A]	93[US]			140[US]	10	150[WR]		0.8
Stock Watering												0.01		25[US]	0.025[US]	80[US]	29[US]	0.25[US]	1.7[US]	150[WR]	150[WR]			120[US]	20 / 2[A]	200 / 0.3[A]	36[US]	10[WR]	300 / 0.1[A]	93[US]			140[US]	10	150[WR]		0.08
Agriculture, Parks and Gardens																																					
Maintenance of Ecosystems																			70															22	400		0.004
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand, >8m																			NL																		
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand, >8m																			NL																		
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand, >8m																			NL																		
Derived Groundwater Risk Based Contminant Screening Level - Residential																																					
Derived Groundwater Risk Based Contminant Screening Level - Commercial/Industrial																																					

Field ID	Location	Date	Sample Code																																			
BMW1	Lot 4	24-08-17	EM1711516002	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	-	-
		24-10-17	EM1714676006	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	<0.004	<0.004
		17-01-18	EM1801648004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
BMW2	Lot 4	24-08-17	EM1711441008	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	-	-
		24-10-17	EM1714676007	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	<0.004	<0.004
		17-01-18	EM1801648003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
CMW1	Lot 3 (On-site)	24-08-17	EM1711516003	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	-	-
		23-10-17	EM1714618003	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	<0.004	<0.004
		16-01-18	EM1801513009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-05-18	EM1808074003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
		05-07-18	EM1810788004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
MW2A	Lot 3 (On-site)	15-05-18	EM1808074001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
		04-07-18	EM1810788003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
		03-10-18	EM1815860004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17B	Lot 3 (On-site)	05-06-18	EM1809115001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.008[C]
		04-07-18	EM1810788002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
		03-10-18	EM1815860002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW23	Lot 3 (On-site)	23-08-17	EM1711357005	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	-	-
		23-10-17	EM1714618005	<2	2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	15	<2	<2	<2	10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	<0.004	<0.004
		16-01-18	EM1801513019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW23A	Lot 3 (On-site)	15-05-18	EM1808074002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
		04-07-18	EM1810788001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
		03-10-18	EM1815860003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW24AR	Lot 2	25-08-17	EM1711516012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27-10-17	EM1714855014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		18-01-18	EM1801648022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
MW24BR	Lot 2	25-08-17	EM1711516011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27-10-17	EM1714855015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		18-01-18	EM1801648020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
MW24CR	Lot 2	25-08-17	EM1711516010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27-10-17	EM1714855016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		17-01-18	EM1801648008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
MW26	Off Site	22-08-17	EM1711267005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27-10-17	EM1714855013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		17-01-18	EM1801648012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
MW29	Off Site	21-08-17	EM1711267001	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	-	-
		16-01-18	EM1801513016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW30	Off Site	22-08-17	EM1711267011	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	-	-
		23-10-17	EM1714618006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-01-18	EM1801513005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		03-10-18	EM1815860001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW33R	Lot 3 (On-site)	24-08-17	EM1711441009	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	-	-
		24-10-17	EM1714676004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	<0.004	0.006
		16-01-18	EM1801513012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		22-02-18	EM1803519001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-05-18	EM1808074004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
		05-07-18	EM1810788005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
MW40	Off Site	22-08-17	EM1711267012	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	-	-
		24-10-17	EM1714676014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		16-01-18	EM1801513017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW50A	Lot 3 (On-site)	25-08-17	EM1711516006	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	-	-
		27-10-17	EM1714855010	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	<0.004	<0.004
		18-01-18	EM1801648021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
		15-05-18	EM1808074005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
		05-07-18	EM1810788007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
MW50B	Lot 3 (On-site)	25-08-17	EM1711516005	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	-	-
		27-10-17	EM1714855011	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	3	<2	<2	<4	<2	<0.004	<0.004
		18-01-18	EM1801648024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
		15-05-18	EM1808074006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
		05-07-18	EM1810788008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
MW50C	Lot 3 (On-site)	25-08-17	EM1711516004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	-	-
		27-10-17	EM1714855012	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.004	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<4	<2	<0.004	<0.004
		18-01-18	EM1801648023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
		15-05-18	EM1808074007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004
		05-07-18	EM1810788006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.004

Table 6
Groundwater Analytical Results - August 2017 to October 2018
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

				Naural Attenuation							SVOCs																Explosives				Anilines					
				Ferric Iron (filtered)	Ferrous Iron	Sulfate as SO4 - Turbidimetric (filtered)	Sulphite as SO3-	Ethane	Ethene	Methane	2-(Acetylamino) fluorene	3,3-Dichlorobenzidine	4-(dimethylamino) azobenzene	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	4-Nitroquinoline-N-oxide	Azobenzene	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Dibenofuran	Hexachloropropene	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	Phenacetin	1,3,5-Trinitrobenzene	2,4-Dinitrotoluene	2,6-dinitrotoluene	Nitrobenzene	2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline	5-methyl-5-nitroaniline	Aniline
				mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.05	0.05	1	2,000	10	10	0.01	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0.002	4	4	2	4	4	2	2	2	2
Potable Water Supply							500 / 250[a]																													
Primary Contact Recreation						5,000	5,000 / 250[a]																														
Stock Watering						1,000	1,000																														
Agriculture, Parks and Gardens																																				
Maintenance of Ecosystems																																				
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand, >8m																																				
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand, >8m																																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand, >8m																																				
Derived Groundwater Risk Based Contminant Screening Level - Residential																																				
Derived Groundwater Risk Based Contminant Screening Level - Commercial/Industrial																																				
Field ID	**Location**	**Date**	**Sample Code**																																	
BMW1	**Lot 4**	**24-08-17**	**EM1711516002**		-	317	-	-	-	-	<2		<2			<2	<2	-			-	-	-	-	<2	<0.002	<4	<4	<2	-	-	-	-	<2	-
		24-10-17	**EM1714676006**	-	-	332	-	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<0.002	<4	<4	<2	<4	<4	<2	<2	<2	<2
		17-01-18	**EM1801648004**	<0.05	<0.05	323	<2,000	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BMW2	**Lot 4**	**24-08-17**	**EM1711441008**	-	-	262	-	-	-	-	<2	-	<2	-	-	<2	<2	-	-	-	-	-	-	-	-	<2	<0.002	<4	<4	<2	-	-	-	-	<2	-
		24-10-17	**EM1714676007**	-	-	327	-	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<0.002	<4	<4	<2	<4	<4	<2	<2	<2	<2
		17-01-18	**EM1801648003**	<0.05	<0.05	329	<2,000	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CMW1	**Lot 3 (On-site)**	**24-08-17**	**EM1711516003**	-	-	484	-	-	-	-	<2	-	<2	-	-	<2	<2	-	-	-	-	-	-	-	-	<2	<0.002	<4	<4	<2	-	-	-	-	<2	-
		23-10-17	**EM1714618003**			490	-			-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<0.002	<4	<4	<2	<4	<4	<2	<2	<2	<2
		16-01-18	**EM1801513009**	<0.05	<0.05	490	-	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-05-18	**EM1808074003**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	**EM1810788004**								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW2A	**Lot 3 (On-site)**	**15-05-18**	**EM1808074001**	0.08	0.08	187	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		04-07-18	**EM1810788003**	1.69	0.18	180	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		03-10-18	**EM1815860004**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17B	**Lot 3 (On-site)**	**05-06-18**	**EM1809115001**	-	<0.05	11	-	-	-	0.108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		04-07-18	**EM1810788002**	<0.05	<0.05	12	-	-	-	0.016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		03-10-18	**EM1815860002**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW23	**Lot 3 (On-site)**	**23-08-17**	**EM1711357005**	-	-	143	-	-	-	-	<2	-	<2	-	-	<2	<2	-	-	-	-	-	-	-	-	<2	<0.002	<4	<4	<2	-	-	-	-	<2	-
		23-10-17	**EM1714618005**	-	-	149	-	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<0.002	<4	<4	<2	<4	<4	<2	<2	<2	<2
		16-01-18	**EM1801513019**	0.16	<0.05	-	-	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW23A	**Lot 3 (On-site)**	**15-05-18**	**EM1808074002**	0.14	<0.05	182	-	-	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		04-07-18	**EM1810788001**	0.24	<0.05	156	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		03-10-18	**EM1815860003**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW24AR	**Lot 2**	**25-08-17**	**EM1711516012**	-	-	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27-10-17	**EM1714855014**	-	-	243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		18-01-18	**EM1801648022**	<0.05	<0.05	151	<2,000	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW24BR	**Lot 2**	**25-08-17**	**EM1711516011**	<0.05	<0.05	243	-	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27-10-17	**EM1714855015**	<0.05	<0.05	450	-	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		18-01-18	**EM1801648020**	<0.05	<0.05	424	<2,000	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW24CR	**Lot 2**	**25-08-17**	**EM1711516010**	-	-	372	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27-10-17	**EM1714855016**			343	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		17-01-18	**EM1801648008**	2.26	2.49	384	<2,000	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW26	**Off Site**	**22-08-17**	**EM1711267005**	<0.05	<0.05	237	-	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27-10-17	**EM1714855013**	-	-	265	-	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		17-01-18	**EM1801648012**	<0.05	<0.05	113	<2,000	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW29	**Off Site**	**21-08-17**	**EM1711267001**	-	-	129	-	-	-	-	<2	-	<2	-	-	<2	<2	-	-	-	-	-	-	-	-	<2	<0.002	<4	<4	<2	-	-	-	-	<2	-
		16-01-18	**EM1801513016**	-	-	125	-	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW30	**Off Site**	**22-08-17**	**EM1711267011**	-	-	58	-	-	-	-	<2	-	<2	-	-	<2	<2	-	-	-	-	-	-	-	-	<2	<0.002	<4	<4	<2	-	-	-	-	<2	-
		23-10-17	**EM1714618006**	-	-	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-01-18	**EM1801513005**	0.09	<0.05	53	-	<10	<10	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		03-10-18	**EM1815860001**																																	
MW33R	**Lot 3 (On-site)**	**24-08-17**	**EM1711441009**	<0.05	<0.05	258	-	<10	<10	<0.01	<2		<2	-	-	<2	<2	-	-	-	-	-	-	-	-	<2	<0.002	<4	<4	<2	-	-	-	-	<2	-
		24-10-17	**EM1714676004**	<0.05	<0.05	238	-	<10	<10	0.01	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<0.002	<4	<4	<2	<4	<4	<2	<2	<2	<2
		16-01-18	**EM1801513012**	<0.05	<0.05	230	-	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		22-02-18	**EM1803519001**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-05-18	**EM1808074004**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	**EM1810788005**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW40	**Off Site**	**22-08-17**	**EM1711267012**	-	-	42	-	-	-	-	<2	-	<2	-	-	<2	<2	-	-	-	-	-	-	-	-	<2	<0.002	<4	<4	<2	-	-	-	-	<2	-
		24-10-17	**EM1714676014**	-	-	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		16-01-18	**EM1801513017**	<0.05	4.93	46	-	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW50A	**Lot 3 (On-site)**	**25-08-17**	**EM1711516006**		-	95	-	-		-	<2		<2	-	-	<2	<2	-	-	-	-	-	-	-	-	<2	<0.002	<4	<4	<2	-	-	-	-	<2	-
		27-10-17	**EM1714855010**	-	-	137	-	-	-	-	<2	-	<2	-	-	<2	<2	-	-	-	-	-	-	-	-	<2	<0.002	<4	<4	<2	-	-	-	-	<2	-
		18-01-18	**EM1801648021**	<0.05	<0.05	212	<2,000	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-05-18	**EM1808074005**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	**EM1810788007**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW50B	**Lot 3 (On-site)**	**25-08-17**	**EM1711516005**	<0.05	<0.05	213	-	<10	<10	<0.01	<2	-	<2	-	-	<2	<2	-	-	-	-	-	-	-	-	<2	<0.002	<4	<4	<2	-	-	-	-	<2	-
		27-10-17	**EM1714855011**	<0.05	<0.05	338	-	<10	<10	<0.01	<2	-	<2	-	-	<2	<2	-	-	-	-	-	-	-	-	<2	<0.002	<4	<4	<2	-	-	-	-	<2	-
		18-01-18	**EM1801648024**	<0.05	<0.05	338	<2,000	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-05-18	**EM1808074006**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	**EM1810788008**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW50C	**Lot 3 (On-site)**	**25-08-17**	**EM1711516004**		-	175	-	-		-	<2		<2	-	-	<2	<2	-	-	-	-	-	-	-	-	<2	<0.002	<4	<4	<2	-	-	-	-	<2	-
		27-10-17	**EM1714855012**	-	-	222	-	-	-	-	<2	-	<2	-	-	<2	<2	-	-	-	-	-	-	-	-	<2	<0.002	<4	<4	<2	-	-	-	-	<2	-
		18-01-18	**EM1801648023**	<0.05	<0.05	197	<2,000	<10	<10	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-05-18	**EM1808074007**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	**EM1810788006**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 6
Groundwater Analytical Results - August 2017 to October 2018
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

				PCB	Phthalates						Pesticides			Herbicides		Nitroaromatics				Amino Aromatics		Amino Aliphatics				Other								Other		
				PCBs (Sum of total)	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Chlorobenzilate	Carbazole	Pirimphos-ethyl	2,4,5-Trichlorophenoxy-propanoic acid	Jronamide	2-Picoline	2-Chloronitrobenzene	4-aminobiphenyl	Pentachloronitrobenzene	1-naphthylamine	N-Nitrosodiphenyl & Diphenylamine	N-nitrosodiethylamine	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	N-Nitrosomethylethylamine	Acidity (as CaCO3)	Butyric Acid	Hexanoic Acid	Heptanoic Acid	Volatile Acids as Acetic Acid	Isobutyric Acid	Isocaproic Acid	Isovaleric Acid	Acetophenone	Butanal	Propanal
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L
EQL				1	10	2	2	2	2	2			2	0.05	2	2	2	2	2	2	4	2	2	2	2	1	0.05	0.06	70	5	50	60	55	2	0.002	0.002
Potable Water Supply					10								0.5						30																	
Primary Contact Recreation					10								0.5		700				30																	
Stock Watering					10								0.5		70#				30																	
Agriculture, Parks and Gardens																																				
Maintenance of Ecosystems																																				
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand, >8m																																				
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand, >8m																																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand, >8m																																				
Derived Groundwater Risk Based Contminant Screening Level - Residential																																				
Derived Groundwater Risk Based Contminant Screening Level - Commercial/Industrial																																				
Field ID	**Location**	**Date**	**Sample Code**																																	
BMW1	Lot 4	24-08-17	EM1711516002	<1	<10	<2	<2	<2	<2	<2	<2	-	-	<0.05	<2	<2	-	<2	<2	<2	-	-	-	-	-	236	<0.05	<0.06	<70	-	<50	<60	<55	<2	-	-
		24-10-17	EM1714676006	<1	<10	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2	10	-	-	-	-	-	-	-	<2	<0.0020	<0.0020
		17-01-18	EM1801648004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-
BMW2	Lot 4	24-08-17	EM1711441008	<1	<10	<2	<2	<2	<2	<2	<2	-	-	<0.05	<2	<2	-	<2	<2	<2	-	-	-	-	-	37	<0.05	<0.06	<70	-	<50	<60	<55	<2	-	-
		24-10-17	EM1714676007	<1	<10	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2	17	-	-	-	-	-	-	-	<2	<0.0020	<0.0020
		17-01-18	EM1801648003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	-	-	-	-	-
CMW1	Lot 3 (On-site)	24-08-17	EM1711516003	<1	<10	<2	<2	<2	<2	<2	<2	-	-	-	<2	<2	-	<2	<2	<2	-	-	-	-	-	50	-	-	-	-	-	-	-	<2	-	-
		23-10-17	EM1714618003	<1	<10	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2	80	-	-	-	-	-	-	-	<2	<0.0020	<0.0020
		16-01-18	EM1801513009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	-	-	-	-	-	-
		15-05-18	EM1808074003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	EM1810788004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW2A	Lot 3 (On-site)	15-05-18	EM1808074001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		04-07-18	EM1810788003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		03-10-18	EM1815860004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17B	Lot 3 (On-site)	05-06-18	EM1809115001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		04-07-18	EM1810788002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		03-10-18	EM1815860002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW23	Lot 3 (On-site)	23-08-17	EM1711357005	<1	<10	<2	<2	<2	<2	<2	<2	-	-	-	<2	<2	-	<2	<2	<2	-	-	-	-	-	27	-	-	-	-	-	-	-	<2	-	-
		23-10-17	EM1714618005	<1	<10	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2	106	-	-	-	-	-	-	-	<2	<0.0020	<0.0020
		16-01-18	EM1801513019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW23A	Lot 3 (On-site)	15-05-18	EM1808074002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		04-07-18	EM1810788001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		03-10-18	EM1815860003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW24AR	Lot 2	25-08-17	EM1711516012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27-10-17	EM1714855014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		18-01-18	EM1801648022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	-	-	-	-	-	-
MW24BR	Lot 2	25-08-17	EM1711516011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	-	-	-	-	-	-
		27-10-17	EM1714855015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-
		18-01-18	EM1801648020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-
MW24CR	Lot 2	25-08-17	EM1711516010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27-10-17	EM1714855016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		17-01-18	EM1801648008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	-	-	-	-	-	-
MW26	Off Site	22-08-17	EM1711267005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-	-	-
		27-10-17	EM1714855013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	-	-	-	-	-	-
		17-01-18	EM1801648012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	-	-	-	-	-
MW29	Off Site	21-08-17	EM1711267001	<1	<10	<2	<2	<2	<2	<2	<2	-	-	-	<2	<2	-	<2	<2	<2	-	-	-	-	-	21	-	-	-	-	-	-	-	<2	-	-
		16-01-18	EM1801513016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	-	-	-	-	-	-
MW30	Off Site	22-08-17	EM1711267011	<1	<10	<2	<2	<2	<2	<2	<2	-	-	-	<2	<2	-	<2	<2	<2	-	-	-	-	-	38	-	-	-	-	-	-	-	<2	-	-
		23-10-17	EM1714618006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-01-18	EM1801513005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	-	-	-	-	-	-
		03-10-18	EM1815860001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW33R	Lot 3 (On-site)	24-08-17	EM1711441009	<1	<10	<2	<2	<2	<2	<2	<2	-	-	-	<2	<2	-	<2	<2	<2	-	-	-	-	-	104	-	-	-	37	-	-	-	<2	-	-
		24-10-17	EM1714676004	<1	<10	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2	76	-	-	-	32	-	-	-	<2	<0.0020	<0.0020
		16-01-18	EM1801513012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-	-	-	-	-	-
		22-02-18	EM1803519001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-05-18	EM1808074004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	EM1810788005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW40	Off Site	22-08-17	EM1711267012	<1	<10	<2	<2	<2	<2	<2	<2	-	-	-	<2	<2	-	<2	<2	<2	-	-	-	-	-	44	-	-	-	-	-	-	-	<2	-	-
		24-10-17	EM1714676014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		16-01-18	EM1801513017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	-	-	-	-	-	-
MW50A	Lot 3 (On-site)	25-08-17	EM1711516006	<1	<10	<2	<2	<2	<2	<2	<2	-	-	-	<2	<2	-	<2	<2	<2	-	-	-	-	-	14	-	-	-	-	-	-	-	<2	-	-
		27-10-17	EM1714855010	<1	<10	<2	<2	<2	<2	<2	<2	-	-	-	<2	<2	<2	<2	<2	<2	-	-	-	-	-	108	-	-	-	-	-	-	-	<2	<0.0020	<0.0020
		18-01-18	EM1801648021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	-	-	-	-	-	-
		15-05-18	EM1808074005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	EM1810788007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW50B	Lot 3 (On-site)	25-08-17	EM1711516005	<1	<10	<2	<2	<2	<2	<2	<2	-	-	-	<2	<2	-	<2	<2	<2	-	-	-	-	-	28	-	-	-	26	-	-	-	<2	-	-
		27-10-17	EM1714855011	<1	<10	<2	<2	<2	<2	<2	<2	-	-	-	<2	<2	<2	<2	<2	<2	-	-	-	-	-	74	-	-	-	69	-	-	-	<2	<0.0020	<0.0020
		18-01-18	EM1801648024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	-	-	-	-	-	-
		15-05-18	EM1808074006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	EM1810788008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW50C	Lot 3 (On-site)	25-08-17	EM1711516004	<1	<10	<2	<2	<2	<2	<2	<2	-	-	-	<2	<2	-	<2	<2	<2	-	-	-	-	-	33	-	-	-	-	-	-	-	<2	-	-
		27-10-17	EM1714855012	-	<10	<2	<2	<2	<2	<2	<2	-	-	-	<2	<2	<2	<2	<2	<2	-	-	-	-	-	53	-	-	-	-	-	-	-	<2	<0.0020	<0.0020
		18-01-18	EM1801648023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	-	-	-	-	-	-
		15-05-18	EM1808074007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	EM1810788006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 6
Groundwater Analytical Results - August 2017 to October 2018
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

				Organochlorine Pesticides																Organophosphorous Pesticides									Glycols						
				4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Pirimiphos	2-Butoxyethanol	2-Ethoxyethanol acetate	Diethylene glycol	Diethylene glycol, monobutyl ether	Ethylene glycol	Propylene glycol	Triethylene Glycol
				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	mg/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	mg/L
EQL				2	2	2	4	2	2	2	4	4	2	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2	2	2	2	2,000	2,000	2,000	2,000	2,000	2
Potable Water Supply							0.3				9							10	0.3		2	10		4	5	7	4	7	70								
Primary Contact Recreation							0.3				9							10	0.3		2	10		4	5	7	4	7	70								
Stock Watering							0.3				9							10	0.3		2	10		4	5	7	4	7	70								
Agriculture, Parks and Gardens																																				
Maintenance of Ecosystems																	0.008					0.009														
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand, >8m																																				
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand, >8m																																				
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand, >8m																																				
Derived Groundwater Risk Based Contminant Screening Level - Residential																																				
Derived Groundwater Risk Based Contminant Screening Level - Commercial/Industrial																																				
Field ID	**Location**	**Date**	**Sample Code**																																	
BMW1	**Lot 4**	**24-08-17**	**EM1711516002**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		24-10-17	**EM1714676006**	<2	<2	<2	<4	<2	<2	<2	<4	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	<2	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		17-01-18	**EM1801648004**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
BMW2	**Lot 4**	**24-08-17**	**EM1711441008**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		24-10-17	**EM1714676007**	<2	<2	<2	<4	<2	<2	<2	<4	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	<2	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		17-01-18	**EM1801648003**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
CMW1	**Lot 3 (On-site)**	**24-08-17**	**EM1711516003**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		23-10-17	**EM1714618003**	<2	<2	<2	<4	<2	<2	<2	<4	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	<2	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		16-01-18	**EM1801513009**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		15-05-18	**EM1808074003**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	**EM1810788004**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW2A	**Lot 3 (On-site)**	**15-05-18**	**EM1808074001**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		04-07-18	**EM1810788003**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		03-10-18	**EM1815860004**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17B	**Lot 3 (On-site)**	**05-06-18**	**EM1809115001**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		04-07-18	**EM1810788002**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		03-10-18	**EM1815860002**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW23	**Lot 3 (On-site)**	**23-08-17**	**EM1711357005**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		23-10-17	**EM1714618005**	<2	<2	<2	<4	<2	<2	0	<4	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	<2	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		16-01-18	**EM1801513019**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
MW23A	**Lot 3 (On-site)**	**15-05-18**	**EM1808074002**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		04-07-18	**EM1810788001**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		03-10-18	**EM1815860003**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW24AR	**Lot 2**	**25-08-17**	**EM1711516012**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27-10-17	**EM1714855014**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		18-01-18	**EM1801648022**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
MW24BR	**Lot 2**	**25-08-17**	**EM1711516011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		27-10-17	**EM1714855015**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		18-01-18	**EM1801648020**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
MW24CR	**Lot 2**	**25-08-17**	**EM1711516010**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		27-10-17	**EM1714855016**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		17-01-18	**EM1801648008**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
MW26	**Off Site**	**22-08-17**	**EM1711267005**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		27-10-17	**EM1714855013**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		17-01-18	**EM1801648012**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
MW29	**Off Site**	**21-08-17**	**EM1711267001**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		16-01-18	**EM1801513016**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
MW30	**Off Site**	**22-08-17**	**EM1711267011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		23-10-17	**EM1714618006**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-01-18	**EM1801513005**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		03-10-18	**EM1815860001**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW33R	**Lot 3 (On-site)**	**24-08-17**	**EM1711441009**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		24-10-17	**EM1714676004**	<2	<2	<2	<4	<2	<2	<2	<4	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	<2	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		16-01-18	**EM1801513012**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		22-02-18	**EM1803519001**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-05-18	**EM1808074004**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	**EM1810788005**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW40	**Off Site**	**22-08-17**	**EM1711267012**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		24-10-17	**EM1714676014**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		16-01-18	**EM1801513017**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
MW50A	**Lot 3 (On-site)**	**25-08-17**	**EM1711516006**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		27-10-17	**EM1714855010**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		18-01-18	**EM1801648021**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		15-05-18	**EM1808074005**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	**EM1810788007**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW50B	**Lot 3 (On-site)**	**25-08-17**	**EM1711516005**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		27-10-17	**EM1714855011**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		18-01-18	**EM1801648024**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		15-05-18	**EM1808074006**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	**EM1810788008**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW50C	**Lot 3 (On-site)**	**25-08-17**	**EM1711516004**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		27-10-17	**EM1714855012**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		18-01-18	**EM1801648023**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2,000	<2,000	<2,000	<2,000	<2,000	<2
		15-05-18	**EM1808074007**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		05-07-18	**EM1810788006**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7
Perched Water Analytical Results
Detailed Site Investigation
Lot 3, 14 Hamlet Street, Cheltenham
1707054

	TPH					TRH							BTEX							MAH			Halogenated Benzenes											Other	
	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16	C10-C16 (F2 minus Naphthalene)	C16-C34	C34-C40	C10-C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	1,2,3-trimethylbenzene	1,2,4-trimethylbenzene	Styrene	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-Chloronitrobenzene & 4-Chloronitrobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Trichlorobenzene (total)	MTBE	Hexanyl Chloride
	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	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	mg/L	mg/L	mg/L
EQL	20	50	100	50	50	20	20	100	100	100	100	100	1	1	1	1	1	1	0.001	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.001	0.0001	0.0002
Potable Water Supply	600[DI]				600[DI]								1	800 / 25[A]	300 / 3[A]			600 / 20[A]			5.6[US]	30 / 4[A]	10[NZ]	5[NZ]	1,500 / 1[A]	20[A]	40 / 0.3[A]		24[US]	25[US]	6.2[US]	300 / 10[A]	0.03 / 0.005[A]	0.015[C]	
Primary Contact Recreation	600[DI]				600[DI]								1	800 / 25[A]	300 / 3[A]			600 / 20[A]			5.6[US]	30 / 4[A]	10[NZ]	5[NZ]	1,500 / 1[A]	20[A]	40 / 0.3[A]		24[US]	25[US]	6.2[US]	300 / 10[A]	0.03 / 0.005[A]	0.015[C]	
Stock Watering	600[DI]				600[DI]								1	800 / 25[A]	300 / 3[A]			600 / 20[A]			5.6[US]	30 / 4[A]	10[NZ]	5[NZ]	1,500 / 1[A]	20[A]	40 / 0.3[A]		24[US]	25[US]	6.2[US]	300 / 10[A]	0.03 / 0.005[A]	0.015[C]	
Agriculture, Parks and Gardens	600[DI]				600[DI]																														
Maintenance of Ecosystems	600[DI]				600[DI]								700											80											
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand, >8m							1,000		1,000				900	NL	NL			NL																	
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand, >8m							NL		NL				NL	NL	NL			NL																	
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand, >8m							7,000		NL				5,000	NL	NL			NL																	
Derived Groundwater Risk Based Contminant Screening Level - Residential																									S		S					220,000			
Derived Groundwater Risk Based Contminant Screening Level - Commercial/Industrial																									S		S					3,200,000			
Field ID	**Location**	**Date**	**Sample Code**																																	
MW17C (perched)	Lot 3 (On-site)	21-05-18	EM1808305016	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<1	<1	<1	<1	<1	<0.001	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.1	<0.0001	<0.0001	<0.0002

	Chlorinated Hydrocarbons																						VOCs	Halogenated Hydrocarbons				PAH
	1,1,1-trichloroethane	1,1,2-trichloroethane	1,1-dichloroethene	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dichloromethane	Hexachlorobutadiene	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride	Trihalomethanes	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Trichlorofluoromethane	Naphthalene
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	0.1	0.05	0.1	0.5	0.5	0.1	0.1	1	0.04	0.05	0.05	0.1	0.1	0.3	0.1	0.1	0.5	0.5	0.5	0.05
Potable Water Supply	800[US]	2.8[US]	30[A]	1[Wn]	3	40[WH]	40[WR]	250	250	3		2,100[US]	250	60		4	0.7	20[WH]	50	60[NZ]		0.3	250	1	1			1.7[US]
Primary Contact Recreation	800[US]	2.8[US]	30[A]	1[Wn]	3	40[WH]	40[WR]	250	250	3		2,100[US]	250	60		4	0.7	20[WH]	50	60[NZ]		0.3	250	1	1			1.7[US]
Stock Watering	800[US]	2.8[US]	30[A]	1[Wn]	3	40[WH]	40[WR]	250	250	3		2,100[US]	250	60		4	0.7	20[WH]	50	60[NZ]		0.3	250	1	1			1.7[US]
Agriculture, Parks and Gardens																							250					
Maintenance of Ecosystems	300[DI]	90[LR]	10[DI]		700[LR]					240[C]			400[DI]	20[DI]		1,000[DI]		330[LR]	70[LR]	20[DI]		100[LR]						70
NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Sand, >8m																												NL
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand, >8m																												NL
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand, >8m																												NL
Derived Groundwater Risk Based Contminant Screening Level - Residential	1,100,000	53,000	27,000		2,000					600			26,000	2,000				500	45,000			200				59,000	
Derived Groundwater Risk Based Contminant Screening Level - Commercial/Industrial	5	790,000	420,000		24,000					10,000			380,000	35,000				8,000	690,000			4,000				940,000	
Field ID	**Location**	**Date**	**Sample Code**																									
MW17C (perched)	Lot 3 (On-site)	21-05-18	EM1808305016	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	0.32	<0.1	<0.05	<0.1	<0.5	0.61	<0.1	<0.1	<1.0	<0.04	<0.05	<0.05	<0.1	<0.1	<0.3	0.93	<0.1	<0.5	<0.5	<0.5	<0.05

NOTES

Potable Water Supply / Primary Contact Recreation
Australian Drinking Water Guidelines 2015, Health

Stock Watering
ANZECC 2000 Livestock Drinking Water Low Risk Trigger Values
Potable Water Supply / Primary Contact Recreation guidance

Agriculture, Parks and Gardens
ANZECC 2000 Irrigation Long Term Trigger Values

Maintenance of Ecosystems
ANZECC 2000 Marine Water 95%
LR: ANZECC 2000 Low Reliability Guidelines
F : ANZECC 2000 Freshwater 95%

A: Australian Drinking Water Guidelines 2015, Aesthetics
C: CCME 2007 Canadian Water Quality Guidelines for the Protection of Aquatic Life/Agriculture – Freshwater
DI: Dutch 2000 Target and Intervention Values for Soil and Groundwater
N: NIWA 2014, Nitrate toxicity guidelines for the National Objectives Framework
NZ: New Zealand Ministry of Health 2008, Drinking Water Standards for New Zealand
US: USEPA 2018, Health Advisories for Drinking Water Contaminants
WH: World Health Organization 2011, WHO DWQG 4th Ed
WR: Environment Protection and Heritage Council 2008, Australian Guidelines for Water Recycling
Derived Groundwater Risk Based Contminant Screening Levels - EnRisks, 2017

Table G2 Groundwater Results (GHD 2008-2014)

Appendix A -
Table 2
Groundwater Analytical Results

			Inorganics				Water Quality				Metals																		
			Alkyl chloride	Volatile Fatty Acids	Bromide	Cyanide (Total)	pH (Lab)	Electrical conductivity (lab)	Hardness	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium (III+VI)	Cobalt	Copper	Ferric Iron	Ferrous Iron	Iron	Lead	Manganese	Mercury	Nickel	Vanadium	Zinc
			µg/L	µg/L	mg/L	µg/L	pH Units	µS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			1	5000	0.5	4	0.01	1	1	1	0.001	0.001	0.001	0.001	0.05	0.0001	0.001	0.001	0.001	0.05	0.05	0.01	0.001	0.001	0.0001	0.001	0.01	0.001
ANZECC 2000 FW 95%						**7**						**0.013**			**0.37**	**0.0002**	**0.001**		**0.0014**				**0.0034**	**1.9**	**0.0006**	**0.011**		**0.008**
ANZECC 2000 Irrigation - Short-term Trigger Values												**2**		**0.5**	**0.5**	**0.05**	**1**	**0.1**	**5**			**10**	**10**	**10**	**0.002**	**2**	**0.5**	**5**
ANZECC 2000 Stock Watering										**4000**		**0.5**			**5**	**0.01**	**1**	**1**	**0.5**				**0.1**		**0.002**	**1**		**20**
NEPM 2013 Table 1C GILs, Drinking Water						**80**					**0.003**	**0.01**	**2**	**0.06**	**4**	**0.002**			**2**				**0.01**	**0.5**	**0.001**	**0.02**		
Location Code	**Field ID**	**Sampled Date**																											
MW3	MW3-1	15/07/2008	-	-	<0.5	-	6.4	12,480	1430	**8050**	-	<0.02	-	-	-	**0.0366**	**0.02**	-	**0.016**	-	<0.5	-	**0.019**	**0.575**	0.0006	**0.084**	-	**0.06**
	MW3-2	26/08/2008	-	-	<0.5	-	6.3	-	1740	**9820**	-	<0.01	-	-	-	**0.0267**	<0.005	-	**0.023**	<0.5	<0.5	0.09	<0.001	-	0.0002	**0.134**	-	**0.044**
	MW3	25/03/2010	-	-	-	<4	6.4	-	-	**8000**	-	0.003			<0.05	**0.0169**	<0.001		**0.005**	<0.05	<0.05	<0.05	<0.001	0.153	0.0003	0.008	-	**0.473**
	MW3	20/01/2011	-	-	-	<4	6.22	-	-	3700	-	0.001	0.03	<0.001	<0.05	**0.0051**	<0.001	0.002	**0.005**	<0.05	<0.05	<0.05	<0.001	0.066	<0.0001	0.008	<0.01	**0.035**
	MW3	27/02/2013	-	-	-	<4	5.7	-	-	2740	-	0.01	-	-	0.09	**0.0064**	<0.001	-	**0.026**	0.36	<0.05	0.36	0.001	0.051	0.0002	**0.016**		**0.363**
MW4	MW4-1	15/07/2008	-	-	1.1	-	6.8	1111	68	670	-	<0.01	-	-	-	<0.0001	<0.005	-	**0.071**	-	<0.5	-	<0.001	0.022	0.0001	**0.031**	-	**0.166**
	MW4-2	27/08/2008	-	-	1.2	-	7.4	-	86	630	-	<0.005	-	-	-	<0.0001	<0.005	-	<0.01	<0.5	2.5	0.09	<0.001	-	<0.0001	0.004	-	**0.047**
	MW4	3/12/2009	-	-	-	-	6.93	-	-	798	-	0.002	-	-	0.05	<0.0001	<0.001	-	**0.009**	<0.05	0.06	<0.05	<0.001	<0.001	<0.0001	0.004	-	**0.066**
	MW4	18/03/2010	-	-	-	-	7.35	-	-	254	-	**0.015**	-	-	<0.05	0.0001	<0.001	-	**0.004**	<0.05	0.09	0.05	<0.001	0.026	0.0001	**0.018**	-	**0.138**
	MW4	20/01/2011	-	-	-	-	6.6	-	-	788	-	0.003	0.05	<0.001	0.1	<0.0001	<0.001	<0.001	**0.005**	<0.05	<0.05	<0.05	<0.001	0.003	<0.0001	**0.018**	<0.01	**0.185**
MW5	MW5-1	16/07/2008	-	-	5.4	-	4.9	5490	316	3320	-	<0.01	-	-	-	<0.0001	<0.005	-	<0.01	-	0.5	-	**0.005**	0.008	**0.0069**	**0.031**	-	**0.031**
	MW5-2	27/08/2008	-	-	5.8	-	5	-	366	3280	-	<0.01	-	-	-	<0.0001	<0.005	-	<0.01	<0.5	<0.5	0.05	**0.006**	-	**0.0067**	**0.015**	-	**0.03**
MW6/3	MW6/3-1	17/07/2008	-	-	1.4	-	6.6	1230	31	750	-	0.003	-	-	-	<0.0001	<0.005	-	0.001	-	<0.5	-	<0.001	0.051	<0.0005	0.002	-	**0.554**
	MW6/3-2	28/08/2008	-	-	1.5	-	6.9	-	28	710	-	<0.01	-	-	-	<0.0001	<0.005	-	**0.003**	<0.5	<0.5	-	<0.001	-	<0.0001	<0.001	-	**0.166**
MW6/4	MW6/4	7/12/2009	-	-	-	-	6.58	-	-	688	-	0.003	-	-	<0.05	0.0002	<0.001	-	**0.004**	<0.05	<0.05	<0.05	**0.004**	0.014	<0.0001	0.006	-	**0.088**
	MW6/4	22/03/2010	-	-	-	-	6.6	-	-	640	-	0.002			<0.05	0.0002	<0.001		0.001	<0.05	<0.05	<0.05	<0.001	0.036	<0.0001	0.001	-	**0.061**
	MW6/4	24/01/2011	-	-	-	-	7.7	-	-	580	-	0.002	0.017	<0.001	-	<0.0001	**0.003**	<0.001	<0.001	<0.05	0.4	-	**0.02**	0.018	<0.0001	<0.001	<0.01	**0.091**
MW7/3	MW7/3-1	18/07/2008	-	-	2.7	-	-	2530	124	1420	-	<0.02	-	-	-	**0.0001**	<0.005	-	<0.005	-	<0.5	-	<0.001	0.046	<0.0005	0.001	-	**0.023**
	MW7/3-2	28/08/2008	-	-	2.2	-	6.9	-	168	1130	-	<0.01	-	-	-	<0.0001	<0.005	-	**0.003**	<0.5	<0.5	-	<0.001	-	<0.0001	0.001	-	**0.062**
	MW7/3	7/12/2009	-	-	-	-	6.64	-	-	924	-	0.002	-	-	<0.05	<0.0001	<0.001	-	**0.002**	<0.05	<0.05	<0.05	<0.001	0.011	<0.0001	0.001	-	**0.118**
	MW7/3	22/03/2010	-	-	-	-	6.42	-	-	1190	-	0.002	-	-	<0.05	0.0001	<0.001	-	**0.003**	<0.05	<0.05	<0.05	<0.001	0.02	<0.0001	<0.001	-	**0.066**
	MW7/3	21/01/2011	-	-	-	-	7.35	-	-	1350	-	**0.019**	0.023	<0.001	-	0.0002	**0.002**	0.003	**0.006**	0.35	0.2	0.55	**1.07**	0.055	<0.0001	0.002	0.07	**0.261**
MW9/2	MW9/2-1	17/07/2008	-	-	<0.5	-	7.5	708	15	430	-	0.002	-	-	-	**0.0003**	<0.005	-	**0.005**	-	9.5	-	0.002	0.003	<0.0005	0.003	-	0.005
MW11/2	MW11/2-1	17/07/2008	-	-	2.3	-	6.8	3320	477	1870	-	<0.02	-	-	-	<0.0001	<0.005	-	**0.003**	-	<0.5	-	**0.009**	0.138	<0.0005	0.004	-	**0.017**
	MW11/2-2	28/08/2008	-	-	2.7	-	7	-	477	2000	-	<0.01	-	-	-	<0.0001	<0.005	-	<0.005	<0.5	<0.5	-	**0.007**	-	<0.0001	0.004	-	**0.023**
	MW11/2	4/12/2009	-	-	-	-	6.75	-	-	1820	-	0.001	-	-	0.07	0.0001	<0.001	-	**0.004**	<0.05	<0.05	<0.05	<0.001	0.13	<0.0001	0.005	-	**0.045**
	MW11/2	22/03/2010	-	-	-	-	6.69	-	-	1690	-	<0.001	-	-	0.08	0.0001	<0.001	-	**0.004**	<0.05	0.08	<0.05	**0.004**	0.152	<0.0001	0.002	-	**0.03**
	MW11/2	21/01/2011	-	-	-	-	7.51	-	-	1180	-	0.003	0.016	<0.001	-	<0.0001	<0.001	<0.001	**0.009**	0.05	0.05	0.1	**0.385**	0.022	<0.0001	0.002	<0.01	**0.047**
MW12/1	MW12/1-2	26/08/2008	-	-	<0.5	-	7	-	53	190	-	0.002	-	-	-	<0.0001	<0.005	-	**0.002**	<0.5	1.4	<0.05	0.002	-	0.0001	0.002	-	**0.011**
	MW12-1	17/07/2008	-	-	<0.5	-	6.6	358	64	220	-	0.009	-	-	-	<0.0001	<0.005	-	**0.003**	-	1.1	-	0.001	0.019	<0.0005	0.003	-	**0.014**
	MW12/1	9/12/2009	-	-	-	-	6.7	-	-	260	-	0.007	0.013	<0.001	0.14	<0.0001	**0.002**	0.093	**0.005**	0.06	0.21	0.27	0.002	0.017	<0.0001	**0.012**	<0.05	**0.063**
	MW12/1	25/03/2010	-	-	-	-	6.87	-	-	180	-	0.007	-	-	0.14	0.0001	**0.002**	-	**0.002**	<0.05	0.22	0.13	<0.001	0.02	<0.0001	0.002	-	<0.005
	MW12/1	21/01/2011	-	-	-	-	7.68	-	-	290	-	0.006	0.014	<0.001	-	<0.0001	**0.004**	**0.125**	**0.003**	<0.05	0.05	<0.05	**0.005**	0.017	**0.0001**	0.003	0.01	**0.048**
MW13/2	MW13/2-1	17/07/2008	-	-	1.6	-	5.5	4320	351	2800	-	<0.02	-	-	-	**0.0058**	<0.005	-	<0.005	-	<0.5	-	**0.009**	0.053	**0.0937**	0.007	-	**0.071**
	MW13/2-2	25/08/2008	-	-	1.5	-	6	-	315	2710	-	<0.01				**0.0059**	<0.005		**0.005**	<0.5	<0.5	0.05	0.001		**0.0938**	0.007		**0.03**
	MW13/2	10/12/2009	-	-	-	4	5.75	-	-	2480	-	0.004	0.017	<0.001	<0.05	<0.0001	<0.001	0.008	**0.002**	<0.05	<0.05	-	0.003	0.101	<0.0001	0.004	<0.01	**0.018**
	MW13/2	24/03/2010	-	-	-	**5**	1 - 5.57	-	-	1850	-	0.002	-	-	<0.05	**0.0056**	<0.001	-	**0.007**	<0.05	0.09	<0.05	0.003	0.035	**0.0006**	0.01	-	**0.034**
	MW13/2	20/01/2011	-	-	-	**74**	5.63	-	-	2130	-	0.003	0.064	<0.001	<0.05	**0.0052**	<0.001	**0.101**	**0.014**	<0.05	0.07	<0.05	**0.007**	0.069	**0.0017**	**0.013**	<0.01	**0.093**
MW15/3	MW15/3-1	17/07/2008	-	-	2.4	-	5.9	2680	125	1560	-	<0.02	-	-	-	<0.0001	<0.005	-	<0.005	-	0.5	-	**0.044**	0.136	<0.0005	0.004	-	**0.062**
	MW15/3-2	25/08/2008	-	-	2	-	6.4	-	104	1560	-	<0.01	-	-	-	<0.0001	<0.005	-	**0.005**	<0.5	<0.5	<0.05	**0.018**	-	**0.0001**	0.004	-	**0.027**
	MW15/3	10/12/2009	-	-	-	<4	6.04	-	-	1500	-	0.003	0.03	<0.001	<0.05	**0.0054**	<0.001	0.089	**0.004**	<0.05	0.07		**0.01**	0.053	**0.098**	0.005	<0.01	**0.034**
	MW15/3	24/03/2010	-	-	-	<4	1 - 5.82	-	-	1630	-	0.006			<0.05	**0.0004**	<0.001		**0.005**	0.11	<0.05	0.11	0.002	0.098	<0.0001	0.009	-	**0.02**
	MW15/3	21/01/2011	-	-	-	<4	7.34	-	-	1700	-	0.002	0.024	<0.001	-	0.0001	<0.001	0.01	**0.003**	<0.05	<0.05	<0.05	**0.017**	0.115	<0.0001	**0.04**	<0.01	**0.056**
MW16/1	MW16/1-1	18/07/2008	-	-	2.3	-	-	3440	172	1920	-	<0.02	-	-	-	0.0002	<0.005	-	<0.005	-	<0.5	-	**0.007**	0.041	<0.0005	0.003	-	**0.215**
	MW16/1-2	27/08/2008	-	-	2.4	-	6.5	-	159	2000	-	<0.01	-	-	-	<0.0001	<0.005	-	**0.004**	<0.5	<0.5	0.06	**0.006**	-	0.0001	0.003	-	**0.107**
	MW16/1	11/12/2009	-	-	-	<4	6.2	-	-	2060	-	0.006	0.025	<0.001	<0.05	<0.0001	<0.001	0.005	**0.002**	<0.05	<0.05	<0.05	**0.015**	0.038	<0.0001	0.002	<0.01	**0.11**
	MW16/1	23/03/2010	-	-	-	<4	6.43	-	-	2080	-	0.004			<0.05	**0.003**	<0.001		**0.002**	<0.05	<0.05	<0.05	**0.005**	0.037	<0.0001	0.002	-	**0.068**
	MW16/1	21/01/2011	-	-	-	<4	7.23	-	-	2010	-	0.004	0.026	<0.001	-	**0.0014**	<0.001	0.005	**0.003**	<0.05	<0.05	<0.05	**0.008**	0.051	<0.0001	**0.015**	<0.01	**0.159**
MW17/1	MW17/1-1	18/07/2008	-	-	1.4	-	-	1213	68	750	-	**0.256**				<0.0001	<0.005		**0.003**	-	2.9	-	0.001	0.087	<0.0005	0.004	-	**0.016**
	MW17/1-2	27/08/2008	-	-	1.5	-	6.7	-	63	740	-	**0.226**	-	-	-	<0.0001	**0.006**	-	**0.002**	<0.5	2.8	3.06	0.001	-	<0.0001	0.004	-	**0.01**
	MW17/1	11/12/2009	-	-	-	-	6.2	-	-	798	-	**0.257**	0.014	<0.001	<0.05	<0.0001	<0.001	0.01	<0.001	<0.05	1.84	1.85	0.002	0.083	<0.0001	0.004	<0.01	**0.019**
	MW17/1	24/03/2010	-	-	-	-	1 - 6.11	-	-	870	-	**0.258**	-	-	<0.05	<0.0001	<0.001	-	**0.005**	<0.05	1.98	1.63	<0.001	0.09	<0.0001	0.008	-	**0.023**
	MW17/1	24/01/2011	-	-	-	-	7.62	-	-	850	-	**0.127**	0.015	<0.001	-	<0.0001	0.001	0.005	0.001	<0.05	3.29	-	0.003	0.095	<0.0001	0.002	<0.01	<0.005
MW17/2	MW17/2-3	14/10/2008	-	-	-	-	6.8	1058	-	754	-	**0.126**	-	-	-	<0.0001	<0.005	-	**0.002**	4.3	1.9	-	**0.007**	0.034	<0.0005	0.003	-	**0.039**
MW18	MW18-1	17/07/2008	-	-	-	-	-	-	-	-	-	<0.001	-	-	-	<0.0001	<0.005	-	0.001	-	<0.5	-	<0.001	0.009	<0.0001	0.002	-	**0.042**
	MW18-2	27/08/2008	-	-	<0.5	-	6.7	-	25	110	-	<0.001	-	-	-	<0.0001	<0.005	-	<0.01	<0.5	0.7	<0.05	<0.001	-	<0.0001	<0.001	-	**0.092**
	MW18	9/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW18	10/12/2009	-	-	-	<4	6.5	-	-	208	-	<0.001	0.025	<0.001	<0.05	**0.0007**	<0.001	0.003	**0.007**	<0.05	<0.05	-	**0.004**	0.007	<0.0001	0.001	<0.01	**0.053**
	MW18	24/03/2010	-	-	-	<4	1 - 6.03	-	-	110	-	<0.001	-	-	<0.05	**0.0088**	<0.001	-	**0.007**	<0.05	<0.05	<0.05	<0.001	0.005	<0.0001	0.008	-	**0.031**
	MW18	20/01/2011	-	-	-	<4	6.29	-	-	128	-	<0.001	0.027	<0.001	<0.05	<0.0001	<0.001	0.002	**0.007**	<0.05	0.08	0.06	<0.001	0.014	<0.0001	<0.001	<0.01	**0.022**

Appendix A -
Table 2
Groundwater Analytical Results

			Inorganics				Water Quality				Metals																			
			Alkyl chloride	Volatile Fatty Acids	Bromide	Cyanide (Total)	pH (Lab)	Electrical conductivity (lab)	Hardness	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium (III+VI)	Cobalt	Copper	Ferric Iron	Ferrous Iron	Iron	Lead	Manganese	Mercury	Nickel	Vanadium	Zinc
			µg/L	µg/L	mg/L	µg/L	pH Units	µS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			1	5000	0.5	4	0.01	1	1	1	0.001	0.001	0.001	0.001	0.05	0.0001	0.001	0.001	0.001	0.05	0.05	0.01	0.001	0.001	0.0001	0.001	0.01	0.001
ANZECC 2000 FW 95%						**7**						**0.013**			**0.37**	**0.0002**	**0.001**		**0.0014**				**0.0034**	**1.9**	**0.0006**	**0.011**		**0.008**
ANZECC 2000 Irrigation - Short-term Trigger Values												**2**		**0.5**	**0.5**	**0.05**	**1**	**0.1**	**5**			**10**	**10**	**10**	**0.002**	**2**	**0.5**	**5**
ANZECC 2000 Stock Watering										**4000**		**0.5**			**5**	**0.01**	**1**	**1**	**0.5**				**0.1**		**0.002**	**1**		**20**
NEPM 2013 Table 1C GILs, Drinking Water						**80**					**0.003**	**0.01**	**2**	**0.06**	**4**	**0.002**			**2**				**0.01**	**0.5**	**0.001**	**0.02**		
Location Code	**Field ID**	**Sampled Date**																												
MW19	MW19-1	16/07/2008	-	-	0.5	-	6.4	1891	269	1070	-	**0.019**	-	-	-	<0.0001	<0.005	-	<0.005	-	<0.5	-	<0.001	0.078	0.0002	**0.018**	-	**0.023**
	MW19-2	27/08/2008	-	-	0.6	-	6.9	-	309	1140	-	<0.005	-	-	-	**0.0003**	<0.005	-	<0.01	<0.5	<0.5	0.08	<0.001	-	0.0001	**0.022**	-	**0.028**
	MW19	8/12/2009	-	-	-	-	6.87	-	-	1210	-	0.004	0.061	<0.001	0.08	0.0002	0.001	0.019	**0.006**	<0.05	<0.05	<0.05	<0.001	0.034	<0.0001	**0.016**	<0.01	**0.044**
	MW19	23/03/2010	-	-	-	-	6.03	-	-	1310	-	0.007	-	-	0.08	0.0002	<0.001	-	**0.01**	<0.05	<0.05	<0.05	<0.001	0.057	<0.0001	**0.045**	-	**0.033**
	MW19	19/01/2011	-	-	-	-	6.2	-	-	962	-	0.004	0.04	<0.001	-	<0.0001	**0.006**	0.004	**0.005**	<0.05	<0.05	<0.05	<0.001	0.003	<0.0001	0.007	<0.01	**0.021**
MW20	MW20-1	16/07/2008	-	-	1	-	7.1	1379	31	900	-	<0.01	-	-	-	<0.0001	<0.005	-	<0.005	-	<0.5	-	<0.001	<0.001	<0.0001	0.005	-	**0.025**
	MW20-2	25/08/2008	-	-	1.1	-	7.5	-	31	800	-	0.002	-	-	-	<0.0001	<0.005	-	**0.004**	<0.5	<0.5	<0.05	<0.001	-	<0.0001	0.008	-	**0.021**
	MW20	3/12/2009	-	-	-	-	7.2	-	-	812	-	0.002	-	-	<0.05	<0.0001	0.001	-	**0.002**	<0.05	0.05	<0.05	<0.001	<0.001	<0.0001	0.002	-	**0.011**
	MW20	16/03/2010	-	-	-	-	7.31	-	-	760	-	0.001	-	-	<0.05	<0.0001	<0.001	-	**0.002**	<0.05	<0.05	<0.05	<0.001	<0.001	<0.0001	0.002	-	<0.005
	MW20	20/01/2011	-	-	-	-	6.63	-	-	820	-	0.002	0.003	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.05	<0.05	<0.05	<0.001	<0.001	<0.0001	0.002	<0.01	**0.011**
	MW20	26/02/2013	-	-	-	-	6.82	-	-	957	-	0.002	-	-	<0.05	<0.0001	<0.001	-	0.001	<0.05	<0.05	<0.05	<0.001	0.003	<0.0001	0.001	-	0.008
	MW20	31/01/2014	<1	-	-	-	7.1	-	-	800	<0.005	0.003	-	-	-	<0.0002	<0.001	-	**0.002**	<0.05	<0.05	<0.05	**0.001**	<0.005	<0.0001	0.002	-	**0.011**
MW21	MW21-1	15/07/2008	-	-	<0.5	-	6.3	2650	138	1520	-	<0.01	-	-	-	<0.0001	<0.005	-	<0.01	-	<0.5	-	<0.001	0.115	<0.0001	**0.099**	-	**0.197**
	MW21-2	26/08/2008	-	-	0.9	-	6.2	-	152	1520	-	<0.01	-	-	-	<0.0001	<0.005	-	<0.01	<0.5	<0.5	<0.05	<0.001	-	<0.0001	**0.033**	-	**0.018**
	MW21	7/12/2009	-	-	-	-	6.3	-	-	1730	-	0.001	-	-	<0.05	**0.0018**	<0.001	-	**0.007**	<0.05	<0.05	<0.05	<0.001	0.114	<0.0001	**0.02**	-	**0.064**
	MW21	24/03/2010	-	-	-	-	1 - 5.99	-	-	1700	-	0.001	-	-	<0.05	0.0001	<0.001	-	**0.004**	<0.05	<0.05	<0.05	<0.001	0.108	0.0002	**0.03**	-	0.008
	MW21	19/01/2011	-	-	-	-	5.35	-	-	1480	-	0.002	0.012	<0.001	-	<0.0001	<0.001	0.007	**0.006**	<0.05	<0.05	<0.05	<0.001	0.089	<0.0001	0.006	<0.01	**0.197**
	MW21	26/02/2013	-	-	-	-	5.42	-	-	1370	-	0.002	-	-	<0.05	<0.0001	<0.001	-	**0.004**	<0.05	<0.05	<0.05	<0.001	0.063	<0.0001	**0.008**	-	**0.085**
	MW21	31/01/2014	<4	-	-	-	6.3	-	-	1200	<0.005	0.002	-	-	-	<0.0002	<0.001	-	**0.002**	<0.05	<0.05	<0.05	<0.001	0.045	<0.0001	**0.024**	-	0.004
MW22	MW22-1	16/07/2008	-	-	3.5	-	5.9	4380	199	2500	-	<0.01	-	-	-	0.0002	<0.005	-	**0.005**	-	<0.5	-	<0.001	0.073	0.0002	**0.017**	-	**0.186**
	MW22-2	26/08/2008	-	-	4.5	-	6	-	230	2790	-	<0.01	-	-	-	0.0002	<0.005	-	<0.01	<0.5	<0.5	0.09	<0.001	-	<0.0001	**0.044**	-	**0.098**
	MW22	9/12/2009	-	-	-	-	5.9	-	-	3170	-	0.004	0.032	<0.001	<0.05	<0.0001	<0.001	0.006	**0.025**	0.05	<0.1	0.05	<0.001	0.134	<0.0001	**0.016**	<0.05	**0.14**
	MW22	22/03/2010	-	-	-	<4	5.84	-	-	3350	-	0.005	-	-	<0.05	**0.0445**	<0.001	-	**0.01**	<0.05	<0.05	<0.05	<0.001	0.055	<0.0001	**0.014**	-	**0.064**
	MW22	18/01/2011	-	-	-	**153**	5	-	-	2920	-	0.004	0.053	<0.001	-	<0.0001	<0.001	0.005	**0.006**	<0.05	0.05	0.002	0.044	<0.0001	0.01	<0.01	**0.184**
	MW22	28/02/2013	-	-	-	<4	4.88	-	-	1500	-	0.007	-	-	<0.05	0.0002	<0.001	-	**0.026**	0.64	0.18	0.82	0.002	**1.12**	<0.0001	**0.012**	-	**0.304**
	MW22	30/01/2014	<1	110,000	-	<5	5.9	-	-	2900	<0.005	0.006	-	-	-	<0.0002	0.001	-	**0.007**	<0.05	<0.05	<0.05	<0.001	0.085	<0.0001	**0.019**	-	**0.034**
MW23	MW23-1	17/07/2008	-	-	1.5	-	5.8	943	32	580	-	**0.179**	-	-	-	<0.0001	<0.005	-	**0.003**	-	<0.5	-	<0.001	0.012	<0.0001	**0.016**	-	**0.017**
	MW23-2	27/08/2008	-	-	1.5	-	6.8	-	31	610	-	**0.165**	-	-	-	<0.0001	<0.005	-	**0.005**	<0.5	<0.5	<0.05	<0.001	-	<0.0001	**0.022**	-	**0.027**
	MW23	9/12/2009	-	-	-	-	6.6	-	-	612	-	**0.18**	0.005	<0.001	<0.05	<0.0001	<0.001	0.001	**0.031**	0.13	<0.1	0.13	<0.001	0.01	<0.0001	**0.016**	<0.05	**0.133**
	MW23	24/03/2010	-	-	-	-	1 - 6.36	-	-	560	-	**0.224**	-	-	<0.05	0.0001	<0.001	-	**0.006**	0.21	<0.05	0.21	<0.001	0.008	<0.0001	**0.012**	-	**0.016**
	MW23	19/01/2011	-	-	-	-	5.36	-	-	596	-	**0.163**	0.004	<0.001	-	<0.0001	<0.001	0.001	**0.009**	<0.05	<0.05	<0.05	<0.001	0.017	<0.0001	0.009	<0.01	**0.047**
	MW23	27/02/2013	-	-	-	-	5.84	-	-	584	-	**0.177**	-	-	0.09	<0.0001	<0.001	-	**0.007**	0.19	<0.05	0.19	<0.001	0.013	<0.0001	0.007	-	**0.062**
	MW23	31/01/2014	<1	-	-	-	6.4	-	-	550	<0.005	**0.047**	-	-	-	<0.0002	<0.001	-	0.001	<0.05	<0.05	<0.05	<0.001	0.006	<0.0001	0.01	-	0.003
MW24A	MW24A-2	27/08/2008	-	-	5.1	-	6.3	-	850	3570	-	<0.01	-	-	-	<0.0001	<0.005	-	**0.01**	<0.5	<0.5	<0.05	<0.001	-	<0.0001	**0.078**	-	**0.026**
	MW24A-3	14/10/2008	-	-	-	-	6.7	6170	-	3610	-	<0.02	-	-	-	0.0001	<0.005	-	<0.01	<0.5	<0.5	-	<0.001	0.406	<0.0002	**0.014**	-	**0.036**
	MW24A	10/12/2009	-	-	-	<4	6.3	-	-	**4010**	-	<0.001	0.081	<0.001	<0.05	0.0001	<0.001	0.002	**0.038**	<0.05	<0.05	0.001	0.335	<0.0001	**0.022**	<0.01	**0.123**
	MW24A	23/03/2010	-	-	-	<4	5.71	-	-	3700	-	<0.001	-	-	<0.05	**0.0095**	<0.001	-	**0.01**	<0.05	<0.05	<0.05	<0.001	0.338	<0.0001	0.01	-	**0.028**
	MW24A	18/01/2011	-	-	-	<4	5.5	-	-	3680	-	<0.001	0.07	<0.001	-	<0.0001	<0.001	0.002	**0.007**	<0.05	<0.05	-	<0.001	0.29	<0.0001	**0.027**	<0.01	**0.285**
	MW24A	28/02/2013	-	-	-	<4	5.62	-	-	**4090**	-	**0.214**	-	-	0.08	<0.0001	<0.001	-	**0.008**	<0.05	<0.05	<0.05	<0.001	0.223	<0.0001	<0.001	-	**0.111**
	MW24A	29/01/2014	<80	-	-	<5	6.7	-	-	3300	<0.005	<0.001	-	-	-	<0.0002	<0.001	-	**0.015**	<0.05	<0.05	<0.05	<0.001	0.45	<0.0001	0.01	-	**0.094**
MW24B	MW24B-2	27/08/2008	-	-	1.4	-	6	-	126	1600	-	<0.005	-	-	-	0.0001	<0.005	-	<0.01	<0.5	<0.5	0.33	0.002	-	0.0001	**0.022**	-	**0.035**
	MW24B-3	14/10/2008	-	-	-	-	6.2	2840	-	1720	-	<0.02	-	-	-	0.0001	<0.005	-	<0.01	<0.5	<0.5	-	0.001	0.199	<0.0002	**0.019**	-	**0.072**
	MW24B	10/12/2009	-	-	-	**7**	6.2	-	-	2180	-	**0.016**	0.036	<0.001	<0.05	0.0001	0.001	0.023	**0.006**	6.24	2.07	-	<0.001	0.146	<0.0001	**0.015**	<0.01	**0.113**
	MW24B	24/03/2010	-	-	-	<4	1 - 6.05	-	-	2400	-	0.01	-	-	<0.05	**0.0024**	<0.001	-	**0.006**	5.52	0.23	5.75	<0.001	0.174	<0.0001	0.011	-	**0.024**
	MW24B	18/01/2011	-	-	-	**26**	5.73	-	-	2340	-	**0.021**	0.026	<0.001	-	<0.0001	<0.001	0.015	**0.002**	5.46	0.13	-	<0.001	0.114	<0.0001	**0.014**	<0.01	**0.046**
	MW24B	28/02/2013	-	-	-	<4	5.93	-	-	2180	-	**0.308**	-	-	<0.05	<0.0001	<0.001	-	**0.002**	<0.05	23.4	**17.6**	<0.001	0.094	<0.0001	0.001	-	**0.033**
	MW24B	29/01/2014	<500	-	-	**220**	6.4	-	-	2200	<0.005	**0.17**	-	-	-	<0.0002	0.001	-	<0.001	1	19	**20**	<0.001	0.085	<0.0001	**0.011**	-	**0.018**
MW24C	MW24C-2	27/08/2008	-	-	1.1	-	6.4	-	104	880	-	<0.005	-	-	-	<0.0001	<0.005	-	0.001	<0.5	36.3	1.44	<0.001	-	0.0002	**0.009**	-	**0.05**
	MW24C-3	13/10/2008	-	-	-	-	6.2	2040	-	1600	-	**0.022**	-	-	-	<0.002	**0.0085**	-	**0.0074**	0.3	9.6	9.98	<0.005	0.095	0.0001	0.0056	-	**0.016**
	MW24C	10/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW24C	11/12/2009	-	-	-	-	-	-	-	2180	-	**0.029**	0.026	<0.001	<0.05	<0.0001	**0.007**	0.007	0.001	6.56	1.6	8.16	<0.001	0.024	<0.0001	0.001	<0.01	**0.015**
	MW24C	25/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW24C	28/02/2013	-	-	-	<4	6.45	-	-	2590	-	**0.118**	-	-	0.05	<0.0001	<0.001	-	**0.002**	<0.05	57.9	**46.1**	<0.001	0.078	<0.0001	<0.001	-	**0.025**
	MW24C	3/02/2014	<1000	220,000	-	**820**	6.5	-	-	2200	<0.005	**0.041**	-	-	-	<0.0002	**0.003**	-	<0.001	5	25	**30**	<0.001	0.056	<0.0001	<0.001	-	**0.009**
MW25	MW25-2	25/08/2008	-	-	1.1	-	6.8	-	77	1130	-	**0.149**	-	-	-	<0.0001	<0.005	-	**0.003**	<0.5	4	4.02	<0.001	-	0.0002	**0.018**	-	**0.016**
	MW25-3	13/10/2008	-	-	-	-	6.2	1220	-	990	-	**0.11**	-	-	-	<0.002	<0.005	-	<0.005	0.2	2.6	2.81	<0.005	0.06	<0.0001	**0.023**	-	**0.064**
	MW25	9/12/2009	-	-	-	**7**	6.2	-	-	980	-	**0.033**	0.009	<0.001	<0.05	<0.0001	<0.001	0.003	**0.005**	<0.05	0.38	0.41	0.001	0.031	<0.0001	0.007	<0.05	**0.066**
	MW25	22/03/2010	-	-	-	<4	6.47	-	-	1220	-	**0.12**	-	-	<0.05	**0.0006**	<0.001	-	**0.005**	<0.05	2.65	2.58	<0.001	0.06	<0.0001	0.008	-	**0.015**
	MW25	18/01/2011	-	-	-	-	5.99	-	-	1050	-	**0.185**	0.009	<0.001	-	<0.0001	<0.001	0.007	<0.001	<0.05	4.12	-	<0.001	0.06	<0.0001	0.004	<0.01	**0.013**
	MW25	1/03/2013	-	-	-	<4	5.39	-	-	925	-	**0.055**	-	-	<0.05	<0.0001	<0.001	-	**0.004**	0.16	0.06	0.22	0.002	0.026	<0.0001	0.006	-	**0.089**
	MW25	29/01/2014	<1	-	-	<5	5.9	-	-	860	<0.005	**0.016**	-	-	-	<0.0002	<0.001	-	0.001	<0.05	0.1	0.1	<0.001	0.022	<0.0001	0.004	-	**0.016**
MW26	MW26-3	13/10/2008	-	-	-	-	6.6	2780	-	1900	-	<0.005	-	-	-	<0.002	<0.005	-	**0.0097**	<0.05	<0.05	<0.1	<0.005	**0.79**	<0.0001	**0.028**	-	**0.078**
	MW26	8/12/2009	-	-	-	-	6.3	-	-	3440	-	<0.001	0.131	<0.001	0.06	0.0002	<0.001	0.007	**0.004**	<0.05	<0.05	<0.05	<0.001	**1.19**	<0.0001	**0.052**	<0.01	**0.061**
	MW26	17/03/2010	-	-	-	**6**	-	-	-	2560	-	<0.001	-	-	0.07	**0.0003**	<0.001	-	**0.004**	<0.05	<0.05	0.05	<0.001	**1.05**	0.0002	**0.042**	-	**0.026**
	MW26	18/01/2011	-	-	-	**8**	5.84	-	-	2460	-	0.001	0.08	<0.001	-	0.0001	<0.001	0.007	**0.012**	<0.05	<0.05	-	<0.001	**0.918**	<0.0001	**0.017**	<0.01	**0.051**
	MW26	1/03/2013	-	-	-	<4	5.88	-	-	2040	-	0.003	-	-	0.08	<0.0001	<0.001	-	**0.004**	<0.05	<0.05	<0.05	<0.001	**0.542**	<0.0001	0.004	-	**0.038**
	MW26	29/01/2014	<2000	-	-	<5	6.3	-	-	1900	<0.005	<0.001	-	-	-	<0.0002	<0.001	-	<0.001	<0.05	<0.05	<0.05	<0.001	**0.78**	<0.0001	0.011	-	**0.053**
MW27	MW27-1	15/07/2008	-	-	0.5	-	6.2	1044	20	640	-	0.001	-	-	-	<0.0001	<0.005	-	**0.005**	-	<0.5	-	<0.001	0.027	<0.0001	**0.064**	-	**0.034**
	MW27-2	25/08/2008	-	-	0.7	-	6.4	-	17	660	-	0.001	-	-	-	<0.0001	<0.005	-	**0.009**	<0.5	<0.5	<0.05	<0.001	-	<0.0001	**0.045**	-	**0.029**
	MW27	3/12/2009	-	-	-	-	6	-	-	670	-	0.001	-	-	<0.05	<0.0001	<0.001	-	**0.004**	<0.05	<0.05	<0.05	<0.001	0.004	<0.0001	**0.014**	-	**0.053**
	MW27	16/03/2010	-	-	-	-	6.07	-	-	756	-	<0.001	-	-	<0.05	<0.0001	<0.001	-	**0.002**	<0.05	<0.05	<0.05	<0.001	0.004	0.0001	0.011	-	**0.012**
	MW27	20/01/2011	-	-	-	-	5.8	-	-	816	-	0.001	0.002	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.05	<0.05	<0.05	<0.001	0.004	<0.0001	0.003	<0.01	**0.014**
	MW27	25/02/2013	-	-	-	-	5.16	-	-	922	-	0.004	-	-	**0.7**	<0.0001	<0.001	-	**0.012**	<0.05	0.23	0.25	0.002	0.014	<0.0001	**0.013**	-	**0.098**
	MW27	31/01/2014	<1	-	-	-	5.8	-	-	790	<0.005	0.002	-	-	-	<0.0002	<0.001	-	**0.002**	<0.05	0.6	0.62	<0.001	<0.005	<0.0001	**0.013**	-	0.006

Appendix A -
Table 2
Groundwater Analytical Results

			Inorganics				Water Quality				Metals																		
			Allyl chloride	Volatile Fatty Acids	Bromide	Cyanide (Total)	pH (Lab)	Electrical conductivity (lab)	Hardness	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium (III+VI)	Cobalt	Copper	Ferric Iron	Ferrous Iron	Iron	Lead	Manganese	Mercury	Nickel	Vanadium	Zinc
			µg/L	µg/L	mg/L	µg/L	pH Units	µS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			1	5000	0.5	4	0.01	1	1	1	0.001	0.001	0.001	0.001	0.05	0.0001	0.001	0.001	0.001	0.05	0.05	0.01	0.001	0.001	0.0001	0.001	0.01	0.001
ANZECC 2000 FW 95%						**7**						**0.013**			**0.37**	**0.0002**	**0.001**		**0.0014**				**0.0034**	**1.9**	**0.0006**	**0.011**		**0.008**
ANZECC 2000 Irrigation - Short-term Trigger Values												**2**		**0.5**	**0.5**	**0.05**	**1**	**0.1**	**5**			**10**	**10**	**10**	**0.002**	**2**	**0.5**	**5**
ANZECC 2000 Stock Watering										**4000**		**0.5**			**5**	**0.01**	**1**	**1**	**0.5**				**0.1**		**0.002**	**1**		**20**
NEPM 2013 Table 1C GILs, Drinking Water						**80**					**0.003**	**0.01**	**2**	**0.06**	**4**	**0.002**			**2**				**0.01**	**0.5**	**0.001**	**0.02**		
Location Code	**Field ID**	**Sampled Date**																											
	MW28-1	15/07/2008	-	-	0.7	-	6.1	1846	84	1190	-	<0.01	-	-	-	<0.0001	<0.005	-	**0.005**	-	<0.5	-	<0.001	0.11	<0.0001	**0.036**	-	**0.043**
	MW28-2	26/08/2008	-	-	1.3	-	6.2	-	113	1470	-	<0.01	-	-	-	<0.0001	<0.005	-	<0.01	<0.5	<0.5	<0.05	0.001	-	<0.0001	0.003	-	**0.019**
MW28	MW28	3/12/2009	-	-	-	-	5.77	-	-	924	-	0.001	-	-	<0.05	<0.0001	<0.001	-	**0.003**	<0.05	<0.05	<0.05	<0.001	0.042	<0.0001	**0.013**	-	**0.038**
	MW28	16/03/2010	-	-	-	-	5.81	-	-	832	-	<0.001	-	-	<0.05	0.0002	<0.001	-	**0.002**	<0.05	<0.05	<0.05	<0.001	0.039	0.0001	**0.023**	-	**0.018**
	MW28	20/01/2011	-	-	-	-	5.5	-	-	798	-	<0.001	0.009	<0.001	<0.05	<0.0001	<0.001	0.002	**0.012**	<0.05	<0.05	<0.05	<0.001	0.021	<0.0001	**0.009**	<0.01	**0.037**
	MW28	25/02/2013	-	-	-	-	5.34	-	-	544	-	0.002	-	-	**0.53**	<0.0001	<0.001	-	**0.008**	<0.05	<0.05	<0.05	0.001	0.003	<0.0001	**0.014**	-	**0.114**
	MW28	31/01/2014	<1	-	-	-	6.2	-	-	400	<0.005	<0.001	-	-	-	<0.0002	<0.001	-	**0.003**	<0.05	0.05	0.05	<0.001	<0.005	<0.0001	**0.02**	-	**0.009**
MW29	MW29-3	20/10/2008	-	-	-	-	6.5	1099	-	801	-	<0.02	-	-	-	<0.0001	<0.005	-	**0.021**	<0.5	<0.5	-	0.001	0.016	<0.0001	0.004	-	**0.109**
	MW29	19/01/2011	-	-	-	-	5.43	-	-	488	-	0.007	0.015	<0.001	-	<0.0001	<0.001	<0.001	**0.006**	<0.05	<0.05	<0.05	<0.001	0.007	<0.0001	0.004	<0.01	**0.049**
	MW30-3	14/10/2008	-	-	-	-	6.9	953	-	646	-	0.003	-	-	-	<0.0001	<0.005	-	**0.009**	<0.5	<0.5	-	0.002	0.009	<0.0002	0.008	-	**0.05**
	MW30	9/12/2009	-	-	-	-	6.73	-	-	478	-	0.004	0.005	<0.001	<0.05	**0.0004**	<0.001	<0.001	**0.002**	<0.05	<0.1	<0.05	<0.001	0.003	<0.0001	0.004	<0.05	**0.038**
MW30	MW30	22/03/2010	-	-	-	-	6.63	-	-	430	-	0.004	-	-	<0.05	**0.0007**	<0.001	-	0.001	<0.05	0.07	0.11	<0.001	0.003	<0.0001	**0.018**	-	0.005
	MW30	19/01/2011	-	-	-	-	5.58	-	-	456	-	0.003	0.003	<0.001	-	<0.0001	<0.001	<0.001	**0.007**	<0.05	<0.05	<0.05	<0.001	0.001	<0.0001	0.005	<0.01	**0.073**
	MW30	26/02/2013	-	-	-	-	5.52	-	-	575	-	**0.013**	-	-	<0.05	<0.0001	<0.001	-	**0.006**	0.38	0.14	0.52	<0.001	0.01	<0.0001	0.01	-	**0.032**
	MW30	31/01/2014	<1	-	-	-	6.5	-	-	460	<0.005	0.003	-	-	-	<0.0002	<0.001	-	<0.001	<0.05	<0.05	<0.05	<0.001	<0.005	<0.0001	**0.02**	-	0.005
	MW31	7/12/2009	-	-	-	<4	6.2	-	-	2050	-	0.003	-	-	<0.05	0.0002	<0.001	-	**0.008**	<0.05	<0.05	<0.05	0.001	0.058	<0.0001	**0.04**	-	**0.104**
	MW31	22/03/2010	-	-	-	<4	6.18	-	-	1670	-	0.002	-	-	<0.05	**0.0017**	<0.001	-	**0.004**	<0.05	<0.05	<0.05	**0.008**	0.058	<0.0001	**0.029**	-	**0.021**
MW31	MW31	18/01/2011	-	-	-	<4	5.05	-	-	1660	-	0.002	0.012	<0.001	-	<0.0001	<0.001	0.006	**0.005**	<0.05	<0.05	-	**0.089**	0.028	<0.0001	**0.02**	<0.01	**0.169**
	MW31	26/02/2013	-	-	-	<4	5.35	-	-	1740	-	0.003	-	-	<0.05	<0.0001	<0.001	-	**0.007**	<0.05	<0.05	<0.05	0.003	0.012	<0.0001	0.007	-	**0.055**
	MW31	29/01/2014	<4	15,000	-	<5	5.9	-	-	1600	<0.005	0.002	-	-	-	<0.0002	<0.001	-	**0.002**	<0.05	<0.05	<0.05	<0.001	0.011	<0.0001	0.003	-	**0.021**
	MW32	8/12/2009	-	-	-	<4	5.97	-	-	**5000**	-	0.001	0.052	<0.001	<0.05	**0.0006**	<0.001	**0.117**	**0.016**	<0.05	0.1	<0.05	0.002	0.441	<0.0001	**0.031**	<0.01	**0.17**
	MW32	19/03/2010	-	-	-	<4	6	-	-	**4720**	-	0.002	-	-	<0.05	**0.0021**	<0.001	-	**0.005**	<0.05	0.05	<0.05	0.002	0.356	<0.0001	**0.031**	-	**0.051**
MW32	MW32	18/01/2011	-	-	-	**198**	5.19	-	-	3450	-	0.003	0.028	<0.001	-	<0.0001	<0.001	0.064	**0.004**	<0.05	<0.05	-	**0.044**	0.247	<0.0001	**0.02**	<0.01	**0.123**
	MW32	28/02/2013	-	-	-	<4	5.6	-	-	3200	-	0.008	-	-	<0.05	**0.0003**	<0.001	-	**0.006**	<0.05	0.1	<0.05	**0.014**	0.302	<0.0001	**0.012**	-	**0.148**
	MW32	29/01/2014	<4	9100	-	**8**	6.1	-	-	2500	<0.005	0.003	-	-	-	**0.0007**	<0.001	-	**0.009**	<0.05	0.28	0.28	**0.007**	0.49	<0.0001	0.011	-	**0.67**
	MW33	23/03/2010	-	-	-	<4	6.39	-	-	1420	-	0.006	-	-	<0.05	0.0001	<0.001	-	0.001	<0.05	<0.05	<0.05	<0.001	0.1	<0.0001	0.011	-	**0.011**
MW33	MW33	19/01/2011	-	-	-	**116**	5.32	-	-	1370	-	0.005	0.017	<0.001	-	<0.0001	<0.001	0.005	**0.012**	<0.05	<0.05	<0.05	0.002	0.076	<0.0001	**0.012**	<0.01	**0.046**
	MW33	26/02/2013	-	-	-	<4	6.1	-	-	1780	-	0.006	-	-	<0.05	<0.0001	<0.001	-	0.001	<0.05	<0.05	<0.05	0.001	0.072	<0.0001	0.006	-	**0.022**
	MW34A	7/12/2009	-	-	-	<4	6.03	-	-	3740	-	0.001	-	-	<0.05	<0.0001	<0.001	-	**0.003**	<0.05	<0.05	<0.05	<0.001	0.089	<0.0001	**0.041**	-	**0.064**
	MW34A	17/03/2010	-	-	-	<4	-	-	-	3210	-	<0.001	-	-	<0.05	**0.0003**	<0.001	-	**0.004**	<0.05	<0.05	<0.05	<0.001	0.028	0.0002	**0.041**	-	**0.024**
MW34A	MW34A	18/01/2011	-	-	-	<4	5.09	-	-	3260	-	0.002	0.019	<0.001	-	**0.001**	<0.001	0.008	**0.02**	<0.05	<0.05	-	0.002	0.01	<0.0001	0.01	<0.01	**0.058**
	MW34A	28/02/2013	-	-	-	<4	5.45	-	-	2600	-	0.002	-	-	<0.05	<0.0001	<0.001	-	**0.02**	<0.05	<0.05	<0.05	**0.004**	0.017	<0.0001	0.007	-	**0.094**
	MW34A	30/01/2014	<100	-	-	<5	6.3	-	-	2900	<0.005	0.001	-	-	-	<0.0002	<0.001	-	**0.004**	<0.05	0.11	0.11	0.001	<0.005	<0.0001	**0.14**	-	**0.034**
	MW34B	8/12/2009	-	-	-	-	5.4	-	-	2150	-	**0.025**	0.037	<0.001	0.07	<0.0001	<0.001	0.056	**0.02**	0.05	0.95	1	**0.006**	0.169	<0.0001	**0.028**	<0.01	**0.046**
	MW34B	17/03/2010	-	-	-	4	7.8	-	-	1480	-	**0.012**	-	-	0.06	**0.0003**	<0.001	-	**0.005**	<0.05	1.11	0.94	<0.001	0.171	<0.0001	**0.026**	-	**0.021**
MW34B	MW34B	18/01/2011	-	-	-	<4	5.83	-	-	1400	-	**0.035**	0.025	<0.001	-	<0.0001	<0.001	0.074	**0.006**	<0.05	1.65	-	<0.001	0.151	<0.0001	**0.013**	<0.01	**0.026**
	MW34B	28/02/2013	-	-	-	<4	5.36	-	-	1210	-	**0.032**	-	-	0.1	0.0001	<0.001	-	**0.01**	<0.05	1.22	1.03	**0.004**	0.114	<0.0001	0.011	-	**0.105**
	MW34B	30/01/2014	<8	-	-	<5	6.3	-	-	1500	<0.005	**0.017**	-	-	-	<0.0002	<0.001	-	**0.003**	<0.05	1.1	1.1	<0.001	0.12	<0.0001	**0.018**	-	**0.015**
	MW35	11/12/2009	-	-	-	<4	6.03	-	-	2580	-	0.002	0.04	<0.001	<0.05	0.0001	<0.001	0.012	**0.006**	<0.05	<0.05	<0.05	<0.001	0.123	<0.0001	**0.025**	<0.01	**0.08**
	MW35	17/03/2010	-	-	-	<4	-	-	-	2270	-	0.001	-	-	<0.05	0.0002	<0.001	-	**0.003**	<0.05	<0.05	<0.05	0.001	0.093	0.0001	0.007	-	**0.01**
MW35	MW35	18/01/2011	-	-	-	<4	5.89	-	-	2350	-	0.001	0.028	<0.001	-	<0.0001	<0.001	0.005	<0.001	<0.05	<0.05	-	<0.001	0.03	<0.0001	0.003	<0.01	**0.018**
	MW35	27/02/2013	-	-	-	<4	5.21	-	-	2480	-	0.004	-	-	0.1	<0.0001	<0.001	-	**0.005**	<0.05	<0.05	<0.05	0.002	0.022	<0.0001	0.005	-	**0.146**
	MW35	30/01/2014	<100	18,000	-	<5	6.5	-	-	2100	<0.005	0.001	-	-	-	<0.0002	<0.001	-	**0.006**	<0.05	<0.05	<0.05	<0.001	0.019	<0.0001	0.005	-	**0.041**
	MW36	7/12/2009	-	-	-	<4	7.08	-	-	2650	-	-	<0.001	-	<0.05	**0.0002**	<0.001	-	**0.002**	<0.05	<0.05	<0.05	<0.001	0.149	<0.0001	**0.018**	-	**0.038**
MW36	MW36	18/03/2010	-	-	-	-	7.1	-	-	1760	-	<0.001	-	-	<0.05	0.0001	<0.001	-	**0.005**	<0.05	<0.05	<0.05	<0.001	0.17	0.0002	0.01	-	**0.021**
	MW36	19/01/2011	-	-	-	-	5.48	-	-	1080	-	0.002	0.046	<0.001	-	<0.0001	<0.001	0.006	<0.001	<0.05	<0.05	<0.05	0.001	0.301	<0.0001	0.006	<0.01	**0.111**
	MW36	25/02/2013	-	-	-	-	6	-	-	1270	-	**0.012**	-	-	**4.5**	<0.0001	<0.001	-	**0.004**	<0.05	<0.05	<0.05	<0.001	**1.48**	<0.0001	0.005	-	**0.125**
	MW36	31/01/2014	<1	-	-	-	6.2	-	-	1400	<0.005	0.004	-	-	-	<0.0002	<0.001	-	**0.007**	<0.05	<0.05	<0.05	<0.001	0.34	<0.0001	0.007	-	**0.072**
	MW37	4/12/2009	-	-	-	-	6.06	-	-	3140	-	0.002	-	-	<0.05	<0.0001	<0.001	-	**0.004**	<0.05	<0.05	<0.05	**0.004**	0.117	<0.0001	**0.02**	-	**0.02**
MW37	MW37	18/03/2010	-	-	-	-	7.5	-	-	3040	-	0.001	-	-	<0.05	**0.0003**	<0.001	-	**0.003**	<0.05	<0.05	<0.05	**0.023**	0.096	0.0001	**0.021**	-	**0.011**
	MW37	19/01/2011	-	-	-	-	5.49	-	-	2140	-	0.003	0.065	<0.001	-	<0.0001	<0.001	0.004	**0.006**	<0.05	<0.05	<0.05	**0.024**	0.02	<0.0001	0.006	<0.01	**0.056**
	MW37	25/02/2013	-	-	-	-	5.55	-	-	2400	-	0.003	-	-	**0.95**	<0.0001	<0.001	-	**0.018**	<0.05	<0.05	<0.05	**0.031**	0.032	<0.0001	**0.03**	-	**0.11**
	MW37	30/01/2014	<1	-	-	-	6.2	-	-	2400	<0.005	0.004	-	-	-	<0.0002	0.001	-	**0.01**	<0.05	0.07	0.08	**0.026**	0.011	<0.0001	**0.04**	-	**0.016**
	MW38	4/12/2009	-	-	-	-	6.8	-	-	1540	-	**0.215**	-	-	0.07	<0.0001	<0.001	-	**0.002**	0.22	30.6	**30.8**	<0.001	0.208	<0.0001	**0.028**	-	**0.018**
	MW38	18/03/2010	-	-	-	-	6.7	-	-	1180	-	**0.305**	-	-	0.1	0.0001	<0.001	-	<0.001	<0.05	27.3	**27.1**	0.002	0.104	<0.0001	**0.018**	-	**0.012**
MW38	MW38	19/01/2011	-	-	-	-	5.14	-	-	662	-	**0.143**	0.034	<0.001	-	-	**0.002**	0.004	**0.014**	<0.05	8.08	8.08	**0.004**	0.052	<0.0001	0.008	0.01	**0.069**
	MW38	26/02/2013	-	-	-	-	5.4	-	-	2080	-	**0.234**	-	-	0.12	<0.0001	<0.001	-	**0.003**	<0.05	14	**13.9**	0.002	0.056	<0.0001	0.008	-	**0.051**
	MW38	30/01/2014	<1	-	-	-	6.5	-	-	1000	<0.005	**0.14**	-	-	-	<0.0002	**0.004**	-	0.001	<0.05	11	**11**	<0.001	0.032	<0.0001	0.004	-	**0.012**
	MW39	4/12/2009	-	-	-	-	6.42	-	-	784	-	0.002	-	-	0.1	<0.0001	<0.001	-	<0.001	<0.05	<0.05	<0.05	<0.001	0.066	<0.0001	**0.022**	-	0.008
	MW39	18/03/2010	-	-	-	-	6.2	-	-	266	-	0.003	-	-	0.11	**0.0003**	<0.001	-	**0.005**	<0.05	<0.05	0.04	0.002	0.011	<0.0001	**0.036**	-	**0.024**
	MW39	21/01/2011	-	-	-	-	7.68	-	-	230	-	0.003	0.011	<0.001	-	<0.0001	<0.001	<0.001	**0.013**	<0.05	<0.05	<0.05	0.003	0.003	<0.0001	0.006	<0.01	**0.051**
	MW39	27/02/2013	-	-	-	-	5.58	-	-	978	-	0.004	-	-	0.18	0.0002	<0.001	-	**0.006**	0.11	<0.05	0.11	**0.004**	0.01	<0.0001	0.007	-	**0.132**
	MW39	31/01/2014	<1	-	-	-	6.4	-	-	650	<0.005	0.002	-	-	-	<0.0002	<0.001	-	**0.004**	0.17	<0.05	0.17	<0.001	<0.005	<0.0001	0.006	-	**0.02**

Appendix A -
Table 2
Groundwater Analytical Results

			Inorganics				Water Quality				Metals																	
			Alkyl chloride	Volatile Fatty Acids	Bromide	Cyanide (Total)	pH (Lab)	Electrical conductivity (lab)	Hardness	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium (III+VI)	Cobalt	Copper	Ferric Iron	Ferrous Iron	Iron	Lead	Manganese	Mercury	Nickel	Vanadium	Zinc
			µg/L	µg/L	mg/L	µg/L	pH Units	µS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			1	5000	0.5	4	0.01	1	1	1	0.001	0.001	0.001	0.001	0.05	0.0001	0.001	0.001	0.001	0.05	0.05	0.01	0.001	0.001	0.0001	0.001	0.01	0.001
ANZECC 2000 FW 95%						**7**						**0.013**			**0.37**	**0.0002**	**0.001**		**0.0014**				**0.0034**	**1.9**	**0.0006**	**0.011**		**0.008**
ANZECC 2000 Irrigation - Short-term Trigger Values												**2**		**0.5**	**0.5**	**0.05**	**1**	**0.1**	**5**			**10**	**10**	**10**	**0.002**	**2**	**0.5**	**5**
ANZECC 2000 Stock Watering										**4000**		**0.5**			**5**	**0.01**	**1**	**1**	**0.5**				**0.1**		**0.002**	**1**		**20**
NEPM 2013 Table 1C GILs, Drinking Water						**80**					**0.003**	**0.01**	**2**	**0.06**	**4**	**0.002**			**2**				**0.01**	**0.5**	**0.001**	**0.02**		
Location Code	**Field ID**	**Sampled Date**																										
MW40	MW40	25/03/2010	-	-	-	-	6.63	-	-	252	-	**0.239**	-	-	0.2	<0.0001	<0.001	-	**0.002**	<0.05	11.5	9.52	<0.001	0.136	<0.0001	**0.02**	-	**0.021**
	MW40	19/01/2011	-	-	-	-	6.09	-	-	276	-	**0.251**	0.028	<0.001	-	<0.0001	**0.002**	**0.279**	<0.001	<0.05	13.1	**13.1**	<0.001	0.15	<0.0001	0.005	<0.01	**0.014**
	MW40	27/02/2013	-	-	-	-	5.67	-	-	2110	-	**0.392**	-	-	0.22	<0.0001	<0.001	-	**0.002**	<0.05	14.2	**12.2**	<0.001	0.116	<0.0001	0.003	-	**0.077**
	MW40	3/02/2014	<1	-	-	-	6.3	-	-	530	<0.005	**0.2**	-	-	-	<0.0002	**0.002**	-	<0.001	<0.05	11	**11**	<0.001	0.12	<0.0001	0.009	-	**0.014**
MW41	MW41	25/03/2010	-	-	-	-	6.3	-	-	380	-	0.002	-	-	<0.05	<0.0001	<0.001	-	**0.006**	<0.05	<0.05	<0.05	<0.001	0.133	<0.0001	**0.014**	-	**0.026**
	MW41	19/01/2011	-	-	-	-	6	-	-	438	-	0.002	0.004	<0.001	-	<0.0001	<0.001	0.003	**0.002**	<0.05	<0.05	<0.05	<0.001	0.148	<0.0001	0.006	<0.01	**0.025**
	MW41	27/02/2013	-	-	-	-	5.7	-	-	586	-	0.003	-	-	0.08	<0.0001	<0.001	-	**0.003**	<0.05	<0.05	<0.05	0.002	0.151	<0.0001	0.005	-	**0.024**
	MW41	3/02/2014	<1	-	-	-	6.5	-	-	440	<0.005	0.003	-	-	-	<0.0002	<0.001	-	**0.002**	<0.05	<0.05	<0.05	<0.001	0.12	<0.0001	<0.001	-	**0.01**
MW42	MW42	25/03/2010	-	-	-	-	6.16	-	-	1910	-	0.005	-	-	<0.05	0.0001	<0.001	-	**0.002**	<0.05	<0.05	<0.05	0.002	**0.664**	<0.0001	**0.016**	-	**0.012**
	MW42	20/01/2011	-	-	-	-	6.02	-	-	2020	-	0.004	0.059	<0.001	<0.05	<0.0001	<0.001	0.012	**0.004**	<0.05	<0.05	<0.05	**0.011**	**0.67**	<0.0001	0.009	<0.01	**0.027**
	MW42	27/02/2013	-	-	-	-	5.41	-	-	2100	-	0.006	-	-	0.09	<0.0001	<0.001	-	**0.011**	<0.05	<0.05	<0.05	0.003	0.415	<0.0001	0.011	-	**0.18**
	MW42	3/02/2014	<1	-	-	-	6.4	-	-	2100	<0.005	0.005	-	-	-	<0.0002	<0.001	-	**0.005**	<0.05	0.07	0.07	<0.001	**0.65**	<0.0001	0.011	-	**0.018**

Appendix A -
Table 2
Groundwater Analytical Results

			TPH - NEPM 1999					TRH - NEPM 2013							BTEX						
			C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 (Sum of Total)	C6-C10 minus BTEX (F1)	>C10-C16 minus Naphthalene (F2)	C6 - C10 Fraction	>C10 - C16 Fraction	>C16 - C34 Fraction (F3)	>C34 - C40 Fraction (F4)	>C10 - C40 (Sum of Total)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX (Sum of Total)
			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			20	50	100	50	50	20	50	20	50	100	100	100	0.5	1	1	1	2	2	1
ANZECC 2000 FW 95%															**950**			**350**			
ANZECC 2000 Irrigation - Short-term Trigger Values																					
ANZECC 2000 Stock Watering																					
NEPM 2013 Table 1C GILs, Drinking Water															**1**	**800**	**300**			**600**	
Location Code	**Field ID**	**Sampled Date**																			
MW3	MW3-1	15/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	-	-
	MW3-2	26/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10		-
	MW3	25/03/2010	12,000	70	170	<50	240	-	-	-	-	-	-	-	<10	58	<10	<10	<20	-	-
	MW3	20/01/2011	5400	<50	<100	<50	<50								<1	<2	<2	<2	<2		
	MW3	27/02/2013	1100	<50	<100	<50	<50	1120	-	1120	<100	<100	<100	<100	<10	<10	<10	<10	<20	<10	<10
MW4	MW4-1	15/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	-	-
	MW4-2	27/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10		-
	MW4	3/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW4	18/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW4	20/01/2011						-	-	-	-	-	-	-						-	-
MW5	MW5-1	16/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	-	-
	MW5-2	27/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10		-
MW6/3	MW6/3-1	17/07/2008	<50	<50	<200	870	870	-	-	-	-	-	-	-	<1	7	<1	<1	<2	-	-
	MW6/3-2	28/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10		-
MW6/4	MW6/4	7/12/2009	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW6/4	22/03/2010	60	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	49	<2	<2	<2	-	-
	MW6/4	24/01/2011	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
MW7/3	MW7/3-1	18/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	2	<1	<1	<2	-	-
	MW7/3-2	28/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10		-
	MW7/3	7/12/2009	<20	<50	270	<50	270	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW7/3	22/03/2010	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	10	<2	<2	<2	-	-
	MW7/3	21/01/2011	<20	<50	<100	80	80	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
MW9/2	MW9/2-1	17/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	-	-
MW11/2	MW11/2-1	17/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	2	<1	<1	<2	-	-
	MW11/2-2	28/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10		-
	MW11/2	4/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	<1	<5	<2	<2	<2	-	-
	MW11/2	22/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW11/2	21/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
MW12/1	MW12/1-2	26/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10	-	-
	MW12-1	17/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	5	<1	<1	<2	-	-
	MW12/1	9/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW12/1	25/03/2010	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	11	<2	<2	<2	-	-
	MW12/1	21/01/2011	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
MW13/2	MW13/2-1	17/07/2008	<2500	260	<200	<50	260	-	-	-	-	-	-	-	<50	287	<50	<50	<100	-	-
	MW13/2-2	25/08/2008	<50,000	490	<200	<50	490	-	-	-	-	-	-	-	<5000	<5000	<5000	<5000	<10,000	-	-
	MW13/2	10/12/2009	11,000	290	170	<50	460	-	-	-	-	-	-	-	**11 - 12**	<14	<2	6	4	-	-
	MW13/2	24/03/2010	810,000	720	420	80	1220	-	-	-	-	-	-	-	<100	**1070**	<100	<100	<200	-	-
	MW13/2	20/01/2011	250,000	1170	110	<50	1280	-	-	-	-	-	-	-	**52**	382	20	39	66	-	-
MW15/3	MW15/3-1	17/07/2008	<50	140	<200	780	920	-	-	-	-	-	-	-	**9**	1	<1	3	<2	-	-
	MW15/3-2	25/08/2008	<500	<50	<200	<50	0	-	-	-	-	-	-	-	<50	<50	<50	<50	<100	-	-
	MW15/3	10/12/2009	440,000	<50	140	<80	140	-	-	-	-	-	-	-	<100	**822 - 871**	<100	<100	<200	-	-
	MW15/3	24/03/2010	18,000	<50	<100	<50	<50	-	-	-	-	-	-	-	**12**	22	<10	<10	<20	-	-
	MW15/3	21/01/2011	13,500	<50	<100	60	60	-	-	-	-	-	-	-	**9**	9	<2	**3**	**2**	-	-
MW16/1	MW16/1-1	18/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	2	<1	<1	<2	-	-
	MW16/1-2	27/08/2008	<50	200	<200	<50	200	-	-	-	-	-	-	-	<5	<5	<5	<5	<10	-	-
	MW16/1	11/12/2009	60	<50	380	470	850	-	-	-	-	-	-	-	<1	3	<2	<2	<2	-	-
	MW16/1	23/03/2010	50	<50	220	170	390	-	-	-	-	-	-	-	<1	7	<2	<2	<2	-	-
	MW16/1	21/01/2011	50	<50	<100	170	170	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
MW17/1	MW17/1-1	18/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	1	<1	<1	<2	-	-
	MW17/1-2	27/08/2008	<50	70	<200	<50	70	-	-	-	-	-	-	-	<5	<5	<5	<5	<10	-	-
	MW17/1	11/12/2009	<20	<50	160	<50	160	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW17/1	24/03/2010	110	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	108	<2	<2	<2	-	-
	MW17/1	24/01/2011	100	<50	<100	<50	<50	-	-	-	-	-	-	-	**6**	16	<2	8	15	-	-
MW17/2	MW17/2-3	14/10/2008	<50	140	<200	<50	140	-	-	-	-	-	-	-	**9**	<5	<5	<5	<10	-	-
MW18	MW18-1	17/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	2	1	1	2	-	-
	MW18-2	27/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10	-	-
	MW18	9/12/2009	1740	<50	<100	<50	<50	-	-	-	-	-	-	-	1	4	2	4	5	-	-
	MW18	10/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW18	24/03/2010	8600	<50	<100	<50	<50	-	-	-	-	-	-	-	<10	<10	<10	<10	<20	-	-
	MW18	20/01/2011	450	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-

Appendix A -
Table 2
Groundwater Analytical Results

			TPH - NEPM 1999					TRH - NEPM 2013							BTEX						
			C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 (Sum of Total)	C6-C10 minus BTEX (F1)	>C10-C16 minus Naphthalene (F2)	C6 - C10 Fraction	>C10 - C16 Fraction	>C16 - C34 Fraction (F3)	>C34 - C40 Fraction (F4)	>C10 - C40 (Sum of Total)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX (Sum of Total)
			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			20	50	100	50	50	20	50	20	50	100	100	100	0.5	1	1	1	2	2	1
ANZECC 2000 FW 95%															**950**			**350**			
ANZECC 2000 Irrigation - Short-term Trigger Values																					
ANZECC 2000 Stock Watering																					
NEPM 2013 Table 1C GILs, Drinking Water															**1**	**800**	**300**			**600**	
Location Code	**Field ID**	**Sampled Date**																			
MW19	MW19-1	16/07/2008	1510	630	310	<50	940	-	-	-	-	-	-	-	<1	619	99	202	323	-	-
	MW19-2	27/08/2008	<50,000	60	<200	<50	60	-	-	-	-	-	-	-	<5000	<5000	<5000	<5000	<10,000	-	-
	MW19	8/12/2009	6000	<50	200	100	300	-	-	-	-	-	-	-	<20	<20	<20	<20	<40	-	-
	MW19	23/03/2010	38,000	270	<100	<50	270	-	-	-	-	-	-	-	<10	177	20	42	60	-	-
	MW19	19/01/2011	6500	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
MW20	MW20-1	16/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	-	-
	MW20-2	25/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10	-	-
	MW20	3/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW20	16/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW20	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW20	26/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW20	31/01/2014	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	<3	-
MW21	MW21-1	15/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	-	-
	MW21-2	26/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10	-	-
	MW21	7/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW21	24/03/2010	950	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW21	19/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW21	26/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW21	31/01/2014	-	-	-	-	-	-	-	-	-	-	-	-	<4	<4	<4	<4	<8	<12	-
MW22	MW22-1	16/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	-	-
	MW22-2	26/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10	-	-
	MW22	9/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW22	22/03/2010	190	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW22	18/01/2011	160	<50	220	250	470	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW22	28/02/2013	60	<50	130	70	200	60	-	60	<100	170	<100	170	<1	<2	<2	<2	<2	<2	<1
	MW22	30/01/2014	210	<50	<100	<100	<100	210	<50	210	<50	<100	<100	-	<1	<1	<1	<1	<2	<3	-
MW23	MW23-1	17/07/2008	500	160	<200	<50	160	-	-	-	-	-	-	-	**442**	1	51	<1	<2	-	-
	MW23-2	27/08/2008	270	180	<200	<50	180	-	-	-	-	-	-	-	**265**	<5	27	<5	<10	-	-
	MW23	9/12/2009	320	<50	<100	<50	<50	-	-	-	-	-	-	-	**225**	2	40 - 42	<2	<2	-	-
	MW23	24/03/2010	540	110	<100	<50	110	-	-	-	-	-	-	-	**294**	<2	59	<2	<2	-	-
	MW23	19/01/2011	270	60	<100	<50	60	-	-	-	-	-	-	-	**184**	<2	22	<2	<2	-	-
	MW23	27/02/2013	340	70	<100	<50	70	100	-	350	<100	<100	<100	<100	**200**	<2	47	<2	<2	<2	247
	MW23	31/01/2014	50	80	<100	<100	<100	40	80	50	80	<100	<100	-	**11**	<1	<1	<1	<2	<3	-
MW24A	MW24A-2	27/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10	-	-
	MW24A-3	14/10/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10	-	-
	MW24A	10/12/2009	3500	<50	<100	<60	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW24A	23/03/2010	5600	<50	<100	70	70	-	-	-	-	-	-	-	<10	<10	<10	<10	<20	-	-
	MW24A	18/01/2011	8850	<50	<100	<50	<50	-	-	-	-	-	-	-	1	<2	<2	6	<2	-	-
	MW24A	28/02/2013	2620	<50	<100	<50	<50	2580	-	2580	<100	<100	<100	<100	<10	<10	<5	<10	<20	<10	<10
	MW24A	29/01/2014	10,000	<50	<100	<100	<100	10,000	<50	10,000	<50	<100	<100	-	<80	<80	<80	<80	<160	<240	-
MW24B	MW24B-2	27/08/2008	<50,000	280	<200	<50	280	-	-	-	-	-	-	-	<5000	<5000	<5000	<5000	<10,000	-	-
	MW24B-3	14/10/2008	<150	230	<200	<50	230	-	-	-	-	-	-	-	<100	<100	<5	<5	<10	-	-
	MW24B	10/12/2009	85,800	100	130	<50	230	-	-	-	-	-	-	-	**22 - 23**	89 - 91	4	3	8	-	-
	MW24B	24/03/2010	155,000	200	180	<50	380	-	-	-	-	-	-	-	<100	<100	<100	<100	<200	-	-
	MW24B	18/01/2011	59,000	<50	<100	<50	<50	-	-	-	-	-	-	-	<100	140	<100	<100	<200	-	-
	MW24B	28/02/2013	46,600	80	<100	<50	80	44,600	-	45,200	<100	<100	<100	<100	<100	593	<50	<100	<200	<100	593
	MW24B	29/01/2014	84,000	190	<100	<100	200	84,000	150	84,000	150	<100	<100	-	<500	540	<500	<500	<1000	<1500	-
MW24C	MW24C-2	27/08/2008	<50,000	6220	<200	<50	6220	-	-	-	-	-	-	-	<5000	<5000	<5000	<5000	<10,000	-	-
	MW24C-3	13/10/2008	49,000	15,000	501	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW24C	10/12/2009	156,000	134,000	5260	<250	139,000	-	-	-	-	-	-	-	**112 - 114**	**1,900 - 12,20**	137 - 138	<100 - 101	204 - 206	-	-
	MW24C	11/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW24C	25/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	<100	**9310**	<100	<100	<200	-	-
	MW24C	28/02/2013	141,000	11,100	1030	<50	12,100	120,000	-	138,000	3050	810	<100	3860	**112**	**17,700**	**353**	<100	208	208	18,400
	MW24C	3/02/2014	200,000	9400	600	<100	10,000	190,000	1700	200,000	1700	500	<100	-	<1000	**11,000**	<1000	<1000	<2000	<3000	-
MW25	MW25-2	25/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10	-	-
	MW25-3	13/10/2008	330	<40	<100	<100	-	-	-	-	-	-	-	-	<0.5	<1	<1	<1	<2	<3	-
	MW25	9/12/2009	40	<50	250	<70	250	-	-	-	-	-	-	-	<1	3	<2	<2	<2	-	-
	MW25	22/03/2010	850	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	3	<2	<2	<2	-	-
	MW25	18/01/2011	370	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW25	1/03/2013	<20	<50	<100	<50	<50	<20	-	<20	<100	<100	<100	<100	<1	<2	<2	<2	<2	<2	<1
	MW25	29/01/2014	<20	<50	<100	<100	<100	<20	<50	<20	<50	<100	<100	-	<1	<1	<1	<1	<2	<3	-
MW26	MW26-3	13/10/2008	10,000	<40	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW26	8/12/2009	91,300	<50	<100	<50	<50	-	-	-	-	-	-	-	<50	<50	<50	<50	<100	-	-
	MW26	17/03/2010	97,000	<50	<100	<50	<50	-	-	-	-	-	-	-	<100	<100	<100	<100	<200	-	-
	MW26	18/01/2011	285,000	<50	<100	<50	<50	-	-	-	-	-	-	-	<100	<100	<100	<100	<200	-	-
	MW26	1/03/2013	117,000	<50	<100	<50	<50	110,000	-	110,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	MW26	29/01/2014	160,000	<50	<100	<100	<100	160,000	<50	160,000	<50	<100	<100	-	<2000	<2000	<2000	<2000	<4000	<6000	-
MW27	MW27-1	15/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	-	-
	MW27-2	25/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10	-	-
	MW27	3/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW27	16/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW27	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW27	25/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW27	31/01/2014	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	<3	-

Appendix A -
Table 2
Groundwater Analytical Results

			TPH - NEPM 1999					TRH - NEPM 2013							BTEX						
			C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 (Sum of Total)	C6-C10 minus BTEX (F1)	>C10-C16 minus Naphthalene (F2)	C6 - C10 Fraction	>C10 - C16 Fraction	>C16 - C34 Fraction (F3)	>C34 - C40 Fraction (F4)	>C10 - C40 (Sum of Total)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX (Sum of Total)
			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			20	50	100	50	50	20	50	20	50	100	100	100	0.5	1	1	1	2	2	1
ANZECC 2000 FW 95%															**950**			**350**			
ANZECC 2000 Irrigation - Short-term Trigger Values																					
ANZECC 2000 Stock Watering																					
NEPM 2013 Table 1C GILs, Drinking Water															**1**	**800**	**300**			**600**	
Location Code	**Field ID**	**Sampled Date**																			
MW28	MW28-1	15/07/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	-	-
	MW28-2	26/08/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10	-	-
	MW28	3/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW28	16/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW28	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW28	25/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW28	31/01/2014	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	<3	-
MW29	MW29-3	20/10/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10	-	-
	MW29	19/01/2011	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
MW30	MW30-3	14/10/2008	<50	<50	<200	<50	0	-	-	-	-	-	-	-	<5	<5	<5	<5	<10	-	-
	MW30	9/12/2009	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW30	22/03/2010	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW30	19/01/2011	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW30	26/02/2013	<20	<50	<100	<50	<50	<20	-	<20	<100	<100	<100	<100	<1	<2	<2	<2	<2	<2	<1
	MW30	31/01/2014	<20	<50	<100	<100	<100	<20	<50	<20	<50	<100	<100	-	<1	<1	<1	<1	<2	<3	-
MW31	MW31	7/12/2009	3300	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW31	22/03/2010	3900	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW31	18/01/2011	4150	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW31	26/02/2013	500	<50	<100	<50	<50	490	-	490	<100	<100	<100	<100	<1	<2	<2	<2	<2	<2	<1
	MW31	29/01/2014	910	<50	<100	<100	<100	910	<50	910	<50	<100	<100	-	<4	<4	<4	<4	<8	<12	-
MW32	MW32	8/12/2009	580	<50	<100	<50	<50	-	-	-	-	-	-	-	3	<5	<2	<2	<2	-	-
	MW32	19/03/2010	1220	<50	<100	<50	<50	-	-	-	-	-	-	-	2	<2	<2	<2	<2	-	-
	MW32	18/01/2011	1530	<50	<100	<50	<50	-	-	-	-	-	-	-	1	<2	<2	<2	<2	-	-
	MW32	28/02/2013	760	<50	<100	110	110	740	-	740	<100	170	<100	170	2	<2	<2	<2	<2	<2	2
	MW32	29/01/2014	1000	<50	<100	<100	<100	1000	<50	1000	<50	<100	<100	-	<4	<4	<4	<4	<8	<12	-
MW33	MW33	23/03/2010	60	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW33	19/01/2011	120	70	420	170	660	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW33	26/02/2013	110	<50	<100	<50	<50	100	-	100	<100	<100	<100	<100	<1	<2	<2	<2	<2	<2	<1
MW34A	MW34A	7/12/2009	7200	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	3	5	-	-
	MW34A	17/03/2010	12,000	<50	<100	<50	<50	-	-	-	-	-	-	-	<100	<100	<100	<100	<200	-	-
	MW34A	18/01/2011	9460	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW34A	28/02/2013	6060	<50	<100	<50	<50	5920	-	5950	<100	<100	<100	<100	<10	21	6	<10	<20	<10	27
	MW34A	30/01/2014	19,000	<50	<100	<100	<100	19,000	<50	19,000	<50	<100	<100	-	<100	<100	<100	<100	<200	<300	-
MW34B	MW34B	8/12/2009	980	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<5	<2	<2	<2	-	-
	MW34B	17/03/2010	290	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW34B	18/01/2011	200	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW34B	28/02/2013	270	<50	<100	<50	<50	260	-	260	<100	<100	<100	<100	<1	<2	<2	<2	<2	<2	<1
	MW34B	30/01/2014	1000	<50	<100	<100	<100	1000	<50	1000	<50	<100	<100	-	<8	<8	<8	<8	<16	<24	-
MW35	MW35	11/12/2009	1100	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW35	17/03/2010	1300	<50	<100	<50	<50	-	-	-	-	-	-	-	<10	<10	<10	<10	<20	-	-
	MW35	18/01/2011	4450	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW35	27/02/2013	3830	<50	<100	<50	<50	3290	-	3290	<100	<100	<100	<100	<10	<10	<10	<10	<20	<10	<10
	MW35	30/01/2014	13,000	<50	<100	<100	<100	13,000	<50	13,000	<50	<100	<100	-	<100	<100	<100	<100	<200	<300	-
MW36	MW36	7/12/2009	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW36	18/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW36	19/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW36	25/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW36	31/01/2014	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	<3	-
MW37	MW37	4/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	<1	<5	<2	<2	<2	-	-
	MW37	18/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW37	19/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW37	25/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW37	30/01/2014	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	<3	-
MW38	MW38	4/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	<1	<5	<2	<2	<2	-	-
	MW38	18/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW38	19/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW38	26/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW38	30/01/2014	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	<3	-
MW39	MW39	4/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	<1	<5	<2	<2	<2	-	-
	MW39	18/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW39	21/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW39	27/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW39	31/01/2014	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	<3	-

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Table 2
Groundwater Analytical Results

			TPH - NEPM 1999					TRH - NEPM 2013							BTEX						
			C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 (Sum of Total)	C6-C10 minus BTEX (F1)	>C10-C16 minus Naphthalene (F2)	C6 - C10 Fraction	>C10 - C16 Fraction	>C16 - C34 Fraction (F3)	>C34 - C40 Fraction (F4)	>C10 - C40 (Sum of Total)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX (Sum of Total)
			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
EOL			20	50	100	50	50	20	50	20	50	100	100	100	0.5	1	1	1	2	2	1
ANZECC 2000 FW 95%															**950**			**350**			
ANZECC 2000 Irrigation - Short-term Trigger Values																					
ANZECC 2000 Stock Watering																					
NEPM 2013 Table 1C GILs, Drinking Water															**1**	**800**	**300**			**600**	
Location Code	**Field ID**	**Sampled Date**																			
MW40	MW40	25/03/2010	40	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW40	19/01/2011	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW40	27/02/2013	<20	<50	<100	<50	<50	<20	-	<20	<100	<100	<100	<100	<1	<2	<2	<2	<2	<2	<1
	MW40	3/02/2014	<20	<50	<100	<100	<100	<20	<50	<20	<50	<100	<100	-	<1	<1	<1	<1	<2	<3	-
MW41	MW41	25/03/2010	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW41	19/01/2011	<20	<50	120	50	170	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW41	27/02/2013	<20	<50	<100	<50	<50	<20	-	<20	<100	<100	<100	<100	<1	<2	<2	<2	<2	<2	<1
	MW41	3/02/2014	<20	<50	<100	<100	<100	<20	<50	<20	<50	<100	<100	-	<1	<1	<1	<1	<2	<3	-
MW42	MW42	25/03/2010	30	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW42	20/01/2011	40	<50	<100	<50	<50	-	-	-	-	-	-	-	<1	<2	<2	<2	<2	-	-
	MW42	27/02/2013	<20	<50	<100	<50	<50	<20	-	<20	<100	<100	<100	<100	<1	<2	<2	<2	<2	<2	<1
	MW42	3/02/2014	<20	<50	<100	<100	<100	<20	<50	<20	<50	<100	<100	-	<1	<1	<1	<1	<2	<3	-

			MAH			PAHs																		
			1,2,4-trimethylbenzene	Isopropylbenzene	Styrene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(b)&(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Polycyclic Aromatic Hydrocarbons
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EOL			1	1	1	1	1	1	1	0.5	1	1	1	2	1	1	1	1	1	1	1	1	1	1
ANZECC 2000 FW 95%																					16			
ANZECC 2000 Irrigation - Short-term Trigger Values																								
ANZECC 2000 Stock Watering																								
NEPM 2013 Table 1C GILs, Drinking Water					30					0.01														
Location Code	Field ID	Sampled Date																						
MW3	MW3-1	15/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW3-2	26/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW3	25/03/2010	<10	<10	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-	-
	MW3	20/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW3	27/02/2013	<10	<10	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<25	-	-	-
MW4	MW4-1	15/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW4-2	27/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	1	1
	MW4	3/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW4	18/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW4	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW5	MW5-1	16/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW5-2	27/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
MW6/3	MW6/3-1	17/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW6/3-2	28/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
MW6/4	MW6/4	7/12/2009	<5	<5	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW6/4	22/03/2010	<5	<5	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW6/4	24/01/2011	<5	<5	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
MW7/3	MW7/3-1	18/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW7/3-2	28/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW7/3	7/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW7/3	22/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW7/3	21/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW9/2	MW9/2-1	17/07/2008	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-
MW11/2	MW11/2-1	17/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW11/2-2	28/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW11/2	4/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW11/2	22/03/2010	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW11/2	21/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
MW12/1	MW12/1-2	26/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW12-1	17/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW12/1	9/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW12/1	25/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW12/1	21/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW13/2	MW13/2-1	17/07/2008	<250	<250	<250	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW13/2-2	25/08/2008	<5000	<5000	<5000	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW13/2	10/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW13/2	24/03/2010	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<500	-	-	-
	MW13/2	20/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
MW15/3	MW15/3-1	17/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW15/3-2	25/08/2008	<50	<50	<50	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW15/3	10/12/2009	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<500	-	-	-
	MW15/3	24/03/2010	<10	<10	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-	-
	MW15/3	21/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
MW16/1	MW16/1-1	18/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW16/1-2	27/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW16/1	11/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW16/1	23/03/2010	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW16/1	21/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
MW17/1	MW17/1-1	18/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW17/1-2	27/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW17/1	11/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW17/1	24/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW17/1	24/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW17/2	MW17/2-3	14/10/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
MW18	MW18-1	17/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW18-2	27/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW18	9/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW18	10/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW18	24/03/2010	<10	<10	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-	-
	MW18	20/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-

Appendix A -
Table 2
Groundwater Analytical Results

			MAH			PAHs																		
			1,2,4-trimethylbenzene	Isopropylbenzene	Styrene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(b)&(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Polycyclic Aromatic Hydrocarbons
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			1	1	1	1	1	1	1	0.5	1	1	1	2	1	1	1	1	1	1	1	1	1	1
ANZECC 2000 FW 95%																					**16**			
ANZECC 2000 Irrigation - Short-term Trigger Values																								
ANZECC 2000 Stock Watering																								
NEPM 2013 Table 1C GILs, Drinking Water					**30**					**0.01**														
Location Code	**Field ID**	**Sampled Date**																						
MW19	MW19-1	16/07/2008	<5	<5	<5	**4**	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	**27 - 38**	<1	<1	31
	MW19-2	27/08/2008	<5000	<5000	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<5000 - 2	<1	<1	2
	MW19	8/12/2009	<20	<20	<20	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW19	23/03/2010	<10	<10	<10	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<50 - 8.9	<1	<1	-
	MW19	19/01/2011	<5	<5	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
MW20	MW20-1	16/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW20-2	25/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW20	3/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW20	16/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW20	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW20	26/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW20	31/01/2014	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW21	MW21-1	15/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW21-2	26/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW21	7/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW21	24/03/2010	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW21	19/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW21	26/02/2013	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW21	31/01/2014	<4	<4	<4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW22	MW22-1	16/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW22-2	26/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW22	9/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW22	22/03/2010	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW22	18/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW22	28/02/2013	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-
	MW22	30/01/2014	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-	-
MW23	MW23-1	17/07/2008	<5	9	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	**29 - 30**	<1	<1	29
	MW23-2	27/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	**<5 - 21**	<1	<1	21
	MW23	9/12/2009	<5	10	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	**8 - 17**	<1	<1	-
	MW23	24/03/2010	<5	14	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	**16.6**	<1	<1	-
	MW23	19/01/2011	<5	11	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	11.5	<1	<1	-
	MW23	27/02/2013	<5	11	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	**22 - 24.6**	<1	<1	24.6
	MW23	31/01/2014	<1	6	<1	<1	<1	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW24A	MW24A-2	27/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW24A-3	14/10/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW24A	10/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW24A	24/03/2010	<10	<10	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-	-
	MW24A	18/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW24A	28/02/2013	<10	<10	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-
	MW24A	29/01/2014	<80	<80	<80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<80	-	-	-
MW24B	MW24B-2	27/08/2008	<5000	<5000	<5000	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW24B-3	14/10/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW24B	10/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW24B	24/03/2010	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<500	-	-	-
	MW24B	18/01/2011	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<500	-	-	-
	MW24B	28/02/2013	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-
	MW24B	29/01/2014	<500	<500	<500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<500	-	-	-
MW24C	MW24C-2	27/08/2008	<5000	<5000	<5000	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW24C-3	13/10/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	MW24C	10/12/2009	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<500	-	-	-
	MW24C	11/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW24C	25/03/2010	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<500	-	-	-
	MW24C	28/02/2013	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-
	MW24C	3/02/2014	<1000	<1000	<1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1000	-	-	-
MW25	MW25-2	25/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW25-3	13/10/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	MW25	9/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW25	22/03/2010	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW25	18/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW25	1/03/2013	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-
	MW25	29/01/2014	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-	-
MW26	MW26-3	13/10/2008	-	-	-	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	MW26	8/12/2009	<50	<50	<50	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW26	17/03/2010	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<500	-	-	-
	MW26	18/01/2011	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<500	-	-	-
	MW26	1/03/2013	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-
	MW26	29/01/2014	<2000	<2000	<2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2000	-	-	-
MW27	MW27-1	15/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW27-2	25/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW27	3/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW27	16/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW27	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW27	25/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW27	31/01/2014	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix A -
Table 2
Groundwater Analytical Results

			MAH			PAHs																		
			1,2,4-trimethylbenzene	Isopropylbenzene	Styrene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(b)&(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Polycyclic Aromatic Hydrocarbons
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			1	1	1	1	1	1	1	0.5	1	1	1	2	1	1	1	1	1	1	1	1	1	1
ANZECC 2000 FW 95%																					**16**			
ANZECC 2000 Irrigation - Short-term Trigger Values																								
ANZECC 2000 Stock Watering																								
NEPM 2013 Table 1C GILs, Drinking Water					**30**					**0.01**														
Location Code	**Field ID**	**Sampled Date**																						
MW28	MW28-1	15/07/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW28-2	26/08/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW28	3/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW28	16/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW28	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW28	25/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW28	31/01/2014	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW29	MW29-3	20/10/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW29	19/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW30	MW30-3	14/10/2008	<5	<5	<5	<1	<1	<1	<1	<1	-	-	-	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW30	9/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW30	22/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW30	19/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW30	26/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-
	MW30	31/01/2014	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-	-
MW31	MW31	7/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW31	22/03/2010	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW31	18/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW31	26/02/2013	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-
	MW31	29/01/2014	<4	<4	<4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-	-
MW32	MW32	8/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW32	19/03/2010	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW32	18/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW32	28/02/2013	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-
	MW32	29/01/2014	<4	<4	<4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-	-
MW33	MW33	23/03/2010	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW33	19/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW33	26/02/2013	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-
MW34A	MW34A	7/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW34A	17/03/2010	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<500	-	-	-
	MW34A	18/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW34A	28/02/2013	<10	<10	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	-	-	-
	MW34A	30/01/2014	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-
MW34B	MW34B	8/12/2009	<5	<5	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW34B	17/03/2010	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW34B	18/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW34B	28/02/2013	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-
	MW34B	30/01/2014	<8	<8	<8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	-	-	-
MW35	MW35	11/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW35	17/03/2010	<10	<10	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-	-	-
	MW35	18/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW35	27/02/2013	<10	<10	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<25	-	-	-
	MW35	30/01/2014	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-
MW36	MW36	7/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW36	18/03/2010	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW36	19/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW36	25/02/2013	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW36	31/01/2014	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW37	MW37	4/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW37	18/03/2010	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW37	19/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW37	25/02/2013	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW37	30/01/2014	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW38	MW38	4/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW38	18/03/2010	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW38	19/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW38	26/02/2013	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW38	30/01/2014	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW39	MW39	4/12/2009	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW39	18/03/2010	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW39	21/01/2011	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW39	27/02/2013	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<7	-	-	-
	MW39	31/01/2014	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix A -
Table 2
Groundwater Analytical Results

			MAH			PAHs																		
			1,2,4-trimethylbenzene	Isopropylbenzene	Styrene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(b)&(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Polycyclic Aromatic Hydrocarbons
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			1	1	1	1	1	1	1	0.5	1	1	1	2	1	1	1	1	1	1	1	1	1	1
ANZECC 2000 FW 95%																					16			
ANZECC 2000 Irrigation - Short-term Trigger Values																								
ANZECC 2000 Stock Watering																								
NEPM 2013 Table 1C GILs, Drinking Water					30					0.01														
Location Code	**Field ID**	**Sampled Date**																						
MW40	MW40	25/03/2010	<5	<5	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW40	19/01/2011	<5	<5	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW40	27/02/2013	<5	<5	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5
	MW40	3/02/2014	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW41	MW41	25/03/2010	<5	<5	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW41	19/01/2011	<5	<5	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW41	27/02/2013	<5	<5	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5
	MW41	3/02/2014	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW42	MW42	25/03/2010	<5	<5	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	1.3	-
	MW42	20/01/2011	<5	<5	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
	MW42	27/02/2013	<5	<5	<5	<1	<1	<1	<1	<0.5	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5
	MW42	3/02/2014	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

			TEQ	VOCs																																
			Benzo(a)pyrene TEQ - Calc	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,2,3-trichlorobenzene	1,2,3-trichloropropane	1,2,4-trichlorobenzene	1,2-dibromoethane	1,2-dichlorobenzene	1,2-dichloroethane	1,3,5-trimethylbenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-butanone (MEK)	2-hexanone (MBK)	2-pentanone	4-methyl-2-pentanone (MIBK)	Acetone	Bromodichloromethane	Bromoform	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	cis-1,2-dichloroethene	cis-1,3-dichloropropene
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.5	1	1	1	1	1	1	1	5	1	5	1	1	1	1	1	1	1	1	5	5	1	1	1	1	1	1	1	1	1	5	1	1
ANZECC 2000 FW 95%				1			6500			10		170	1	160	1			260	60																	
ANZECC 2000 Irrigation - Short-term Trigger Values																																				
ANZECC 2000 Stock Watering																																				
NEPM 2013 Table 1C GILs, Drinking Water									30	30		30		1500	3			40									3	300							
Location Code	**Field ID**	**Sampled Date**																																		
MW3	MW3-1	15/07/2008	-	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<1	3	<5	<5	<1	<5	<5	<5	<5	-	96	<5	<5	19	<5	5	<10	9920	<5	<5
	MW3-2	26/08/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	18	<5	<5	<5	<5	<5	<50	2910	<5	<5
	MW3	25/03/2010	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<100	<100	-	<100	<100	77	<10	<10	37	<10	<10	<100	11,600	<10	<10
	MW3	20/01/2011	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	-	36	<5	<5	33	<5	<5	<50	5250	<5	<5
	MW3	27/02/2013	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	-	<100	<200	14	<10	<10	<10	<10	<10	<100	1790	<10	<10
MW4	MW4-1	15/07/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<5	<5	<1	<5	<5	<5	<5	-	<5	<5	<5	<1	<5	<5	<10	<5	<5	<5
	MW4-2	27/08/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW4	3/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW4	18/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW4	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW5	MW5-1	16/07/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<5	<5	<1	<5	<5	<5	<5	-	<5	<5	<5	<1	<5	<5	<10	<5	<5	<5
	MW5-2	27/08/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
MW6/3	MW6/3-1	17/07/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<5	<5	<1	<5	<5	<5	<5	-	<5	<5	<5	<1	<5	<5	<10	<5	<5	<5
	MW6/3-2	28/08/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
MW6/4	MW6/4	7/12/2009	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW6/4	22/03/2010	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	-	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW6/4	24/01/2011	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	-	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
MW7/3	MW7/3-1	18/07/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<5	<5	<1	<5	<5	<5	<5	-	<5	<5	<5	<1	<5	<5	<10	<5	<5	<5
	MW7/3-2	28/08/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW7/3	7/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW7/3	22/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW7/3	21/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW9/2	MW9/2-1	17/07/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<5	<5	<1	<5	<5	<5	<5	-	<5	<5	<5	<1	<5	<5	<10	<5	<5	<5
MW11/2	MW11/2-1	17/07/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<5	<5	<1	<5	<5	<5	<5	-	<5	<5	<5	<1	<5	<5	<10	<5	<5	<5
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	MW12/1	21/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW13/2	MW13/2-1	17/07/2008	-	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<50	**1960**	<250	<250	<50	<250	<250	<250	<250	-	<250	<250	<250	<50	<250	<250	<500	444	1120	<250
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	MW17/1	24/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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MW17/2	MW17/2-3	14/10/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
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			TEQ	VOCs																																		
			Benzo(a)pyrene TEQ - Calc	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,2,3-trichlorobenzene	1,2,3-trichloropropane	1,2,4-trichlorobenzene	1,2-dibromoethane	1,2-dichlorobenzene	1,2-dichloroethane	1,3,5-trimethylbenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-butanone (MEK)	2-hexanone (MBK)	2-pentanone	4-methyl-2-pentanone (MIBK)	Acetone	Bromodichloromethane	Bromoform	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	cis-1,2-dichloroethene	cis-1,3-dichloropropene
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.5	1	1	1	1	1	1	1	5	1	5	1	1	1	1	1	1	1	5	5	1	1	1	1	1	1	1	1	1	1	1	5	1	1
ANZECC 2000 FW 95%							6500		1	10		170		160				260	60																			
ANZECC 2000 Irrigation - Short-term Trigger Values																																						
ANZECC 2000 Stock Watering																																						
NEPM 2013 Table 1C GILs, Drinking Water									30	30		30		1500	3			40									3	300										
Location Code	**Field ID**	**Sampled Date**																																				
MW19	MW19-1	16/07/2008	-	<5	<5	<5	79	10	47	<5	<5	<5	<5	<1	581	<5	<5	<1	<5	<5	<5	<5	<5	-	<5	<5	<5	<1	<5	<5	<10	1580	14,200	<5
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	MW20	16/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW20	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW20	26/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW20	31/01/2014	-	<1	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1
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	MW24A	18/01/2011	-	<5	<5	<5	6	<5	6	<5	<5	<5	<5	<5	132	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	7	<5	<5	<50	332	68	<5
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MW24B	MW24B-2	27/08/2008	-	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	-	<5000	<5000	<5000	<5000	<5000	<5000	<50,000	<5000	<5000	<5000
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	MW24B	18/01/2011	-	<100	<100	<100	113	108	487	<100	<100	<100	<100	<100	674	<100	<100	<100	<100	<1000	<1000	-	<1000	<1000	<100	<100	<100	<100	196	<100	<1000	582	10,200	<100
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	MW24C-3	13/10/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW24C	10/12/2009	-	<100	216	<100	360	622	2720	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1000	<1000	-	<1000	61,400	<100	<100	<100	<100	1460	<100	<1000	1940	21,800	<100
	MW24C	11/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW24C	25/03/2010	-	<100	169	<100	298	508	1800	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1000	<1000	-	<1000	55,900	<100	<100	<100	<100	1150	<100	<1000	1770	24,400	<100
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	MW25	29/01/2014	-	<1	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<5	3	<1
MW26	MW26-3	13/10/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW26	8/12/2009	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	474	<50	<50	<50	<500	<500	-	<500	<500	<50	<50	<50	<50	<50	<50	<500	212	204	<50
	MW26	17/03/2010	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	247	<100	<100	<100	<1000	<1000	-	<1000	<1000	<100	<100	<100	<100	<100	<100	<1000	204	197	<100
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MW27	MW27-1	15/07/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<5	<5	<1	<5	<5	<5	<5	<5	-	<5	<5	<5	<1	<5	<5	<10	5	<5	<5
	MW27-2	25/08/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
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	MW27	16/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW27	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW27	25/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW27	31/01/2014	-	<1	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1

		TEQ	VOCs																														
		Benzo(a)pyrene TEQ - Calc	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,2,3-trichlorobenzene	1,2,3-trichloropropane	1,2,4-trichlorobenzene	1,2-dibromoethane	1,2-dichlorobenzene	1,2-dichloroethane	1,3,5-trimethylbenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-butanone (MEK)	2-hexanone (MBK)	2-pentanone	4-methyl-2-pentanone (MIBK)	Acetone	Bromodichloromethane	Bromoform	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	cis-1,2-dichloroethene	cis-1,3-dichloropropene
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		0.5	1	1	1	1	1	1	5	1	5	1	1	1	1	1	1	1	5	5	1	1	1	1	1	1	1	1	1	5	1	1
ANZECC 2000 FW 95%						6500			10		170		160				260	60															
ANZECC 2000 Irrigation - Short-term Trigger Values																																	
ANZECC 2000 Stock Watering																																	
NEPM 2013 Table 1C GILs, Drinking Water								30	30		30		1500	3			40									3	300						
Location Code	**Field ID**	**Sampled Date**																															
	MW28-1	15/07/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<5	<5	<1	<5	<5	<5	<5	-	<5	<5	<5	<1	<5	<5	<10	<5	<5	<5
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MW28	MW28	16/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW28	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW28	25/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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MW29	MW29-3	20/10/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW29	19/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW30-3	14/10/2008	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW30	9/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW30	MW30	22/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW30	19/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW30	26/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW30	31/01/2014	-	<1	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1
	MW31	7/12/2009	-	<5	8	<5	<5	5	67	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	32	345	<5
	MW31	22/03/2010	-	<5	12	<5	<5	7	87	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	-	<5	<5	<5	<5	<5	<5	<50	41	361	<5
MW31	MW31	18/01/2011	-	<5	5	<5	<5	6	40	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	36	523	<5
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MW32	MW32	18/01/2011	-	<5	<5	<5	<5	<5	16	<5	<5	<5	<5	<5	<5	47	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	108	<5	<5	<5	<50	415	151	<5
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	MW34A	17/03/2010	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1000	<1000	-	<1000	<1000	<100	<100	<100	<100	<100	<100	<1000	208	<100	<100
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	MW34B	17/03/2010	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	-	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
MW34B	MW34B	18/01/2011	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	6	<5
	MW34B	28/02/2013	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	8	<5
	MW34B	30/01/2014	-	<8	<8	<8	<8	<8	<8	-	<8	-	<8	<8	<8	<8	<8	<8	<8	<8	-	<8	<8	<8	<8	<8	<8	<8	<8	<8	12	9	<8
	MW35	11/12/2009	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	55	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	22	<5	<5	<5	<50	20	16	<5
	MW35	17/03/2010	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	86	<10	<10	<10	<100	<100	-	<100	<100	<10	<10	<10	<10	<10	34	<10	<10	<100	22	19	<10
MW35	MW35	18/01/2011	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	449	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	201	<5	<5	<50	41	70	<5
	MW35	27/02/2013	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	844	<10	<10	<10	<100	<100	-	<100	<100	<10	<10	<10	<10	<10	232	<10	<10	<100	43	154	<10
	MW35	30/01/2014	-	<100	<100	<100	<100	<100	<100	-	<100	-	<100	<100	1600	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	<100	400	<100	<100	<100	<100	230	<100
	MW36	7/12/2009	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW36	18/03/2010	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	-	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
MW36	MW36	19/01/2011	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW36	25/02/2013	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW36	31/01/2014	-	<1	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1
	MW37	4/12/2009	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW37	18/03/2010	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	-	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
MW37	MW37	19/01/2011	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW37	25/02/2013	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	6	<5
	MW37	30/01/2014	-	<1	<1	<1	<1	2	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	8	<1
	MW38	4/12/2009	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	32	<5	<5
	MW38	18/03/2010	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	-	<5	<5	<5	<5	<5	<5	<50	25	<5	<5
MW38	MW38	19/01/2011	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	10	<5	<5
	MW38	26/02/2013	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW38	30/01/2014	-	<1	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	7	<1	<1
	MW39	4/12/2009	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	9	179	<5
	MW39	18/03/2010	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	-	<5	<5	<5	<5	<5	<5	<50	9	<5	<5
MW39	MW39	21/01/2011	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW39	27/02/2013	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	6	<5
	MW39	31/01/2014	-	<1	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	5	<1

Appendix A -
Table 2
Groundwater Analytical Results

			TEQ	VOCs																															
			Benzo(a)pyrene TEQ - Calc	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,2,3-trichlorobenzene	1,2,3-trichloropropane	1,2,4-trichlorobenzene	1,2-dibromoethane	1,2-dichlorobenzene	1,2-dichloroethane	1,3,5-trimethylbenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-butanone (MEK)	2-hexanone (MBK)	2-pentanone	4-methyl-2-pentanone (MIBK)	Acetone	Bromodichloromethane	Bromoform	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	cis-1,2-dichloroethene	cis-1,3-dichloropropene
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.5	1	1	1	1	1	1	5	1	5	1	1	1	1	1	1	1	1	5	5	1	1	1	1	1	1	1	1	1	1	5	1	1
ANZECC 2000 FW 95%							**6500**			**10**		**170**		**160**				**260**	**60**																	
ANZECC 2000 Irrigation - Short-term Trigger Values																																			
ANZECC 2000 Stock Watering																																			
NEPM 2013 Table 1C GILs, Drinking Water									**30**	**30**		**30**		**1500**	**3**			**40**									**3**	**300**							
Location Code	**Field ID**	**Sampled Date**																																	
MW40	MW40	25/03/2010	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW40	19/01/2011	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<80	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW40	27/02/2013	<0.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW40	3/02/2014	-	<1	<1	<1	<1	<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1
MW41	MW41	25/03/2010	-	<5	<5	<5	<5	<5	10	<5	<5	<5	-	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW41	19/01/2011	-	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW41	27/02/2013	<0.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW41	3/02/2014	-	<1	<1	<1	<1	2	2	-	<1	-	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1
MW42	MW42	25/03/2010	-	<5	<5	<5	9	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW42	20/01/2011	-	<5	<5	<5	8	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	-	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW42	27/02/2013	<0.5	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	-	<50	<50	<5	<5	<5	<5	<5	<5	<50	<5	<5	<5
	MW42	3/02/2014	-	<1	<1	<1	6	<1	<1	-	<1	-	<1	<1	4	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1

			VOCs																				Halogenated Hydrocarbons		Alkalinity				Alkalinity (as CaCO3)			
			cis-1,4-Dichloro-2-butene	Dibromomethane	Dichloromethane	Ethyl acetate	Hexachlorobutadiene	Iodomethane	MTBE	n-butylbenzene	n-propylbenzene	Pentachloroethane	p-isopropyltoluene	sec-butylbenzene	TCE	tert-butylbenzene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	trans-1,4-Dichloro-2-butene	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride	Bromomethane	Dichlorodifluoromethane	Bicarbonate	Carbonate	Hydroxide	Alkalinity (total)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			5	1	1	5	1	1	5	5	5	5	5	5	1	5	1	1	1	5	1	5	1	1	1	1	1	5	5	1	1	1	1
ANZECC 2000 FW 95%																																	
ANZECC 2000 Irrigation - Short-term Trigger Values																																	
ANZECC 2000 Stock Watering																																	
NEPM 2013 Table 1C GILs, Drinking Water					4		0.7										50						0.3	1									
Location Code	**Field ID**	**Sampled Date**																															
MW3	MW3-1	15/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	336	-	-	-	-
	MW3-2	26/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
	MW3	25/03/2010	<10	<10	101	-	<10	<10	-	<10	<10	<10	<10	<10	14	<10	<10	<10	<10	<10	<10	<100	<100	<100	<100	<100	-	<1	-	-	359	-	<1	359
	MW3	20/01/2011	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	18	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	318	<1	<1	318
	MW3	27/02/2013	<10	<10	<125	-	<10	<10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	<100	<100	<100	<100	<100	-	-	-	-	253	<1	<1	253
MW4	MW4-1	15/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	283	-	-	-	-
	MW4-2	27/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
	MW4	3/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	586	-	<1	586
	MW4	18/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	176	-	<1	176
	MW4	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	523	<1	<1	523
MW5	MW5-1	16/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	<5	-	-	-	-
	MW5-2	27/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
MW6/3	MW6/3-1	17/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	-	-	-	-	-
	MW6/3-2	28/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
MW6/4	MW6/4	7/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<50	<50	<50	<50	-	<1	-	-	233	-	<1	233
	MW6/4	22/03/2010	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	10	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	181	-	<1	181
	MW6/4	24/01/2011	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	13	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	117	<1	<1	117
MW7/3	MW7/3-1	18/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	-	-	-	-	-
	MW7/3-2	28/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
	MW7/3	7/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	182	-	<1	182
	MW7/3	22/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	131	-	<1	131
	MW7/3	21/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	113	<1	<1	113
MW9/2	MW9/2-1	17/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	-	-	-	-	-
MW11/2	MW11/2-1	17/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	-	-	-	-	-
	MW11/2-2	28/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
	MW11/2	4/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	215	-	<1	215
	MW11/2	22/03/2010	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	182	-	<1	182
	MW11/2	21/01/2011	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	144	<1	<1	144
MW12/1	MW12/1-2	26/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
	MW12-1	17/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	-	-	-	-	-
	MW12/1	9/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	59	-	<1	59
	MW12/1	25/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	80	-	<1	80
	MW12/1	21/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	84	<1	<1	84
MW13/2	MW13/2-1	17/07/2008	-	<250	-	<250	<50	-	<250	<250	<250	-	<250	<250	332,000	<250	5290	<250	<250	-	<500	<250	<500	<500	<500	-	-	-	-	-	-	-	-
	MW13/2-2	25/08/2008	-	<5000	-	<5000	<5000	-	<5000	<5000	<5000	-	<5000	<5000	78,800	<5000	<5000	<5000	<5000	-	<50,000	<5000	<50,000	<50,000	<50,000	-	-	-	29	-	-	-	-
	MW13/2	10/12/2009	<5	<5	<110	-	<5	<5	-	<5	<5	<5	<5	<5	7460	<5	247	5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	42	-	<1	42
	MW13/2	24/03/2010	<100	<100	22,900	-	<100	<100	-	<100	<100	<100	<100	<100	791,000	<100	7970	<100	<100	<100	<1000	<1000	<1000	<1000	<1000	-	<1	-	-	46	-	<1	46
	MW13/2	20/01/2011	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	240,000	<5	2880	49	<5	<5	<50	<50	<50	230	<50	-	-	-	-	34	<1	<1	34
MW15/3	MW15/3-1	17/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	6450	<5	193	6	<5	-	<10	<5	<10	<10	<10	-	-	-	-	-	-	-	-
	MW15/3-2	25/08/2008	-	<50	-	<50	<50	-	<50	<50	<50	-	<50	<50	874	<50	<50	<50	<50	-	<500	<50	<500	<500	<500	-	-	-	70	-	-	-	-
	MW15/3	10/12/2009	<100	<100	179,000	-	<100	<100	-	<100	<100	<100	<100	<100	423,000	<100	5220	<100	<100	<100	<1000	<1000	<1000	<1000	<1000	-	<1	-	-	86	-	<1	86
	MW15/3	24/03/2010	<10	<10	195	-	<10	<10	-	<10	<10	<10	<10	<10	15,200	<10	407	<10	<10	<10	<100	<100	<100	<100	<100	-	<1	-	-	82	-	<1	82
	MW15/3	21/01/2011	<5	<5	161	-	<5	<5	-	<5	<5	<5	<5	<5	11,000	<5	229	6	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	73	<1	<1	73
MW16/1	MW16/1-1	18/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	9	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	-	-	-	-	-
	MW16/1-2	27/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	12	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
	MW16/1	11/12/2009	<5	<5	12	-	<5	<5	-	<5	<5	<5	<5	<5	11	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	117	-	<1	117
	MW16/1	23/03/2010	<5	<5	<15	-	<5	<5	-	<5	<5	<5	<5	<5	11	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	111	-	<1	111
	MW16/1	21/01/2011	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	11	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	108	<1	<1	108
MW17/1	MW17/1-1	18/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	-	-	-	-	-
	MW17/1-2	27/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
	MW17/1	11/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	128	-	<1	128
	MW17/1	24/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	116	-	<1	116
	MW17/1	24/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	<1	<1	102
MW17/2	MW17/2-3	14/10/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	152	<5	<5	152	-	-	-	-
MW18	MW18-1	17/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	1130	<5	26	<5	<5	-	<10	<5	20	<10	<10	-	-	-	-	-	-	-	-
	MW18-2	27/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	436	<5	10	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
	MW18	9/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	1320	<5	23	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	-	-	-	-
	MW18	10/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	56	-	<1	56
	MW18	24/03/2010	<10	<10	<50	-	<10	<10	-	<10	<10	<10	<10	<10	3050	<10	41	<10	<10	<10	<10	<100	<100	<100	<100	<100	-	<1	-	-	43	-	<1	43
	MW18	20/01/2011	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	205	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	37	<1	<1	37

			VOCs																					Halogenated Hydrocarbons		Alkalinity				Alkalinity (as CaCO3)			
			cis-1,4-Dichloro-2-butene	Dibromomethane	Dichloromethane	Ethyl acetate	Hexachlorobutadiene	Iodomethane	MTBE	n-butylbenzene	n-propylbenzene	Pentachloroethane	p-isopropyltoluene	sec-butylbenzene	TCE	tert-butylbenzene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	trans-1,4-Dichloro-2-butene	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride	Bromomethane	Dichlorodifluoromethane	Bicarbonate	Carbonate	Hydroxide	Alkalinity (total)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EOL			5	1	1	5	1	1	5	5	5	5	5	5	1	5	1	1	1	5	1	5	1	1	1	1	1	5	5	1	1	1	1
ANZECC 2000 FW 95%																																	
ANZECC 2000 Irrigation - Short-term Trigger Values																																	
ANZECC 2000 Stock Watering																																	
NEPM 2013 Table 1C GILs, Drinking Water					4		0.7										50						0.3	1									
Location Code	**Field ID**	**Sampled Date**																															
MW19	MW19-1	16/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	143,000	<5	506	67	<5	-	<10	<5	440	<10	<10	-	-	-	205	-	-	-	-
	MW19-2	27/08/2008	-	<5000	-	<5000	<5000	-	<5000	<5000	<5000	-	<5000	<5000	21,900	<5000	<5000	<5000	<5000	-	<50,000	<5000	<50,000	<50,000	<50,000	-	-	-	-	-	-	-	-
	MW19	8/12/2009	<20	<20	<20	-	<20	<20	-	<20	<20	<20	<20	<20	4860	<20	28	<20	<20	<20	<200	<200	<200	<200	<200	-	<1	-	-	428	-	<1	428
	MW19	23/03/2010	<10	<10	466	-	<10	<10	-	<10	<10	<10	<10	<10	33,600	<10	83	<10	<10	<10	<100	<100	<100	<100	<100	-	<1	-	-	375	-	<1	375
	MW19	19/01/2011	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	3250	<5	27	25	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	435	<1	<1	435
MW20	MW20-1	16/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	286	-	-	-	-
	MW20-2	25/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	280	-	-	-	-
	MW20	3/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	359	-	<1	359
	MW20	16/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	334	-	<1	334
	MW20	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	316	<1	<1	316
	MW20	26/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	334	<1	<1	334
	MW20	31/01/2014	-	<1	<1	-	-	<1	-	-	-	-	-	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	-	-	-	350	<10	<10	350
MW21	MW21-1	15/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	250	<5	20	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	153	-	-	-	-
	MW21-2	26/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	71	<5	6	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
	MW21	7/12/2009	<5	<5	12	-	<5	<5	-	<5	<5	<5	<5	<5	585	<5	36	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	146	-	<1	146
	MW21	24/03/2010	<5	<5	22	-	<5	<5	-	<5	<5	<5	<5	<5	679	<5	39	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	134	-	<1	134
	MW21	19/01/2011	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	518	<5	26	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	123	<1	<1	123
	MW21	26/02/2013	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	255	<5	23	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	158	<1	<1	158
	MW21	31/01/2014	-	<4	<4	-	-	<4	-	-	-	-	-	-	220	-	15	<4	<4	-	<4	-	<4	18	<4	-	-	-	-	160	<10	<10	160
MW22	MW22-1	16/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	64	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	44	-	-	-	-
	MW22-2	26/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	8	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
	MW22	9/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	72	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	77	-	<1	77
	MW22	22/03/2010	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	94	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	70	-	<1	70
	MW22	18/01/2011	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	81	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	46	<1	<1	46
	MW22	28/02/2013	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	56	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	27	<1	<1	27
	MW22	30/01/2014	-	<1	<1	-	-	<1	-	-	-	-	-	-	82	-	2	<1	<1	-	<1	-	<1	<1	<1	-	-	-	-	150	<10	<10	150
MW23	MW23-1	17/07/2008	-	<5	-	<5	<1	-	<5	<5	8	-	<5	<5	<5	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	-	-	-	-	-
	MW23-2	27/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
	MW23	9/12/2009	<5	<5	<5	-	<5	<5	-	<5	7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	201	-	<1	201
	MW23	24/03/2010	<5	<5	<5	-	<5	<5	-	<5	12	<5	<5	<5	42	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	187	-	<1	187
	MW23	19/01/2011	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	180	<1	<1	180
	MW23	27/02/2013	<5	<5	<10	-	<5	<5	-	<5	8	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	180	<1	<1	180
	MW23	31/01/2014	-	<1	<1	-	-	<1	-	-	-	-	-	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	-	-	-	170	<10	<10	170
MW24A	MW24A-2	27/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	203	<5	5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
	MW24A-3	14/10/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	2200	<5	103	<5	<5	-	<50	<5	<50	<50	<50	125	<5	<5	125	-	-	-	-
	MW24A	10/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	3040	<5	201	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	166	-	<1	166
	MW24A	23/03/2010	<10	<10	<150	-	<10	<10	-	<10	<10	<10	<10	<10	4830	<10	327	<10	<10	<10	<100	<100	<100	<100	<100	-	<1	-	-	150	-	<1	150
	MW24A	18/01/2011	<5	<5	<10	-	<5	<5	-	<5	<5	<5	<5	<5	7510	<5	724	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	146	<1	<1	146
	MW24A	28/02/2013	<10	<10	<10	-	<10	<10	-	<10	<10	<10	<10	<10	3240	<10	235	<10	<10	<10	<100	<100	<100	<100	<100	-	-	-	-	160	<1	<1	160
	MW24A	29/01/2014	-	<80	<80	-	-	<80	-	-	-	-	-	-	6300	-	470	<80	<80	-	<80	-	<80	<80	<80	-	-	-	-	140	<10	<10	140
MW24B	MW24B-2	27/08/2008	-	<5000	-	<5000	<5000	-	<5000	<5000	<5000	-	<5000	<5000	84,800	<5000	<5000	<5000	<5000	-	<50,000	<5000	<50,000	<50,000	<50,000	-	-	-	-	-	-	-	-
	MW24B-3	14/10/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	97,300	<5	899	<100	<5	-	<50	<5	<50	<50	<50	56	<5	<5	56	-	-	-	-
	MW24B	10/12/2009	<5	<5	2600	-	<5	<5	-	<5	<5	<5	<5	<5	73,800	<5	631	20	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	173	-	<1	173
	MW24B	24/03/2010	<100	<100	5940	-	<100	<100	-	<100	<100	<100	<100	<100	142,000	<100	1400	<100	<100	<100	<1000	<1000	<1000	<1000	<1000	-	<1	-	-	142	-	<1	142
	MW24B	18/01/2011	<100	<100	2760	-	<100	<100	-	<100	<100	<100	<100	<100	42,500	<100	1580	<100	<100	<100	<1000	<1000	<1000	<1000	<1000	-	-	-	-	165	<1	<1	165
	MW24B	28/02/2013	<100	<100	<100	-	<100	<100	-	<100	<100	<100	<100	<100	47,200	<100	704	<100	<100	<100	<1000	<1000	<1000	<1000	<1000	-	-	-	-	282	<1	<1	282
	MW24B	29/01/2014	-	<500	<500	-	-	<500	-	-	-	-	-	-	40,000	-	620	<500	<500	-	<500	-	<500	<500	<500	-	-	-	-	310	<10	<10	310
MW24C	MW24C-2	27/08/2008	-	<5000	-	<5000	<5000	-	<5000	<5000	<5000	-	<5000	<5000	48,000	<5000	<5000	<5000	<5000	-	<50,000	<5000	<50,000	<50,000	<50,000	-	-	-	-	-	-	-	-
	MW24C-3	13/10/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	184	-	-	184
	MW24C	10/12/2009	<100	<100	6320	-	<100	<100	-	<100	<100	<100	<100	<100	124,000	<100	5740	<100	<100	<100	<1000	<1000	<1000	<1000	<1000	-	-	-	-	-	-	-	-
	MW24C	11/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	319	-	<1	319
	MW24C	25/03/2010	<100	<100	6030	-	<100	<100	-	<100	<100	<100	<100	<100	132,000	<100	3790	<100	<100	<100	<1000	<1000	<1000	<1000	<1000	-	-	-	-	-	-	-	-
	MW24C	28/02/2013	<100	<100	<100	-	<100	<100	-	<100	<100	<100	<100	<100	28,600	<100	4080	<100	<100	<100	<1000	<1000	<1000	<1000	<1000	-	-	-	-	408	<1	<1	408
	MW24C	3/02/2014	-	<1000	1100	-	-	<1000	-	-	-	-	-	-	50,000	-	2100	<1000	<1000	-	<1000	-	<1000	<1000	<1000	-	-	-	-	320	<10	<10	320
MW25	MW25-2	25/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	139	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	80	-	-	-	-
	MW25-3	13/10/2008	-	<5	<10	-	<5	-	-	<5	<5	<5	<5	<5	180	<5	<5	<5	<5	-	<5	-	<5	<5	<5	-	-	-	-	96	-	-	96
	MW25	9/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	54	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	82	-	<1	82
	MW25	22/03/2010	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	795	<5	10	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	81	-	<1	81
	MW25	18/01/2011	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	348	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	80	<1	<1	80
	MW25	1/03/2013	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	10	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	62	<1	<1	62
	MW25	29/01/2014	-	<1	<1	-	-	<1	-	-	-	-	-	-	12	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	-	-	-	80	<10	<10	79
MW26	MW26-3	13/10/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	155	-	-	155
	MW26	8/12/2009	<50	<50	582	-	<50	<50	-	<50	<50	<50	<50	<50	78,400	<50	1360	<50	<50	<50	<500	<500	<500	<500	<500	-	<1	-	-	150	-	<1	150
	MW26	17/03/2010	<100	<100	1000	-	<100	<100	-	<100	<100	<100	<100	<100	94,500	<100	1690	<100	<100	<100	<1000	<1000	<1000	<1000	<1000	-	<1	-	-	127	-	<1	127
	MW26	18/01/2011	<100	<100	1850	-	<100	<100	-	<100	<100	<100	<100	<100	278,000	<100	2590	<100	<100	<100	<1000	<1000	<1000	<1000	<1000	-	-	-	-	117	<1	<1	117
	MW26	1/03/2013	<100	<100	5290	-	<100	<100	-	<100	<100	<100	<100	<100	143,000	<100	1540	<100	<100	<100	<1000	<1000	<1000	<1000	<1000	-	-	-	-	107	<1	<1	107
	MW26	29/01/2014	-	<2000	6500	-	-	<2000	-	-	-	-	-	-	110,000	-	<2000	<2000	<2000	-	<2000	-	<2000	<2000	<2000	-	-	-	-	120	<10	<10	120
MW27	MW27-1	15/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	70	-	-	-	-
	MW27-2	25/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	70	-	-	-	-
	MW27	3/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	99	-	<1	99
	MW27	16/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	78	-	<1	78
	MW27	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	<1	<1	76
	MW27	25/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	<1	<1	49
	MW27	31/01/2014	-	<1	<1	-	-	<1	-	-	-	-	-	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	-	-	-	42	<10	<10	42

			VOCs																				Halogenated Hydrocarbons		Alkalinity				Alkalinity (as CaCO3)			
			cis-1,4-Dichloro-2-butene	Dibromomethane	Dichloromethane	Ethyl acetate	Hexachlorobutadiene	Iodomethane	MTBE	n-butylbenzene	n-propylbenzene	Pentachloroethane	p-isopropyltoluene	sec-butylbenzene	TCE	tert-butylbenzene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	trans-1,4-Dichloro-2-butene	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride	Bromomethane	Dichlorodifluoromethane	Bicarbonate	Carbonate	Hydroxide	Alkalinity (total)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			5	1	1	5	1	1	5	5	5	5	5	5	1	5	1	1	1	5	1	5	1	1	1	1	1	5	5	1	1	1	1
ANZECC 2000 FW 95%																																	
ANZECC 2000 Irrigation - Short-term Trigger Values																																	
ANZECC 2000 Stock Watering																																	
NEPM 2013 Table 1C GILs, Drinking Water					4		0.7										50						0.3	1									
Location Code	**Field ID**	**Sampled Date**																															
MW28	MW28-1	15/07/2008	-	<5	-	<5	<1	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	-	<10	<5	<10	<10	<10	-	-	-	51	-	-	-	-
	MW28-2	26/08/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	-	-	-	-	-	-	-	-
	MW28	3/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	40	-	<1	40
	MW28	16/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	35	-	<1	35
	MW28	20/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	<1	<1	42
	MW28	25/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	<1	<1	58
	MW28	31/01/2014	-	<1	<1	-	-	<1	-	-	-	-	-	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	-	-	-	72	<10	<10	72
MW29	MW29-3	20/10/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	104	<5	<5	-	-	-	-	-
	MW29	19/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69	<1	<1	69
MW30	MW30-3	14/10/2008	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	-	<50	<5	<50	<50	<50	250	<5	<5	250	-	-	-	-
	MW30	9/12/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	250	-	<1	250
	MW30	22/03/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	198	-	<1	198
	MW30	19/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	175	<1	<1	175
	MW30	26/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	191	<1	<1	191
	MW30	31/01/2014	-	<1	<1	-	-	<1	-	-	-	-	-	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	-	-	-	200	<10	<10	200
MW31	MW31	7/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	2780	<5	14	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	108	-	<1	108
	MW31	22/03/2010	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	3380	<5	25	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	67	-	<1	67
	MW31	18/01/2011	<5	<5	<10	-	<5	<5	-	<5	<5	<5	<5	<5	3530	<5	16	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	69	<1	<1	69
	MW31	26/02/2013	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	446	<5	44	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	54	<1	<1	54
	MW31	29/01/2014	-	<4	<4	-	-	<4	-	-	-	-	-	-	450	-	54	<4	<4	<4	<4	-	<4	<4	<4	-	-	-	-	60	<10	<10	60
MW32	MW32	8/12/2009	<5	<5	74	-	<5	<5	-	<5	<5	<5	<5	<5	323	<5	55	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	56	-	<1	56
	MW32	19/03/2010	<5	<5	38	-	<5	<5	-	<5	<5	<5	<5	<5	418	<5	81	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	49	-	<1	49
	MW32	18/01/2011	<5	<5	24	-	<5	<5	-	<5	<5	<5	<5	<5	732	<5	53	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	54	<1	<1	54
	MW32	28/02/2013	<5	<5	<11	-	<5	<5	-	<5	<5	<5	<5	<5	538	<5	55	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	47	<1	<1	47
	MW32	29/01/2014	-	<4	7	-	-	<4	-	-	-	-	-	-	340	-	25	<4	<4	-	<4	-	<4	<4	<4	-	-	-	-	51	<10	<10	51
MW33	MW33	23/03/2010	<5	<5	<15	-	<5	<5	-	<5	<5	<5	<5	<5	23	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	117	-	<1	117
	MW33	19/01/2011	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	31	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	111	<1	<1	111
	MW33	26/02/2013	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	40	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	122	<1	<1	122
MW34A	MW34A	7/12/2009	<5	<5	95	-	<5	<5	-	<5	<5	<5	<5	<5	6740	<5	69	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	88	-	<1	88
	MW34A	17/03/2010	<100	<100	<400	-	<100	<100	-	<100	<100	<100	<100	<100	11,500	<100	111	<100	<100	<100	<1000	<1000	<1000	<1000	<1000	-	<1	-	-	34	-	<1	34
	MW34A	18/01/2011	<5	<5	61	-	<5	<5	-	<5	<5	<5	<5	<5	9180	<5	64	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	27	<1	<1	27
	MW34A	28/02/2013	<10	<10	<10	-	<10	<10	-	<10	<10	<10	<10	<10	8960	<10	72	<10	<10	<10	<100	<100	<100	<100	<100	-	-	-	-	34	<1	<1	34
	MW34A	30/01/2014	-	<100	110	-	-	<100	-	-	-	-	-	-	13,000	-	<100	<100	<100	-	<100	-	<100	<100	<100	-	-	-	-	69	<10	<10	69
MW34B	MW34B	8/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	998	<5	13	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	120	-	<1	120
	MW34B	17/03/2010	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	270	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	105	-	<1	105
	MW34B	18/01/2011	<5	<5	<10	-	<5	<5	-	<5	<5	<5	<5	<5	167	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	105	<1	<1	105
	MW34B	28/02/2013	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	429	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	102	<1	<1	102
	MW34B	30/01/2014	-	<8	<8	-	-	<8	-	-	-	-	-	-	690	-	<8	<8	<8	-	<8	-	<8	<8	<8	-	-	-	-	110	<10	<10	110
MW35	MW35	11/12/2009	<5	<5	<10	-	<5	<5	-	<5	<5	<5	<5	<5	945	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	117	-	<1	117
	MW35	17/03/2010	<10	<10	<35	-	<10	<10	-	<10	<10	<10	<10	<10	1140	<10	<10	<10	<10	<10	<100	<100	<100	<100	<100	-	<1	-	-	110	-	<1	110
	MW35	18/01/2011	<5	<5	<15	-	<5	<5	-	<5	<5	<5	<5	<5	3640	<5	10	5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	109	<1	<1	109
	MW35	27/02/2013	<10	<10	<100	-	<10	<10	-	<10	<10	<10	<10	<10	4470	<10	13	<10	<10	<10	<100	<100	<100	<100	<100	-	-	-	-	112	<1	<1	112
	MW35	30/01/2014	-	<100	<100	-	-	<100	-	-	-	-	-	-	8200	-	<100	<100	<100	-	<100	-	<100	<100	<100	-	-	-	-	130	<10	<10	130
MW36	MW36	7/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	192	-	<1	192
	MW36	18/03/2010	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	173	-	<1	173
	MW36	19/01/2011	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	132	<1	<1	132
	MW36	25/02/2013	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	118	<1	<1	118
	MW36	31/01/2014	-	<1	<1	-	-	<1	-	-	-	-	-	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	-	-	-	120	<10	<10	120
MW37	MW37	4/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	9	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	194	-	<1	194
	MW37	18/03/2010	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	8	<5	9	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	139	-	<1	139
	MW37	19/01/2011	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	6	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	133	<1	<1	133
	MW37	25/02/2013	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	8	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	147	<1	<1	147
	MW37	30/01/2014	-	<1	<1	-	-	<1	-	-	-	-	-	-	5	-	22	<1	<1	-	<1	-	<1	<1	<1	-	-	-	-	170	<10	<10	170
MW38	MW38	4/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	13	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	164	-	<1	164
	MW38	18/03/2010	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	10	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	143	-	<1	143
	MW38	19/01/2011	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	138	<1	<1	138
	MW38	26/02/2013	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	172	<1	<1	172
	MW38	30/01/2014	-	<1	<1	-	-	<1	-	-	-	-	-	-	3	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	-	-	-	170	<10	<10	170
MW39	MW39	4/12/2009	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	2020	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	119	-	<1	119
	MW39	18/03/2010	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	19	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	75	-	<1	75
	MW39	21/01/2011	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	9	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	55	<1	<1	55
	MW39	27/02/2013	<5	<5	<15	-	<5	<5	-	<5	<5	<5	<5	<5	7	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	131	<1	<1	131
	MW39	31/01/2014	-	<1	<1	-	-	<1	-	-	-	-	-	-	7	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	-	-	-	110	<10	<10	110

Appendix A -
Table 2
Groundwater Analytical Results

			VOCs																					Halogenated Hydrocarbons		Alkalinity				Alkalinity (as CaCO3)			
			cis-1,4-Dichloro-2-butene	Dibromomethane	Dichloromethane	Ethyl acetate	Hexachlorobutadiene	Iodomethane	MTBE	n-butylbenzene	n-propylbenzene	Pentachloroethane	p-isopropyltoluene	sec-butylbenzene	TCE	tert-butylbenzene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	trans-1,4-Dichloro-2-butene	Trichlorofluoromethane	Vinyl acetate	Vinyl chloride	Bromomethane	Dichlorodifluoromethane	Bicarbonate	Carbonate	Hydroxide	Alkalinity (total)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			5	1	1	5	1	1	5	5	5	5	5	5	1	5	1	1	1	5	1	5	1	1	1	1	1	5	5	1	1	1	1
ANZECC 2000 FW 95%																																	
ANZECC 2000 Irrigation - Short-term Trigger Values																																	
ANZECC 2000 Stock Watering																																	
NEPM 2013 Table 1C GILs, Drinking Water					4		0.7										50						0.3	1									
Location Code	**Field ID**	**Sampled Date**																															
MW40	MW40	25/03/2010	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	37	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	130	-	<1	130
	MW40	19/01/2011	<5	<5	31	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	106	<1	<1	106
	MW40	27/02/2013	<5	<5	<10	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	132	<1	<1	132
	MW40	3/02/2014	-	<1	<1	-	-	<1	-	-	-	-	-	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	-	-	-	120	<10	<10	120
MW41	MW41	25/03/2010	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	12	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	102	-	<1	102
	MW41	19/01/2011	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	94	<1	<1	94
	MW41	27/02/2013	<5	<5	<15	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	113	<1	<1	113
	MW41	3/02/2014	-	<1	<1	-	-	<1	-	-	-	-	-	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	-	-	-	110	<10	<10	110
MW42	MW42	25/03/2010	<5	<5	<5	-	<5	<5	-	<5	<5	<5	<5	<5	8	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	<1	-	-	96	-	<1	96
	MW42	20/01/2011	<5	<5	-	-	<5	<5	-	<5	<5	<5	<5	<5	24	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	100	<1	<1	100
	MW42	27/02/2013	<5	<5	<10	-	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<50	<50	<50	<50	-	-	-	-	107	<1	<1	107
	MW42	3/02/2014	-	<1	<1	-	-	<1	-	-	-	-	-	-	<1	-	<1	<1	<1	-	<1	-	<1	<1	<1	-	-	-	-	110	<10	<10	110

Appendix A -
Table 2
Groundwater Analytical Results

			Chlorinated Hydrocarbons										Major Ions						Anion-Cation Balance			Organics		
			1,1-dichloropropene	1,2-dibromo-3-chloropropane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Bromochloromethane	Chloromethane	Fluoride	Calcium	Chloride	Magnesium	Potassium	Sodium	Anions Total	Cations Total	Ionic Balance	Methane	Ethane	Ethene
			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	meq/L	meq/L	%	µg/L	µg/L	µg/L
EQL			5	5	1	1	5	5	1	1	1	1	0.1	0.1	1	0.1	0.1	0.1	0.01	0.01	0.01	10	10	10
ANZECC 2000 FW 95%																								
ANZECC 2000 Irrigation - Short-term Trigger Values													**2**											
ANZECC 2000 Stock Watering													**2**	**1000**										
NEPM 2013 Table 1C GILs, Drinking Water													**1.5**											
Location Code	**Field ID**	**Sampled Date**																						
MW3	MW3-1	15/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	0.3	172	3690	244	1	2130	-	-	-	-	-	-
	MW3-2	26/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	1	165	5030	322	1.1	2400	-	-	-	-	-	-
	MW3	25/03/2010	<10	<10	<10	<10	<10	<10	<10	<10	-	<100	0.3	113	3430	281	1	2200	115	124	3.9	<10	<10	<10
	MW3	20/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.3	49	1940	93	<1	1450	67.4	73.3	4.2	<10	<10	<10
	MW3	27/02/2013	<10	<10	<10	<10	<10	<10	<10	<10	-	<100	0.2	26	1070	55	<1	748	39.6	38.4	1.55	<10	-	-
MW4	MW4-1	15/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	0.3	7.3	127	12	1.8	217	-	-	-	-	-	-
	MW4-2	27/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.4	8.7	112	15.6	2.2	226	-	-	-	-	-	-
	MW4	3/12/2009	-	-	-	-	-	-	-	-	-	-	0.6	9	84	26	3	267	15.2	14.3	2.96	<10	-	-
	MW4	18/03/2010	-	-	-	-	-	-	-	-	-	-	0.4	9	23	6	6	74	4.63	4.36	3	<10	<10	<10
	MW4	20/01/2011	-	-	-	-	-	-	-	-	-	-	0.6	14	64	31	11	272	14.1	15.4	4.26	<10	<10	<10
MW5	MW5-1	16/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	0.3	6.6	1480	72.6	0.4	1030	-	-	-	-	-	-
	MW5-2	27/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.3	6.6	2120	84.8	0.4	1130	-	-	-	-	-	-
MW6/3	MW6/3-1	17/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	0.3	2.5	172	5.9	0.3	254	-	-	-	-	-	-
	MW6/3-2	28/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.4	2.2	183	5.5	0.3	272	-	-	-	-	-	-
MW6/4	MW6/4	7/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	2	295	5	<1	290	13.5	13.1	1.37	<10	-	-
	MW6/4	22/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	2	200	5	1	241	10.9	11	0.26	<10	<10	<10
	MW6/4	24/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	4	106	3	6	205	-	-	-	<10	-	-
MW7/3	MW7/3-1	18/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	<0.1	6.4	545	26.3	0.9	464	-	-	-	-	-	-
	MW7/3-2	28/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	27.7	418	24	1.3	366	-	-	-	-	-	-
	MW7/3	7/12/2009	-	-	-	-	-	-	-	-	-	-	0.1	15	350	12	<1	318	15.6	15.6	0.08	<10	-	-
	MW7/3	22/03/2010	-	-	-	-	-	-	-	-	-	-	0.1	14	246	16	2	280	12.9	14.2	4.8	<10	<10	<10
	MW7/3	21/01/2011	-	-	-	-	-	-	-	-	-	-	0.3	9	457	17	1	418	20.4	20	0.85	<10	-	-
MW9/2	MW9/2-1	17/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	0.8	1.8	39	2.5	2.9	165	-	-	-	-	-	-
MW11/2	MW11/2-1	17/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	0.1	109	801	49.8	3.1	480	-	-	-	-	-	-
	MW11/2-2	28/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	109	1020	49.8	3.2	523	-	-	-	-	-	-
	MW11/2	4/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	92	835	43	3	455	29.7	28	2.84	<10	-	-
	MW11/2	22/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	97	709	42	4	400	24.2	25.8	3.2	<10	<10	<10
	MW11/2	21/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.3	65	524	23	4	290	18.9	17.9	2.82	<10	-	-
MW12/1	MW12/1-2	26/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	10.4	21	6.6	7.6	43.8	-	-	-	-	-	-
	MW12-1	17/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	<0.1	12	23	8.3	8	48.1	-	-	-	-	-	-
	MW12/1	9/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	9	23	6	6	35	2.61	2.63	0.24	<10	-	-
	MW12/1	25/03/2010	-	-	-	-	-	-	-	-	-	-	0.2	10	22	7	8	38	2.66	2.92	4.8	<10	<10	<10
	MW12/1	21/01/2011	-	-	-	-	-	-	-	-	-	-	0.1	9	53	7	9	59	3.63	3.8	2.26	<10	-	-
MW13/2	MW13/2-1	17/07/2008	<250	<250	<250	<250	<250	<250	<250	<250	-	<500	<0.1	8.3	713	80.2	0.6	745	-	-	-	-	-	-
	MW13/2-2	25/08/2008	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	-	<50,000	0.3	6.6	676	72.4	0.4	717	-	-	-	-	-	-
	MW13/2	10/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	6	554	55	<1	550	28.8	28.8	0.19	<10	-	-
	MW13/2	24/03/2010	<100	<100	<100	<100	<100	<100	<100	<100	-	<1000	<0.1	6	469	53	<1	533	28.2	27.8	0.57	<10	<10	<10
	MW13/2	20/01/2011	<5	<5	<5	11	<5	<5	<5	<5	-	<50	<0.1	8	656	64	<1	770	39.4	39.2	0.27	<10	<10	<10
MW15/3	MW15/3-1	17/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	<0.1	4.6	505	27.6	0.7	520	-	-	-	-	-	-
	MW15/3-2	25/08/2008	<50	<50	<50	<50	<50	<50	<50	<50	-	<500	<0.1	3.3	494	23.2	0.6	488	-	-	-	-	-	-
	MW15/3	10/12/2009	<100	<100	<100	<100	<100	<100	<100	<100	-	<1000	<0.1	3	485	23	<1	491	22.6	23.4	1.76	<10	-	-
	MW15/3	24/03/2010	<10	<10	<10	<10	<10	<10	<10	<10	-	<100	<0.1	3	446	25	<1	507	23.1	24.2	2.32	<10	<10	<10
	MW15/3	21/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	3	560	27	<1	572	27.6	27.3	0.69	<10	-	-
MW16/1	MW16/1-1	18/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	<0.1	9.8	713	35.8	1.2	655	-	-	-	-	-	-
	MW16/1-2	27/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	8.4	949	33.6	1.3	663	-	-	-	-	-	-
	MW16/1	11/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	9	713	33	2	588	28.9	28.8	0.19	<10	-	-
	MW16/1	23/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	10	742	34	2	648	29.1	31.5	3.99	<10	<10	<10
	MW16/1	21/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	10	793	33	<1	710	36.3	34.1	3.16	<10	-	-
MW17/1	MW17/1-1	18/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	0.2	3.9	190	14.1	0.4	230	-	-	-	-	-	-
	MW17/1-2	27/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	3.2	211	13.3	0.5	244	-	-	-	-	-	-
	MW17/1	11/12/2009	-	-	-	-	-	-	-	-	-	-	0.3	4	177	12	<1	220	11.2	10.7	2.41	27	-	-
	MW17/1	24/03/2010	-	-	-	-	-	-	-	-	-	-	0.3	3	167	12	<1	211	10.2	10.3	0.39	28	<10	<10
	MW17/1	24/01/2011	-	-	-	-	-	-	-	-	-	-	0.1	4	187	13	<1	302	-	-	-	39	-	-
MW17/2	MW17/2-3	14/10/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	-	5.3	154	10.4	0.3	212	10.3	10.6	-	-	-	-
MW18	MW18-1	17/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	-	-	-	-	-	-	-	-	-	-	-	-
	MW18-2	27/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	5	11	3	1.5	26.5	-	-	-	-	-	-
	MW18	9/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	-	-	-	-	-	-	-	-	-	<10	-	-
	MW18	10/12/2009	-	-	-	-	-	-	-	-	-	-	<0.1	5	20	8	1	36	2.95	2.67	4.99	-	-	-
	MW18	24/03/2010	<10	<10	<10	<10	<10	<10	<10	<10	-	<100	0.1	2	3	3	1	33	1.95	1.82	3.68	<10	<10	<10
	MW18	20/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	7	7	1	2	34	1.86	2	3.51	98	<10	<10

Appendix A - Table 2 Groundwater Analytical Results

			Chlorinated Hydrocarbons										Major Ions						Anion-Cation Balance			Organics		
			1,1-dichloropropene	1,2-dibromo-3-chloropropane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Bromochloromethane	Chloromethane	Fluoride	Calcium	Chloride	Magnesium	Potassium	Sodium	Anions Total	Cations Total	Ionic Balance	Methane	Ethane	Ethene
			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	meq/L	meq/L	%	µg/L	µg/L	µg/L
EQL			5	5	1	1	5	5	1	1	1	1	0.1	0.1	1	0.1	0.1	0.1	0.01	0.01	0.01	10	10	10
ANZECC 2000 FW 95%																								
ANZECC 2000 Irrigation - Short-term Trigger Values													2											
ANZECC 2000 Stock Watering													2	1000										
NEPM 2013 Table 1C GILs, Drinking Water													1.5											
Location Code	Field ID	Sampled Date																						
MW19	MW19-1	16/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	0.3	37.7	278	42.4	10.7	298	-	-	-	-	-	-
	MW19-2	27/08/2008	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	-	<50,000	0.3	63.2	338	36.7	17.1	265	-	-	-	-	-	-
	MW19	8/12/2009	<20	<20	<20	<20	<20	<20	<20	<20	-	<200	0.3	109	200	40	20	250	17.9	20.1	5.89	29	-	-
	MW19	23/03/2010	<10	<10	<10	<10	<10	<10	<10	<10	-	<100	0.3	82	300	46	13	298	20.6	21.2	1.46	<10	<10	<10
	MW19	19/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	94	150	33	14	169	16.4	15.1	3.95	<10	-	-
MW20	MW20-1	16/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	1.1	1.8	47	6.4	0.2	315	-	-	-	-	-	-
	MW20-2	25/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	1	1.8	45	6.4	0.2	305	-	-	-	-	-	-
	MW20	3/12/2009	-	-	-	-	-	-	-	-	-	-	1.3	1	51	6	<1	302	13.4	13.7	0.9	<10	-	-
	MW20	16/03/2010	-	-	-	-	-	-	-	-	-	-	1.3	1	49	6	<1	310	13.4	14	2.36	<10	<10	<10
	MW20	20/01/2011	-	-	-	-	-	-	-	-	-	-	0.8	<1	44	5	<1	373	15.2	16.6	4.65	<10	<10	<10
	MW20	26/02/2013	-	-	-	-	-	-	-	-	-	-	1.5	<1	28	4	<1	258	11.4	11.6	0.52	<10	-	-
	MW20	31/01/2014	-	-	<1	<1	-	-	<1	<1	<1	<1	1.1	2.2	31	5.9	<0.5	230	-	-	-	<50	-	-
MW21	MW21-1	15/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	0.2	3	496	31.7	1.3	496	-	-	-	-	-	-
	MW21-2	26/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.3	2.5	698	35.4	0.3	538	-	-	-	-	-	-
	MW21	7/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.3	2	1100	37	<1	729	37.2	34.9	3.13	<10	-	-
	MW21	24/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.3	3	629	35	1	515	25.5	25.4	0.14	<10	<10	<10
	MW21	19/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	<1	600	26	<1	418	22.2	20.4	4.32	<10	-	-
	MW21	26/02/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.4	2	482	21	<1	396	20.3	19	3.18	<10	-	-
	MW21	31/01/2014	-	-	<4	<4	-	-	<4	<4	<4	<4	<0.5	2.2	420	21	<0.5	340	-	-	-	<50	-	-
MW22	MW22-1	16/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	<0.1	12.9	1030	40.6	4.8	789	-	-	-	-	-	-
	MW22-2	26/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	14.1	1420	47.4	2.5	888	-	-	-	-	-	-
	MW22	9/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	5	1380	52	<1	1000	44.5	48.1	3.86	<10	-	-
	MW22	22/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	6	1450	56	<1	1100	50	52.7	2.7	<10	<10	<10
	MW22	18/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	6	1280	48	<1	992	43	47.4	4.79	<10	-	-
	MW22	28/02/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	4	697	23	<1	491	23.6	23.5	0.17	<10	-	-
	MW22	30/01/2014	-	-	<1	<1	-	-	<1	<1	<1	<1	<0.5	5.4	1200	53	1.4	1000	-	-	-	<50	-	-
MW23	MW23-1	17/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	0.5	1.5	96	6.8	0.1	198	-	-	-	-	-	-
	MW23-2	27/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.5	1.5	109	6.7	0.1	211	-	-	-	-	-	-
	MW23	9/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	1.3	1	152	6	<1	200	8.5	9.31	4.21	51	-	-
	MW23	24/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.7	1	99	7	<1	199	9.31	9.27	0.26	69	<10	<10
	MW23	19/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.6	<1	66	6	<1	173	8.95	8	5.64	<10	-	-
	MW23	27/02/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	1	2	86	6	<1	176	8.52	8.25	1.67	34	-	-
	MW23	31/01/2014	-	-	<1	<1	-	-	<1	<1	<1	<1	0.5	1.9	92	7.4	<0.5	170	-	-	-	<50	-	-
MW24A	MW24A-2	27/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	186	2300	93.7	6.4	970	-	-	-	-	-	-
	MW24A-3	14/10/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	-	224	2040	94.3	5.9	1020	63.5	63.2			-	-
	MW24A	10/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	188	1900	87	4	894	60.4	55.6	4.19	<10	-	-
	MW24A	23/03/2010	<10	<10	<10	<10	<10	<10	<10	<10	-	<100	<0.1	176	1740	94	5	916	55.6	56.5	0.79	<10	<10	<10
	MW24A	18/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	157	1650	78	4	981	52.5	57.1	4.14	<10	-	-
	MW24A	28/02/2013	<10	<10	<10	<10	<10	<10	<10	<10	-	<100	0.4	179	1670	81	4	906	54.1	55.1	0.89	<10	-	-
	MW24A	29/01/2014	-	-	<80	<80	-	-	<80	<80	<80	<80	<0.5	120	1500	81	3.3	860	-	-	-	<50	-	-
MW24B	MW24B-2	27/08/2008	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	-	<50,000	0.5	10.6	632	24.1	1.5	523	-	-	-	-	-	-
	MW24B-3	14/10/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	-	14.5	636	23.8	1.6	551	27.2	26.7			-	-
	MW24B	10/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	15	807	35	<1	676	33.7	33	1.01	<10	-	-
	MW24B	24/03/2010	<100	<100	<100	<100	<100	<100	<100	<100	-	<1000	<0.1	12	888	44	<1	779	37.7	38.2	0.57	<10	<10	<10
	MW24B	18/01/2011	<100	<100	<100	<100	<100	<100	<100	<100	-	<1000	<0.1	11	904	37	<1	834	42	39.9	2.6	<10	-	-
	MW24B	28/02/2013	<100	<100	<100	<100	<100	<100	<100	<100	-	<1000	0.2	7	805	30	<1	647	34.5	31.9	3.95	<10	-	-
	MW24B	29/01/2014	-	-	<500	<500	-	-	<500	<500	<500	<500	<0.5	<5	810	25	<5	540	-	-	-	<50	-	-
MW24C	MW24C-2	27/08/2008	<5000	<5000	<5000	<5000	<5000	<5000	<5000	<5000	-	<50,000	0.2	21.5	321	12.3	1.4	259	-	-	-	-	-	-
	MW24C-3	13/10/2008	-	-	-	-	-	-	-	-	-	-	-	6.03	470	18.1	2.11	469	21	23	-	3	-	-
	MW24C	10/12/2009	<100	<100	<100	<100	<100	<100	<100	<100	-	<1000	-	-	-	-	-	-	-	-	-	<10	-	-
	MW24C	11/12/2009	-	-	-	-	-	-	-	-	-	-	-	2	694	34	<1	698	32.1	33.2	1.74	-	-	-
	MW24C	25/03/2010	<100	<100	<100	<100	<100	<100	<100	<100	-	<1000	-	-	-	-	-	-	-	-	-	-	-	-
	MW24C	28/02/2013	<100	<100	<100	<100	<100	<100	<100	<100	-	<1000	0.3	20	731	40	1	692	38	36.9	1.54	<10	-	-
	MW24C	3/02/2014	-	-	<1000	<1000	-	-	<1000	<1000	<1000	<1000	0.4	28	660	47	2.4	720	-	-	-	<50	-	-
MW25	MW25-2	25/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	5.2	395	15.5	0.5	342	-	-	-	-	-	-
	MW25-3	13/10/2008	<5	<5	<5	<5	<30	<5	<5	<5	<5	<5	-	3.57	200	11.2	1.1	250	11	12	-	2	-	-
	MW25	9/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	3	314	9	<1	251	10.9	11.8	3.9	<10	-	-
	MW25	22/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	4	351	12	<1	306	14.5	14.5	0.1	<10	<10	<10
	MW25	18/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	4	340	11	<1	317	15.1	14.9	0.73	<10	-	-
	MW25	1/03/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	2	254	8	<1	229	11.5	10.7	3.39	<10	-	-
	MW25	29/01/2014	-	-	<1	<1	-	-	<1	<1	<1	<1	<0.5	2.6	250	9.3	<0.5	230	-	-	-	<50	-	-
MW26	MW26-3	13/10/2008	-	-	-	-	-	-	-	-	-	-	-	52.8	900	53.1	6.17	574	33	32		14	-	-
	MW26	8/12/2009	<50	<50	<50	<50	<50	<50	<50	<50	-	<500	0.1	57	1270	72	3	790	43.1	43.2	0.14	<10	-	-
	MW26	17/03/2010	<100	<100	<100	<100	<100	<100	<100	<100	-	<1000	<0.1	53	1180	68	4	803	43	43.3	0.32	21	<10	<10
	MW26	18/01/2011	<100	<100	<100	<100	<100	<100	<100	<100	-	<1000	<0.1	41	1100	56	5	792	38.4	41.2	3.46	<10	-	-
	MW26	1/03/2013	<100	<100	<100	<100	<100	<100	<100	<100	-	<1000	<0.1	29	959	46	3	633	33.4	32.8	0.92	<10	-	-
	MW26	29/01/2014	-	-	<2000	<2000	-	-	<2000	<2000	<2000	<2000	<0.5	30	820	47	3	620	-	-	-	<50	-	-
MW27	MW27-1	15/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	0.1	3.2	27	2.9	0.1	213	-	-	-	-	-	-
	MW27-2	25/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	2.4	29	2.8	0.5	214	-	-	-	-	-	-
	MW27	3/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.3	<1	43	3	<1	243	10.3	10.8	2.21	<10	-	-
	MW27	16/03/2010	-	-	-	-	-	-	-	-	-	-	0.4	<1	80	3	<1	253	10.4	11.2	3.7	<10	<10	<10
	MW27	20/01/2011	-	-	-	-	-	-	-	-	-	-	0.3	<1	56	2	<1	319	13.3	14	2.69	<10	<10	<10
	MW27	25/02/2013	-	-	-	-	-	-	-	-	-	-	0.5	2	122	6	<1	286	13.1	13	0.16	-	-	-
	MW27	31/01/2014	-	-	<1	<1	-	-	<1	<1	<1	<1	<0.5	1.4	62	5.1	<0.5	230	-	-	-	<50	-	-

Appendix A -
Table 2
Groundwater Analytical Results

			Chlorinated Hydrocarbons										Major Ions						Anion-Cation Balance			Organics		
			1,1-dichloropropene	1,2-dibromo-3-chloropropane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Bromochloromethane	Chloromethane	Fluoride	Calcium	Chloride	Magnesium	Potassium	Sodium	Anions Total	Cations Total	Ionic Balance	Methane	Ethane	Ethene
			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	meq/L	meq/L	%	µg/L	µg/L	µg/L
EOL			5	5	1	1	5	5	1	1	1	1	0.1	0.1	1	0.1	0.1	0.1	0.01	0.01	0.01	10	10	10
ANZECC 2000 FW 95%																								
ANZECC 2000 Irrigation - Short-term Trigger Values													**2**											
ANZECC 2000 Stock Watering													**2**	**1000**										
NEPM 2013 Table 1C GILs, Drinking Water													**1.5**											
Location Code	**Field ID**	**Sampled Date**																						
MW28	MW28-1	15/07/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<10	<0.1	8	205	15.5	0.3	365	-	-	-	-	-	-
	MW28-2	26/08/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	8.8	359	22.2	0.4	447	-	-	-	-	-	-
	MW28	3/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	4	150	20	<1	298	14.2	14.9	2.1	<10	-	-
	MW28	16/03/2010	-	-	-	-	-	-	-	-	-	-	<0.1	4	133	22	<1	274	12	13.9	7.56	<10	<10	<10
	MW28	20/01/2011	-	-	-	-	-	-	-	-	-	-	<0.1	5	76	26	<1	257	12.6	13.6	3.81	<10	<10	<10
	MW28	25/02/2013	-	-	-	-	-	-	-	-	-	-	0.2	4	23	16	<1	116	6.49	6.56	<0.01	-	-	-
	MW28	31/01/2014	-	-	<1	<1	-	-	<1	<1	<1	<1	<0.5	6.3	21	20	<0.5	82	-	-	-	<50	-	-
MW29	MW29-3	20/10/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	-	3.9	155	6.6	0.6	214	9.9	10.1	-	-	-	-
	MW29	19/01/2011	-	-	-	-	-	-	-	-	-	-	0.4	<1	76	3	<1	134	5.67	6.06	3.31	<10	-	-
MW30	MW30-3	14/10/2008	<5	<5	<5	<5	<5	<5	<5	<5	-	<50		5.9	67	8	1	206	9.2	9.9		-	-	-
	MW30	9/12/2009	-	-	-	-	-	-	-	-	-	-	**2.8**	1	105	5	<1	178	7.94	8.26	1.9	<10		
	MW30	22/03/2010	-	-	-	-	-	-	-	-	-	-	1.1	1	101	5	<1	159	7.55	7.37	1.24	<10	<10	<10
	MW30	19/01/2011	-	-	-	-	-	-	-	-	-	-	0.9	<1	51	3	<1	127	6.4	5.79	5.07	<10	-	-
	MW30	26/02/2013	-	-	-	-	-	-	-	-	-	-	1.1	<1	49	3	<1	150	7.03	6.77	1.93	<10	-	-
	MW30	31/01/2014	-	-	<1	<1	-	-	<1	<1	<1	<1	1	1.5	50	4.4	<0.5	130	-	-	-	<50	-	-
MW31	MW31	7/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	5	950	31	<1	796	34.2	37.4	4.56	57		-
	MW31	22/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	2	602	25	<1	500	22.7	23.9	2.58	88	23	<10
	MW31	18/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	3	676	22	1	602	25.9	28.2	4.29	32	-	-
	MW31	26/02/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	1	712	23	<1	558	25.8	26.2	0.84	<10	-	-
	MW31	29/01/2014	-	-	<4	<4	-	-	<4	<4	<4	<4	<0.5	<5	630	25	<5	540	-	-	-	<50	-	-
MW32	MW32	8/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	11	2120	136	<1	1420	68.3	73.5	3.63	<10	-	-
	MW32	19/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	9	1860	121	<1	1370	66.4	70.1	2.64	12	<10	<10
	MW32	18/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	8	1540	87	1	1080	56.9	54.8	1.86	<10	-	-
	MW32	28/02/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	9	1350	86	<1	960	45	49.3	4.57	11	-	-
	MW32	29/01/2014	-	-	<4	<4	-	-	<4	<4	<4	<4	<0.5	13	1100	68	<5	700	-	-	-	<50	-	-
MW33	MW33	23/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	7	624	21	<1	553	25.3	26.2	1.74	<10	<10	<10
	MW33	19/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	2	493	12	<1	386	19.4	17.9	3.85	<10	-	-
	MW33	26/02/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.3	4	497	16	<1	445	21.6	20.9	1.65	<10	-	-
MW34A	MW34A	7/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	14	1950	70	<1	1340	62.3	64.6	1.73	<10	-	-
	MW34A	17/03/2010	<100	<100	<100	<100	<100	<100	<100	<100	-	<1000	<0.1	10	1490	72	<1	1010	50.9	50.5	0.44	<10	<10	<10
	MW34A	18/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	8	1480	60	<1	1150	51.2	55.2	3.73	<10	-	-
	MW34A	28/02/2013	<10	<10	<10	<10	<10	<10	<10	<10	-	<100	<0.1	6	1210	47	<1	837	42.3	40.6	2.09	<10	-	-
	MW34A	30/01/2014	-	-	<100	<100	-	-	<100	<100	<100	<100	<0.5	8.5	1500	64	<5	1000	-	-	-	<50	-	-
MW34B	MW34B	8/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	11	664	32	<1	454	24.9	23	4.01	<10	-	-
	MW34B	17/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	9	528	28	1	434	21.3	21.6	0.67	<10	<10	<10
	MW34B	18/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	9	622	30	<1	565	25	27.5	4.69	<10	-	-
	MW34B	28/02/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	10	522	23	<1	364	20.2	18.3	4.94	<10	-	-
	MW34B	30/01/2014	-	-	<8	<8	-	-	<8	<8	<8	<8	<0.5	9.6	600	31	<5	430	-	-	-	<50	-	-
MW35	MW35	11/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	18	978	60	2	631	34.8	33.4	2.1	<10	-	-
	MW35	17/03/2010	<10	<10	<10	<10	<10	<10	<10	<10	-	<100	0.1	14	934	59	2	674	36	34.9	1.51	<10	<10	<10
	MW35	18/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	13	964	55	1	732	34.6	37	3.28	<10	-	-
	MW35	27/02/2013	<10	<10	<10	<10	<10	<10	<10	<10		<100	0.1	12	830	52	1	589	30.8	30.5	0.43	<10	-	-
	MW35	30/01/2014	-	-	<100	<100	-	-	<100	<100	<100	<100	<0.5	12	840	58	<5	630	-	-	-	<50	-	-
MW36	MW36	7/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	38	950	36	<1	792	37.5	39.3	2.35	<10	-	-
	MW36	18/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	38	604	32	2	517	26.7	27	0.63	<10	<10	<10
	MW36	19/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	30	376	15	<1	266	15.1	14.3	2.77	<10	-	-
	MW36	25/02/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	24	465	20	2	447	22.5	22.3	0.32	<10	-	-
	MW36	31/01/2014	-	-	<1	<1	-	-	<1	<1	<1	<1	<0.5	16	460	21	1.3	450	-	-	-	<50	-	-
MW37	MW37	4/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	8	1600	84	2	971	53.8	49.6	4.09	<10	-	-
	MW37	18/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	7	1370	82	2	934	47.2	47.8	0.63	<10	<10	<10
	MW37	19/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	21	981	50	3	553	32.2	29.3	4.72	<10	-	-
	MW37	25/02/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	13	1060	57	5	717	38.5	36.7	2.49	<10	-	-
	MW37	30/01/2014	-	-	<1	<1	-	-	<1	<1	<1	<1	<0.5	11	1000	63	2.9	770	-	-	-	<50	-	-
MW38	MW38	4/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	17	714	42	22	430	25.1	23.5	3.3	150		
	MW38	18/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	15	440	31	28	309	15.9	17.4	4.65	168	<10	<10
	MW38	19/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	14	165	14	20	123	8.54	7.72	5.07	<10	-	-
	MW38	26/02/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	13	142	14	26	111	7.96	7.29	4.4	71	-	-
	MW38	30/01/2014	-	-	<1	<1	-	-	<1	<1	<1	<1	<0.5	16	170	16	23	100	-	-	-	220	-	-
MW39	MW39	4/12/2009	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	6	311	13	3	234	11.3	11.6	1.45	<10	-	-
	MW39	18/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	8	68	5	6	74	3.82	4.18	4.5	<10	<10	<10
	MW39	21/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	6	24	2	5	42	2.62	2.44	3.6	<10	-	-
	MW39	27/02/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	13	33	5	7	76	4.28	4.55	3.01	<10	-	-
	MW39	31/01/2014	-	-	<1	<1	-	-	<1	<1	<1	<1	<0.5	9.8	29	4.1	5.9	54	-	-	-	<50	-	-

Appendix A -
Table 2
Groundwater Analytical Results

			Chlorinated Hydrocarbons										Major Ions						Anion-Cation Balance			Organics		
			1,1-dichloropropene	1,2-dibromo-3-chloropropane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Bromochloromethane	Chloromethane	Fluoride	Calcium	Chloride	Magnesium	Potassium	Sodium	Anions Total	Cations Total	Ionic Balance	Methane	Ethane	Ethene
			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	meq/L	meq/L	%	µg/L	µg/L	µg/L
EQL			5	5	1	1	5	5	1	1	1	1	0.1	0.1	1	0.1	0.1	0.1	0.01	0.01	0.01	10	10	10
ANZECC 2000 FW 95%																								
ANZECC 2000 Irrigation - Short-term Trigger Values													**2**											
ANZECC 2000 Stock Watering													**2**	**1000**										
NEPM 2013 Table 1C GILs, Drinking Water													**1.5**											
Location Code	**Field ID**	**Sampled Date**																						
MW40	MW40	25/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.2	19	29	13	8	35	3.41	3.75	4.56	176	25	<10
	MW40	19/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	25	37	11	6	31	3.5	3.7	2.8	104	-	-
	MW40	27/02/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	30	17	12	8	27	4.05	3.86	2.4	75	-	-
	MW40	3/02/2014	-	-	<1	<1	-	-	<1	<1	<1	<1	0.1	31	20	13	5.8	19				100	-	-
MW41	MW41	25/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	2	63	4	<1	136	5.76	6.35	4.85	<10	<10	<10
	MW41	19/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	<1	68	3	<1	126	5.43	5.73	2.61	<10	-	-
	MW41	27/02/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.3	2	65	4	<1	130	6.34	6.08	2.11	<10	-	-
	MW41	3/02/2014	-	-	<1	<1	-	-	<1	<1	<1	<1	0.2	2	59	4	<0.5	110	-	-	-	<50	-	-
MW42	MW42	25/03/2010	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	24	707	50	1	607	29	31.8	4.47	<10	<10	<10
	MW42	20/01/2011	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	<0.1	22	869	49	<1	768	37.8	38.6	1.01	<10	<10	<10
	MW42	27/02/2013	<5	<5	<5	<5	<5	<5	<5	<5	-	<50	0.1	20	842	43	1	555	31.4	28.7	4.45	<10	-	-
	MW42	3/02/2014	-	-	<1	<1	-	-	<1	<1	<1	<1	0.2	20	840	48	1.4	680				<50	-	-

			Nutrients									
			Ammonia as N	Nitrate (as N)	Nitrate (as NO_3)	Nitrite (as N)	Nitrite (as NO_2) (Filtered)	Nitrogen (Total Oxidised)	Sulphate	Sulphate as S	Sulphite as S
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			0.01	0.01	0.01	0.01	0.5	0.01	1	5	0.5
ANZECC 2000 FW 95%			**0.9**	**0.158**	**0.7**						
ANZECC 2000 Irrigation - Short-term Trigger Values											
ANZECC 2000 Stock Watering				**90**	**400**	**9.1**	**30**		**1000**	**333**	
NEPM 2013 Table 1C GILs, Drinking Water					**50**		**3**		**500**		
Location Code	**Field ID**	**Sampled Date**									
MW3	MW3-1	15/07/2008	-	-	**1.86**	0.02	-	-	426	-	-
	MW3-2	26/08/2008	-	-	**4.87**	0.03	-	-	**524**	-	-
	MW3	25/03/2010		**8.86**	-	0.02	-	8.88	**523**	-	-
	MW3	20/01/2011	0.15	**6.6**	-	<0.01	-	6.6	305	-	-
	MW3	27/02/2013	0.18	**5.09**	-	<0.01	-	5.09	207	-	-
MW4	MW4-1	15/07/2008	-	-	0.5	0.01	-	-	56	-	-
	MW4-2	27/08/2008	-	-	0.41	0.01	-	-	52	-	-
	MW4	3/12/2009	-	**0.96**	-	<0.01	-	0.96	51	-	-
	MW4	18/03/2010	-	**0.25**	-	0.01	-	0.26	22	-	-
	MW4	20/01/2011	<0.01	**1.7**	-	<0.01	-	1.7	88	-	-
MW5	MW5-1	16/07/2008	-	-	**2.27**	0.03	-	-	285	-	-
	MW5-2	27/08/2008	-	-	**2.2**	0.02	-	-	333	-	-
MW6/3	MW6/3-1	17/07/2008	-	-	**1.72**	<0.01	-	-	120	-	-
	MW6/3-2	28/08/2008	-	-	**1.85**	0.02	-	-	127	-	-
MW6/4	MW6/4	7/12/2009	-	**2.66**	-	<0.01	-	2.66	24	-	-
	MW6/4	22/03/2010	-	**2.61**	-	<0.01	-	2.61	81	-	-
	MW6/4	24/01/2011	<0.01	-	-	-	-	-	65	-	-
MW7/3	MW7/3-1	18/07/2008	-	-	**6.02**	<0.01	-	-	217	-	-
	MW7/3-2	28/08/2008	-	-	**3.23**	0.02	-	-	172	-	-
	MW7/3	7/12/2009	-	**6.29**	-	<0.01	-	6.29	99	-	-
	MW7/3	22/03/2010	-	**5**	-	<0.01	-	5	162	-	-
	MW7/3	21/01/2011	<0.01	**6.53**	-	<0.01	-	6.53	251	-	-
MW9/2	MW9/2-1	17/07/2008	-	-	-	<0.01	-	-	12	-	-
MW11/2	MW11/2-1	17/07/2008	-	-	**2.79**	<0.01	-	-	90	-	-
	MW11/2-2	28/08/2008	-	-	**2.47**	0.02	-	-	97	-	-
	MW11/2	4/12/2009	-	**2.4**	-	<0.01	-	2.4	88	-	-
	MW11/2	22/03/2010	-	**1.49**	-	0.02	-	1.51	26	-	-
	MW11/2	21/01/2011	0.04	**1.58**	-	<0.01	-	1.58	59	-	-
MW12/1	MW12/1-2	26/08/2008	-	-	**3.03**	0.06	-	-	19	-	-
	MW12-1	17/07/2008	-	-	**3.46**	0.03	-	-	23	-	-
	MW12/1	9/12/2009	-	**3.58**	-	0.03	-	3.61	37	-	-
	MW12/1	25/03/2010	-	**4.03**	-	0.14	-	4.17	7	-	-
	MW12/1	21/01/2011	<0.01	**5.67**	-	0.04	-	5.72	22	-	-
MW13/2	MW13/2-1	17/07/2008	-	-	**113**	1.31	-	-	428	-	-
	MW13/2-2	25/08/2008	-	-	**104**	-	-	-	392	-	-
	MW13/2	10/12/2009	-	**83.4**	-	1	-	84.4	309	-	-
	MW13/2	24/03/2010	-	**80.5**	-	0.67	-	81.1	395	-	-
	MW13/2	20/01/2011	0.18	**95.8**	-	0.89	-	96.7	**638**	-	-
MW15/3	MW15/3-1	17/07/2008	-	-	**16.9**	0.11	-	-	364	-	-
	MW15/3-2	25/08/2008	-	-	**15.3**	-	-	-	352	-	-
	MW15/3	10/12/2009	-	**20.3**	-	0.09	-	20.4	344	-	-
	MW15/3	24/03/2010	-	**20.9**	-	0.12	-	21.1	429	-	-
	MW15/3	21/01/2011	0.2	**29.5**	-	0.32	-	29.9	498	-	-
MW16/1	MW16/1-1	18/07/2008	-	-	**16.2**	0.03	-	-	293	-	-
	MW16/1-2	27/08/2008	-	-	**12.3**	0.02	-	-	316	-	-
	MW16/1	11/12/2009	-	**14.8**	-	<0.01	-	14.8	309	-	-
	MW16/1	23/03/2010	-	**13.8**	-	0.02	-	13.8	284	-	-
	MW16/1	21/01/2011	<0.01	**14.2**	-	<0.01	-	14.2	**566**	-	-
MW17/1	MW17/1-1	18/07/2008	-	-	0.01	0.01	-	-	161	-	-
	MW17/1-2	27/08/2008	-	-	0.02	<0.01	-	-	180	-	-
	MW17/1	11/12/2009	-	0.07	-	<0.01	-	0.07	176	-	-
	MW17/1	24/03/2010	-	<0.01	-	<0.01	-	<0.1	153	-	-
	MW17/1	24/01/2011	<0.01	-	-	-	-	-	82	-	-
MW17/2	MW17/2-3	14/10/2008	-	-	0.06	0.01	-	-	165	-	-
MW18	MW18-1	17/07/2008	-	-			-	-		-	-
	MW18-2	27/08/2008	-	-	0.13	0.02	-	-	16	-	-
	MW18	9/12/2009	-	-	-		-	-	-	-	-
	MW18	10/12/2009	-	**0.87**	-	<0.01	-	0.87	61	-	-
	MW18	24/03/2010	-	**0.4**	-	<0.01	-	0.4	48	-	-
	MW18	20/01/2011	0.17	**0.38**	-	<0.01	-	0.38	45	-	-

			Nutrients									
			Ammonia as N	Nitrate (as N)	Nitrate (as NO3-)	Nitrite (as N)	Nitrite (as NO2-) (Filtered)	Nitrogen (Total Oxidised)	Sulphate	Sulphate as S	Sulphite as S
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			0.01	0.01	0.01	0.01	0.5	0.01	1	5	0.5
ANZECC 2000 FW 95%			**0.9**	**0.158**	**0.7**						
ANZECC 2000 Irrigation - Short-term Trigger Values											
ANZECC 2000 Stock Watering				**90**	**400**	**9.1**	**30**		**1000**	**333**	
NEPM 2013 Table 1C GILs, Drinking Water					**50**		**3**		**500**		
Location Code	**Field ID**	**Sampled Date**									
MW19	MW19-1	16/07/2008	-	-	**4.78**	0.17	-	-	253	-	-
	MW19-2	27/08/2008	-	-	**21.4**	0.09	-	-	156	-	-
	MW19	8/12/2009	-	**33.9**	-	0.03	-	34	60	-	-
	MW19	23/03/2010	-	**9.27**	-	0.79	-	10	224	-	-
	MW19	19/01/2011	<0.01	**16.7**	-	<0.01	-	16.7	166	-	-
MW20	MW20-1	16/07/2008	-	-	**0.71**	<0.01	-	-	270	-	-
	MW20-2	25/08/2008	-	-	**0.73**	-	-	-	315	-	-
	MW20	3/12/2009	-	**0.99**	-	<0.01	-	0.99	231	-	-
	MW20	16/03/2010	-	**1.03**	-	<0.01	-	1.03	255	-	-
	MW20	20/01/2011	<0.01	**0.84**	-	<0.01	-	0.84	332	-	-
	MW20	26/02/2013	0.06	**0.82**	-	<0.01	-	0.82	190	-	-
	MW20	31/01/2014	0.02	**1**	-	<0.02	-	-	-	75	<10
MW21	MW21-1	15/07/2008	-	-	**3.27**	0.03	-	-	166	-	-
	MW21-2	26/08/2008	-	-	**3.08**	0.01	-	-	194	-	-
	MW21	7/12/2009	-	**5.54**	-	<0.01	-	5.54	154	-	-
	MW21	24/03/2010	-	**5.12**	-	0.02	-	5.14	243	-	-
	MW21	19/01/2011	0.08	**4.9**	-	<0.01	-	4.9	135	-	-
	MW21	26/02/2013	0.04	**3.88**	-	<0.01	-	3.88	170	-	-
	MW21	31/01/2014	0.02	**4**	-	<0.02	-	-	-	68	<2.5
MW22	MW22-1	16/07/2008	-	-	**28.5**	0.03	-	-	192	-	-
	MW22-2	26/08/2008	-	-	**30**	0.02	-	-	248	-	-
	MW22	9/12/2009	-	**51.5**	-	<0.01	-	51.5	15	-	-
	MW22	22/03/2010	-	**53.4**	-	0.02	-	53.5	321	-	-
	MW22	18/01/2011	0.1	**43.4**	-	0.02	-	43.4	285	-	-
	MW22	28/02/2013	0.19	**25.3**	-	0.02	-	25.3	162	-	-
	MW22	30/01/2014	0.07	**48**	-	<0.02	-	-	-	120	<1
MW23	MW23-1	17/07/2008	-	-	**3.04**	0.23	-	-	126	-	-
	MW23-2	27/08/2008	-	-	**2.63**	0.18	-	-	146	-	-
	MW23	9/12/2009	-	**2.44**	-	0.2	-	2.64	<1	-	-
	MW23	24/03/2010	-	**1.85**	-	0.16	-	2.01	133	-	-
	MW23	19/01/2011	<0.01	**1.74**	-	0.52	-	2.26	168	-	-
	MW23	27/02/2013	0.03	**3.61**	-	0.11	-	3.72	120	-	-
	MW23	31/01/2014	0.04	**4.9**	-	0.06	-	-	-	45	<1
MW24A	MW24A-2	27/08/2008	-	-	**3.95**	0.08	-	-	183	-	-
	MW24A-3	14/10/2008	-	-	**5.91**	0.06	-	-	185	-	-
	MW24A	10/12/2009	-	**7.67**	-	0.06	-	7.73	173	-	-
	MW24A	23/03/2010	-	**7.98**	-	0.05	-	8.03	174	-	-
	MW24A	18/01/2011	0.06	**10.7**	-	0.03	-	10.8	152	-	-
	MW24A	28/02/2013	0.06	**8.84**	-	0.04	-	8.88	184	-	-
	MW24A	29/01/2014	0.08	**19**	-	<0.02	-	-	-	84	<2.5
MW24B	MW24B-2	27/08/2008	-	-	**18.3**	0.27	-	-	312	-	-
	MW24B-3	14/10/2008	-	-	**8.15**	0.24	-	-	395	-	-
	MW24B	10/12/2009	-	**8.2**	-	0.19	-	8.39	358	-	-
	MW24B	24/03/2010	-	**30.2**	-	0.43	-	30.7	471	-	-
	MW24B	18/01/2011	0.67	**12.9**	-	0.55	-	13.5	**635**	-	-
	MW24B	28/02/2013	0.47	**1.58**	-	0.08	-	1.66	297	-	-
	MW24B	29/01/2014	0.51	**2.3**	-	<0.02	-	-	-	110	<5
MW24C	MW24C-2	27/08/2008	-	-	0.09	0.08	-	-	202	-	-
	MW24C-3	13/10/2008	-	-	<0.5	-	<0.5	-	180	-	-
	MW24C	10/12/2009	-	-	-	-	-	-	-	-	-
	MW24C	11/12/2009	-	-	-	-	-	-	295	-	-
	MW24C	25/03/2010	-	-	-	-	-	-	-	-	-
	MW24C	28/02/2013	0.09	0.02	-	<0.01	-	0.02	445	-	-
	MW24C	3/02/2014	0.13	<0.02		<0.02	-	-		160	<2.5
MW25	MW25-2	25/08/2008	-	-	0.04	-	-	-	153	-	-
	MW25-3	13/10/2008	-	-	<0.5	-	<0.5	-	120	-	-
	MW25	9/12/2009	-	0.09	-	<0.01	-	0.09	21	-	-
	MW25	22/03/2010	-	**0.17**	-	0.02	-	0.2	142	-	-
	MW25	18/01/2011	<0.01	0.03	-	<0.01	-	0.03	186	-	-
	MW25	1/03/2013	0.04	<0.01	-	<0.01	-	<0.01	147	-	-
	MW25	29/01/2014	0.05	0.03	-	<0.02	-	-	-	53	<10
MW26	MW26-3	13/10/2008	-	-	**23**	-	<0.5	-	150	-	-
	MW26	8/12/2009	-	**13.5**	-	0.11	-	13.6	199	-	-
	MW26	17/03/2010	-	**13.9**	-	0.11	-	14	347	-	-
	MW26	18/01/2011	0.2	**14.5**	-	0.06	-	14.6	248	-	-
	MW26	1/03/2013	0.16	**19**	-	0.05	-	19.1	204	-	-
	MW26	29/01/2014	<0.01	**18**	-	<0.02	-	-	-	69	<5
MW27	MW27-1	15/07/2008	-	-	**13**	0.02	-	-	279	-	-
	MW27-2	25/08/2008	-	-	**13**	-	-	-	332	-	-
	MW27	3/12/2009	-	**13.9**	-	<0.01	-	13.9	296	-	-
	MW27	16/03/2010	-	**14.7**	-	<0.01	-	14.7	317	-	-
	MW27	20/01/2011	<0.01	**9.38**	-	<0.01	-	9.38	458	-	-
	MW27	25/02/2013	0.05	**10.7**	-	<0.01	-	10.7	379	-	-
	MW27	31/01/2014	0.03	**8.2**	-	<0.02	-	-	-	150	<1

			Nutrients									
			Ammonia as N	Nitrate (as N)	Nitrate (as NO3-)	Nitrite (as N)	Nitrite (as NO2-) (Filtered)	Nitrogen (Total Oxidised)	Sulphate	Sulphate as S	Sulphite as S
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			0.01	0.01	0.01	0.01	0.5	0.01	1	5	0.5
ANZECC 2000 FW 95%			**0.9**	**0.158**	**0.7**						
ANZECC 2000 Irrigation - Short-term Trigger Values											
ANZECC 2000 Stock Watering				**90**	**400**	**9.1**	**30**		**1000**	**333**	
NEPM 2013 Table 1C GILs, Drinking Water					**50**		**3**		**500**		
Location Code	**Field ID**	**Sampled Date**									
MW28	MW28-1	15/07/2008	-	-	**24.4**	0.07	-	-	374	-	-
	MW28-2	26/08/2008	-	-	**24.5**	0.02	-	-	494	-	-
	MW28	3/12/2009	-	**30.4**	-	<0.01	-	30.4	336	-	-
	MW28	16/03/2010	-	**29**	-	<0.01	-	29	338	-	-
	MW28	20/01/2011	<0.01	**26.1**	-	<0.01	-	26.1	371	-	-
	MW28	25/02/2013	0.04	**18.3**	-	<0.01	-	18.3	162	-	-
	MW28	31/01/2014	0.05	**17**	-	<0.02	-	-	-	62	<1
MW29	MW29-3	20/10/2008	-	-	**9.78**	0.04	-	-	176	-	-
	MW29	19/01/2011	<0.01	**15.9**	-	<0.01	-	15.9	103	-	-
MW30	MW30-3	14/10/2008	-	-	0.03	0.01	-	-	152	-	-
	MW30	9/12/2009	-	0.08	-	<0.01	-	0.08	<1	-	-
	MW30	22/03/2010	-	<0.01	-	<0.01	-	<0.1	36	-	-
	MW30	19/01/2011	<0.01	0.04	-	<0.01	-	0.04	70	-	-
	MW30	26/02/2013	0.04	**0.2**	-	0.02	-	0.22	88	-	-
	MW30	31/01/2014	0.03	0.11	-	<0.02	-	-	-	31	<1
MW31	MW31	7/12/2009	-	**16.2**	-	0.06	-	16.3	194	-	-
	MW31	22/03/2010	-	**11.8**	-	0.02	-	11.8	211	-	-
	MW31	18/01/2011	<0.01	**14.1**	-	<0.01	-	14.1	261	-	-
	MW31	26/02/2013	0.03	**16.3**	-	0.01	-	16.3	221	-	-
	MW31	29/01/2014	0.03	**16**	-	<0.02	-	-	-	90	<1
MW32	MW32	8/12/2009	-	**116**	-	0.03	-	116	356	-	-
	MW32	19/03/2010	-	**80.8**	-	0.02	-	80.8	345	-	-
	MW32	18/01/2011	<0.01	**70.2**	-	<0.01	-	70.2	**593**	-	-
	MW32	28/02/2013	0.07	**83.1**	-	<0.01	-	83.1	286	-	-
	MW32	29/01/2014	0.13	**56**	-	<0.02	-	-	-	93	<10
MW33	MW33	23/03/2010	-	**9.21**	-	0.09	-	9.3	256	-	-
	MW33	19/01/2011	0.3	**8.34**	-	0.05	-	8.39	155	-	-
	MW33	26/02/2013	0.03	**7.78**	-	0.05	-	7.83	245	-	-
MW34A	MW34A	7/12/2009	-	**3.2**	-	0.06	-	3.26	268	-	-
	MW34A	17/03/2010	-	**2.77**	-	0.04	-	2.82	394	-	-
	MW34A	18/01/2011	0.02	**1.57**	-	<0.01	-	1.57	427	-	-
	MW34A	28/02/2013	0.04	**1.45**	-	<0.01	-	1.45	360	-	-
	MW34A	30/01/2014	0.03	**1.6**	-	<0.02	-	-	-	130	<2.5
MW34B	MW34B	8/12/2009	-	**0.79**	-	0.08	-	0.87	180	-	-
	MW34B	17/03/2010	-	<0.01	-	<0.01	-	<0.1	207	-	-
	MW34B	18/01/2011	0.08	0.04	-	<0.01	-	0.04	257	-	-
	MW34B	28/02/2013	0.1	**0.34**	-	<0.01	-	0.34	165	-	-
	MW34B	30/01/2014	0.05	**0.26**	-	<0.02	-	-	-	79	<10
MW35	MW35	11/12/2009	-	**18.9**	-	0.1	-	19	235	-	-
	MW35	17/03/2010	-	**19.2**	-	0.03	-	19.2	356	-	-
	MW35	18/01/2011	<0.01	**24**	-	<0.01	-	24	253	-	-
	MW35	27/02/2013	0.07	**24.2**	-	<0.01	-	24.2	246	-	-
	MW35	30/01/2014	0.03	**26**	-	<0.02	-	-	-	110	<2.5
MW36	MW36	7/12/2009	-	**27**	-	1.22	-	28.2	330	-	-
	MW36	18/03/2010	-	**16.1**	-	0.1	-	16.2	299	-	-
	MW36	19/01/2011	0.28	**8.25**	-	0.09	-	8.34	89	-	-
	MW36	25/02/2013	0.06	**9.2**	-	0.02	-	-	305	-	-
	MW36	31/01/2014	0.07	**9.6**	-	<0.02	-	-	-	120	<5
MW37	MW37	4/12/2009	-	**25.5**	-	0.03	-	25.5	233	-	-
	MW37	18/03/2010	-	**24.5**	-	0.02	-	24.5	276	-	-
	MW37	19/01/2011	0.15	**17.5**	-	0.01	-	17.5	90	-	-
	MW37	25/02/2013	0.11	**19**	-	0.02	-	-	208	-	-
	MW37	30/01/2014	0.05	**24**	-	<0.02	-	-	-	87	<1
MW38	MW38	4/12/2009	-	**2.96**	-	<0.01	-	2.96	84	-	-
	MW38	18/03/2010	-	**1.34**	-	0.03	-	1.37	30	-	-
	MW38	19/01/2011	0.45	**1.04**	-	<0.01	-	1.04	54	-	-
	MW38	26/02/2013	0.59	**0.23**	-	<0.01	-	0.23	25	-	-
	MW38	30/01/2014	0.76	**0.47**	-	0.06	-	-	-	13	<10
MW39	MW39	4/12/2009	-	**7.79**	-	0.08	-	7.87	6	-	-
	MW39	18/03/2010	-	**5.37**	-	<0.01	-	5.37	1	-	-
	MW39	21/01/2011	<0.01	**3.52**	-	0.02	-	3.55	40	-	-
	MW39	27/02/2013	0.05	**4.2**	-	<0.01	-	4.2	35	-	-
	MW39	31/01/2014	0.07	**5.1**	-	0.06	-	-	-	19	<5

Appendix A -
Table 2
Groundwater Analytical Results

			Nutrients								
			Ammonia as N	Nitrate (as N)	Nitrate (as NO3-)	Nitrite (as N)	Nitrite (as NO2-) (Filtered)	Nitrogen (Total Oxidised)	Sulphate	Sulphate as S	Sulphite as S
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			0.01	0.01	0.01	0.01	0.5	0.01	1	5	0.5
ANZECC 2000 FW 95%			**0.9**	**0.158**	**0.7**						
ANZECC 2000 Irrigation - Short-term Trigger Values											
ANZECC 2000 Stock Watering				**90**	**400**	**9.1**	**30**		**1000**	**333**	
NEPM 2013 Table 1C GILs, Drinking Water					**50**		**3**		**500**		
Location Code	**Field ID**	**Sampled Date**									
MW40	MW40	25/03/2010	-	<0.01	-	<0.01	-	<0.1	<1	-	-
	MW40	19/01/2011	**2.18**	<0.01	-	<0.01	-	<0.01	16	-	-
	MW40	27/02/2013	**1.56**	<0.01	-	<0.01	-	<0.01	45	-	-
	MW40	3/02/2014	**1.6**	0.03	-	<0.02	-			18	<10
MW41	MW41	25/03/2010	-	**2.03**	-	0.08	-	2.11	86	-	-
	MW41	19/01/2011	0.03	**1.81**	-	0.02	-	1.83	79	-	-
	MW41	27/02/2013	0.03	**1.63**	-	0.01	-	1.64	108	-	-
	MW41	3/02/2014	0.03	**2.3**	-	0.03	-	-	-	36	<10
MW42	MW42	25/03/2010	-	**7.4**	-	0.15	-	7.55	318	-	-
	MW42	20/01/2011	0.02	**7.78**	-	0.02	-	7.79	**540**	-	-
	MW42	27/02/2013	0.04	**6.67**	-	0.02	-	6.69	263		-
	MW42	3/02/2014	<0.01	**8.1**	-	0.03	-	-	-	130	<1

Table H1 Summary of Final Groundwater Condition (µg/L)

Analyte	Concentration Range (µg/L)				Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[2]	Cultural and spiritual values[2]	Buildings and Structures[6]	Human Health – Vapour Intrusion			Calculated RBC
	Off-site Up-gradient^	On-site^^	Off-site Cross-gradient^^^	Off-site Down-gradient^^^									On-site: HSL A/B[7]	On-site: Intrusive Maint. Worker[4]	Off-site: HSL A/B[5]	
Analytes considered by the Auditor to be natural in nature and hence not pollution																
pH	5.64 – 7.36	5.55 – 6.70	6.11 – 6.30	6.08 – 6.31	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	>5.5	NE	NE	NE	NE
Sulphate (as SO4-)	88,000 – 323,000	12,000 – 490,000	167,000 – 376,000	46,000 – 125,000	NE	500,000/ 250,000#	1,000,000	1,000,000	5,000,000 / 250,000#	NE	NE	1,000,000	NE	NE	NE	NE
Chloride	178,000 – 2,680,000	14,000 – 1,250,000	379,000 – 1,500,000	18,000 – 60,000	NE	250,000#	25,000[20]	NE	250,000#	NE	NE	6,000,000	NE	NE	NE	NE
Sodium	166,000 – 1,350,000	63,000 – 1,160,000	265,000 – 933,000	30,000 – 133,000	NE	180,000#	115,000[21]	NE	180,000#	NE	NE	NE	NE	NE	NE	NE
Copper	<1 – 4	<1 – 8	1 - 5	<1 - 19	1.3	2,000/1,000#	200	400	20,000/1,000#	1.3	1.3	NE	NE	NE	NE	NE
Zinc	<5 – 44	5 – 62	26 - 112	14 - 235	15	3,000	2,000	20,000	3,000#	15	15	NE	NE	NE	NE	NE
Analytes considered by the Auditor to be regional in nature or from an upgradient / off-site source																
Cobalt	1 – 18	1 – 27	<1 - 29	<1 - 471	1	6[9]	50	1,000	60[9]	1	1	NE	NE	NE	NE	NE
Iron	220 – 1,210	<50 – 1,870	90 - 240	90 – 4,950	300[10]	300#	200	Not toxic	300#	300[10]	300[10]	NE	NE	NE	NE	NE
Manganese	5 – 693	3 - 745	6 - 702	2 - 66	1,900^	500/100#	200	NE	5,000/100#	1,900^	1,900^	NE	NE	NE	NE	NE
Mercury	<0.1 – 0.1	<0.1 – 0.6	<0.1	<0.1	0.4	1	2	2	10	0.4	0.4	NE	NE	NE	NE	NE
Nickel	9 – 41	2 – 175	9 - 44	2 - 21	70	20	200	1,000	200	70	70	NE	NE	NE	NE	NE
Lead	<1 – 7	<1 – 15	1 - 5	<1 - 8	4.4	10	2,000	100	100	4.4	4.4	NE	NE	NE	NE	NE
Toluene	<1 - <100	<1 - 4	<100 - 183	<1 - <2	180[10]	800/25#	NE	800/25[2#]	800/25#	180[10]	180[10]	NE	NL	NL	NL	NE
Ammonia (as N)	50 – 810	<10 – 190	20 - 320	20 - 880	910	412	NE	412[2]	412	412	412	NE	NE	NE	NE	NE
Nitrate (as N)	20 – 23,000	20 – 60,800	520 – 27,200	100 – 18,700	2,400[15]	11,286	NE	90,293	112,866	2,400[15]	2,400[15]	NE	NE	NE	NE	NE
Nitrite (as N)	<10 – 10	<10 – 620	<10 - 380	<10	60[18]	912	3,040[18]	9,119	9,119	60[18]	60[18]	NE	NE	NE	NE	NE
Fluoride	<100 – 700	<100 – 200	200 - 400	100 – 1,200	NE	1,500	1,000	2,000	15,000	NE	NE	NE	NE	NE	NE	NE
Chloroform	<10 – 331	<1 - 469	<100 - 525	<1	370[10]	250	NE	250[2]	250	370[10]	370[10]	NE	NE	NE	NE	420,000
Dichloromethane	<2 – 15 (<100)	<2 – 1,930	<100 – 10,900	<2	98[18]	4	NE	4[2]	4	98[18]	98[18]	NE	NE	NE	NE	1,500,000
Trihalomethanes	<0.01 – 331	<1 - 469	<0.1 - 525	<1	NE	250	NE	250[2]	250	NE	NE	NE	NE	NE	NE	NE
TRH C_6-C_{10}	290 – 14,800	<20 – 22,100	13,200 – 118,000	<20	NE	300[11]	NE	NE	300[11]	NE	NE	NE	1,000	NL	1,000	NE

Analyte	Concentration Range (µg/L)				Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[2]	Cultural and spiritual values[2]	Buildings and Structures[6]	Human Health – Vapour Intrusion			Calculated RBC
	Off-site Up-gradient^	On-site^^	Off-site Cross-gradient^^^	Off-site Down-gradient^^^									On-site: HSL A/B[7]	On-site: Intrusive Maint. Worker[4]	Off-site: HSL A/B[5]	
Trichloroethene	103 – 14,000	<1 – 40,600	23,300 – 136,000	<1	330[10]	30[18]/2.8[9]	NE	30[18]/2.8[10]	30[18]/2.8[10]	330[10]	330[10]	NE	NE	NE	NE	8,000
Tetrachloroethene	3 – 361	<1 – 796	216 – 1,580	<1	70[10]	50	NE	50[2]	50	70[10]	70[10]	NE	NE	NE	NE	720,000
cis-1,2-dichloroethene	21 – 442	<1 – 428	254 – 2,130	<1	NE	60	NE	60[2]	60	NE	NE	NE	NE	NE	NE	37,000
Vinyl chloride	<2– 0.6 (<20)	<0.2 – 6.3	<10 - <20	<0.2	930[12]	0.3	NE	0.3[2]	0.3	930[12]	930[12]	NE	NE	NE	NE	4,000
Carbon tetrachloride	<1 – 184	<1 – 7	<100	<1	240[12]	3	NE	5[18]	3	240[12]	240[12]	NE	NE	NE	NE	10,000
1,1-dichloroethane	<10 – 29 (<100)	<1 – 158	<100	<1	250[10]	2.8[9]	NE	2.8[9]	2.8[9]	250[10]	250[10]	NE	NE	NE	NE	830,000
1,1-dichloroethene	<1 – 52 (<100)	<1 - 195	<100	<1	700[10]	30	NE	30[2]	30	700[10]	700[10]	NE	NE	NE	NE	420,000
1,2-dichloroethane	<1 – 465	<1 – 377	<100 – 1,280	<1	1,900[10]	3	NE	3[2]	3	1,900[10]	1,900[10]	NE	NE	NE	NE	30,000
1,1,2-trichloroethane	<10 – 7 (<100)	<1 – 19	<100 - 244	<1	1,900[10]	0.41[9]	NE	0.41[9]	0.41[9]	1,900[10]	1,900[10]	NE	NE	NE	NE	150,000
1,2-dichlorobenzene	<1 – 30 (<100)	<1 – 35	<100	<1	160^	1,500/1[#]	NE	1,500/1[2#]	1,500/1[#]	160^	160^	NE	NE	NE	NE	S
1,4-dichlorobenzene	<0.1 – 4.8 (<10)	<0.01 – 3.6	<10	<0.01	60[10]	40/0.3[#]	NE	40/0.3[2#]	40/0.3[#]	60[10]	60[10]	NE	NE	NE	NE	S
Analytes considered by the Auditor to be sourced from the site																
Arsenic	2 - 36	1 – 155	4 - 12	4 - 92	13[^10] (AsV)	10	100	500	100	13[^10] (AsV)	13[^10] (AsV)	NE	NE	NE	NE	NE
Benzene	<1 – 1 (<100)	<1 - 9	<100	<1	700	1	NE	1[2]	1	700	700	NE	800	NL	800	NE
Ethylbenzene	<1 - <100	<1 – 38	<100	<1 - <2	5[10]	300/3[#]	NE	300/3[2#]	300/3[#]	5[10]	5[10]	NE	NL	NL	NL	NE

Notes:

1: ANZECC (2000 revised 2018) National Water Quality Management Strategy. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. 95% trigger values for marine water.

2: NHMRC/NRMMC (2011 updated August 2018) National Water Quality Management Strategy. Australian Drinking Water Guidelines (# denotes aesthetic criteria).

3: ANZECC (2000 revised 2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Water Quality for Irrigation and General Water Use – Long-term Trigger Values. Unless otherwise specified.

4: ANZECC (2000 revised 2018) National Water Quality Management Strategy. Australian Water Quality Guidelines for Fresh and Marine Waters "Livestock Drinking Water" – Unless otherwise specified.

5: NHMRC/NRMMC (2008) Guidelines for Managing Risks in Recreational Water (Health / Aesthetic: # denotes aesthetic criteria). Unless otherwise specified. Adjusted by a factor of 10 in accordance with advice from NHMRC (2008). Adjustment was only applied to non-volatile chemicals.

6: Australian Standard AS2159-2009 Piling Design and Installation.

7: NEPC (2013) Health Screening Levels – Groundwater HSL-A (Low Density Residential) for Sand 2 to <4m.

8: NEPC (2013) Health Screening Levels – Groundwater HSL-A (Intrusive Maintenance Worker) for Sand 2 to <4m, adopted for information purposes only.

9: US EPA (November 2018) Regional Screening Levels for Tap Water. Adjusted to be consistent with Australian cancer risk policy. Adjusted by a factor of 10 in accordance with advice from NHMRC (2008)
(adjustment was only applied to non-volatile chemicals).

10: ANZECC (2000 revised 2018) National Water Quality Management Strategy. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Marine Low Reliability Trigger Levels.

11: WHO (2005a) Note the values are based on health effects via ingestion and do not include aesthetic effects.

12: US EPA (2003) Region 5 Ecological Screening Levels.

13: Guideline for chromium VI adopted.

14: Netherlands (2009) Circular on Target Values and Intervention Values for Soil Remediation. Ministry of Housing, Spatial Planning and the Environment, Netherlands Government (Groundwater Intervention Value).

15: NIWA (2013) Site-specific nitrate guidelines for Hawke's Bay, 95% protection.
16: NSW EPA (1994) Guidelines for Assessing Service Station Sites
17: ANZECC (1992) Australian Water Quality Guidelines for Fresh and Marine Waters – Raw Water criteria.
18: CCME (2007) Canadian Water Quality Guidelines for the Protection of Aquatic Life/Agriculture - Freshwater or Livestock criteria.
19: ANZECC (2000 revised 2018) Long term trigger value for total nitrogen.
20: ANZECC (2000 revised 2018) Adopted range for chloride concentration is based on foliar injury to sensitive crops as detailed in Section 4.2.5.2 and Table 4.2.6.
21: ANZECC (2000 revised 2018) Adopted concentration range for sodium is based on Table 4.2.8 for the prevention of foliar injury to crops.
22: WHO (2005b). Odour threshold for MTBE in water.
23: ANZECC (2000 revised 2018) Long term trigger value for total nitrogen
#: Denotes Aesthetic number. NHMRC/NRMMC (2011 updated 2018) and NHMRC/NRMMC (2008).
NE: Not Established.
NL: Not Limiting. Denotes that a groundwater vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario.
All values in ug/L
^ Off-site groundwater monitoring wells considered to be representative of up-gradient conditions: MW24AR, MW24BR, MW24CR, BMW2. Results from January 2019 sampling undertaken as part of Lot 2 on-going groundwater management adopted.
^^ On-site groundwater monitoring wells: CMW1, MW2A, MW17A, MW17B, MW23A, MW33R, MW50A, MW50B, MW50C
^^^ Off-site cross-gradient groundwater monitoring wells: MW25, MW26, MW34A, MW34B. Results from January 2019 sampling undertaken as part of Lot 2 on-going groundwater management adopted.
^^^ Off-site groundwater monitoring wells considered to be representative of down-gradient conditions: MW29, MW30, MW40.

Table H2 Summary of Groundwater Condition (µg/L) – All Rounds Undertaken During the Audit (January 2017 – October 2018)

Analyte	Concentration Range (µg/L)				Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[2]	Cultural and spiritual values[2]	Buildings and Structures[6]	Human Health – Vapour Intrusion			Calculated RBC
	Off-site Up-gradient^	On-site^^	Off-site Cross-gradient^^^	Off-site Down-gradient^^^									On-site: HSL A/B[7]	On-site: Intrusive Maint. Worker[4]	Off-site: HSL A/B[5]	
Analytes considered by the Auditor to be natural in nature and hence not pollution																
pH	5.28 – 7.36	5.38 – 7.32	5.94 – 6.46	5.99 – 6.39	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	>5.5	NE	NE	NE	NE
Sulphate (as SO4-)	88,000 – 450,000	11,000 – 490,000	113,000 – 378,000	42,000 – 129,000	NE	500,000/ 250,000#	1,000,000	1,000,000	250,000#	NE	NE	1,000,000	NE	NE	NE	NE
Sodium	166,000 – 1,350,000	63,000 – 1,360,000	265,000 – 933,000	28,000 – 161,000	NE	180,000#	115,000[21]	NE	180,000#	NE	NE	NE	NE	NE	NE	NE
Chloride	178,000 – 2,760,000	12,000 – 2,120,000	374,000 – 1,500,000	18,000 – 72,000	NE	250,000#	25,000[20]	NE	250,000#	NE	NE	6,000,000	NE	NE	NE	NE
Copper	<1 – 8	<1 – 117	<1 - 12	<1 - 19	1.3	2,000/1,000#	200	400	20,000/1,000#	1.3	1.3	NE	NE	NE	NE	NE
Zinc	<5 – 44	<5 – 248	5 - 152	<5 - 235	15	3,000	2,000	20,000	3,000#	15	15	NE	NE	NE	NE	NE
Analytes considered by the Auditor to be regional in nature or from an upgradient /off-site source																
Mercury	<0.1 – 0.1	<0.1 – 0.6	<0.1	<0.1	0.4	1	2	2	10	0.4	0.4	NE	NE	NE	NE	NE
Cobalt	1 – 18	1 – 27	<1 - 29	<1 - 471	1	6[9]	50	1,000	60[9]	1	1	NE	NE	NE	NE	NE
Manganese	5 – 693	3 - 745	6 - 702	1 - 80	1,900^	500/100#	200	NE	5,000/100#	1,900^	1,900^	NE	NE	NE	NE	NE
Iron	<50 – 4,750	<50 – 1,870	<50 – 6,030	<50 – 8,740	300[10]	300#	200	Not toxic	300#	300[10]	300[10]	NE	NE	NE	NE	NE
Lead	<1 – 7	<1 – 15	<1 - 118	<1 - 8	4.4	10	2,000	100	100	4.4	4.4	NE	NE	NE	NE	NE
Nickel	2 – 103	2 – 175	4 - 45	2 - 21	70	20	200	1,000	200	70	70	NE	NE	NE	NE	NE
Ammonia (as N)	<10 – 810	<10 – 400	10 – 2,600	<10 – 1,100	910	412	NE	412[2]	412	412	412	NE	NE	NE	NE	NE
Nitrate (as N)	20 – 23,000	<10 – 72,600	370 – 33,600	100 – 18,700	2,400[15]	11,286	NE	90,293	112,866	2,400[15]	2,400[15]	NE	NE	NE	NE	NE
Nitrite (as N)	<10 – 890	<10 – 2,590	<10 - 380	<10	60[18]	912	3,040[18]	9,119	9,119	60[18]	60[18]	NE	NE	NE	NE	NE
Cyanide (total)	<4	<4 – 8	<4	NA	4[10]	80	NE	80[2]	800[2]	4[10]	4[10]	NE	NE	NE	NE	NE
Fluoride	<100 – 700	<100 – 200	100 - 400	100 – 1,200	NE	1,500	1,000	2,000	15,000	NE	NE	NE	NE	NE	NE	NE
Chloroform	<10 – 331	<1 - 544	31 - 792	<1	370[10]	250	NE	250[2]	250	370[10]	370[10]	NE	NE	NE	NE	420,000
Dichloromethane	<2 – 4,100	<2 – 5,040	<100 – 12,600	<2	98[18]	4	NE	4[2]	4	98[18]	98[18]	NE	NE	NE	NE	1,500,000
Bromochloromethane	<1 – 12 <100	<1 – 16 (<100)	<100	<1 – 32 (<100)	NE	83[9]	NE	83[9]	83[9]	NE	NE	NE	NE	NE	NE	NE
Bromodichloromethane	<1 - <100	<1 – 2 (<100)	<5 - 916	<1	NE	8.7[9]	NE	8.7[9]	8.7[9]	NE	NE	NE	NE	NE	NE	NE
Trihalomethanes	<0.01 – 1,660	<1 - 544	<0.1 - 525	<1	NE	250	NE	250[2]	250	250	250	NE	NE	NE	NE	NE

Analyte	Concentration Range (µg/L)				Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[2]	Cultural and spiritual values[2]	Buildings and Structures[6]	Human Health – Vapour Intrusion			Calculated RBC
	Off-site Up-gradient^	On-site^^	Off-site Cross-gradient^^^	Off-site Down-gradient^^^									On-site: HSL A/B[7]	On-site: Intrusive Maint. Worker[4]	Off-site: HSL A/B[5]	
Trichloroethene	6 – 39,800	<1 – 77,200	8,330 – 206,000	<1 - 5	330[10]	30[18]/2.8[9]	NE	30[18]/2.8[10]	30[18]/2.8[10]	330[10]	330[10]	NE	NE	NE	NE	8,000
Tetrachloroethene	2 – 494	<1 – 1,540	31 – 2,270	<1	70[10]	50	NE	50[2]	50	70[10]	70[10]	NE	NE	NE	NE	720,000
cis-1,2-dichloroethene	<1 – 54,000	<1 – 652	131 – 3,380	<1 - 1	NE	60	NE	60[2]	60	NE	NE	NE	NE	NE	NE	37,000
trans-1,2-dichloroethene	<1 – 29 <100	<1 – 4 (<100)	<5 – 19 (<100)	<1	970	60	NE	60[2]	60	970	970	NE	NE	NE	NE	270,000
Vinyl chloride	<0.2 – 6.4 (<20)	<0.2 – 11.2	<10 – 10.3 (<50)	<0.2	930[12]	0.3	NE	0.3[2]	0.3	930[12]	930[12]	NE	NE	NE	NE	4,000
Carbon tetrachloride	<1 – 226	<1 – 8 (<100)	<5 – 30 (<100)	<1	240[12]	3	NE	5[18]	3	240[12]	240[12]	NE	NE	NE	NE	10,000
1,1,2-trichloroethane	<1 – 196	<1 – 37 (<100)	<5 – 281	<1	1,900[10]	0.41[9]	NE	0.41[9]	0.41[9]	1,900[10]	1,900[10]	NE	NE	NE	NE	150,000
1,1-dichloroethane	<10 – 165	<1 – 184	<5- 12 (<100)	<1	250[10]	2.8[9]	NE	2.8[9]	2.8[9]	250[10]	250[10]	NE	NE	NE	NE	830,000
1,1-dichloroethene	<1 – 577	<1 - 195	<5 – 97 (<100)	<1	700[10]	30	NE	30[2]	30	700[10]	700[10]	NE	NE	NE	NE	420,000
1,2-dichloroethane	<1 – 465	<1 – 800	<5 – 1,630	<1	1,900[10]	3	NE	3[2]	3	1,900[10]	1,900[10]	NE	NE	NE	NE	30,000
Chlorobenzene	<1 – 369	<1 – 8 (<100)	<5 – 54 (<100)	<1	55[10]	300/10[#]	NE	300/10[2#]	300/10[#]	55[10]	55[10]	NE	NE	NE	NE	3,500,000
1,2-dichlorobenzene	<1 – 30 (<100)	<1 – 39 (<100)	<1 – <100	<1	160[10]	1,500/1[#]	NE	1,500/1[2#]	1,500/1[#]	160[10]	160[10]	NE	NE	NE	NE	S
1,4-Dichlorobenzene	<0.1 – 4.8 (<10)	<0.01 – 4.8 (<10.0)	<0.1 - <10	<0.01	60[10]	40/0.3[#]	NE	40/0.3[2#]	40/0.3[#]	60[10]	60[10]	NE	NE	NE	NE	S
Acetone	<10 – 66,000	<10 – 20 (<1,000)	<1,000 - 860	<10	NE	14,000	NE	14,000	14,000	NE	NE	NE	NE	NE	NE	S
TRH >C_{10}-C_{40} (sum)	<100 – 6,540	<100 - 470	<100 - 590	<100	600[14]	600[14]	600[14]	600[14]	600[14]	600[14]	600[14]	NE	NE	NE	NE	NE
TRH C_6-C_{10}	130 – 61,000	<20 – 64,600	10,400 – 168,000	<20	NE	300[11]	NE	NE	300[11]	NE	NE	NE	1,000	NL	1,000	NE
Toluene	<1 – 4,100	<0.05 – 70 (<100)	<2- 276	<1 - <2	180[10]	800/25[#]	NE	800/25[2#]	800/25[#]	180[10]	180[10]	NE	NL	NL	NL	NE
Xylenes (total)	<1 – 45 (<100)	<0.05 – 60 (<100)	<2 – 145	<1 - <2	NE	600/20[#]	NE	600/20[2#]	600/20[#]	NE	NE	NE	NL	NL	NL	NE
Analytes considered by the Auditor to be sourced from the site																
Arsenic	<1 - 50	<1 – 100	<1 - 122	2 – 174	13[^10] (AsV)	10	100	500	100	13[^10] (AsV)	13[^10] (AsV)	NE	NE	NE	NE	NE
Benzene	<1 – 27 (<100)	<0.05 – 11 (<100)	1 – 19 (<100)	<1	700	1	NE	1[2]	1	700	700	NE	800	NL	800	NE

Analyte	Concentration Range (µg/L)				Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[2]	Cultural and spiritual values[2]	Buildings and Structures[6]	Human Health – Vapour Intrusion			Calculated RBC
	Off-site Up-gradient^	On-site^^	Off-site Cross-gradient^^^	Off-site Down-gradient^^^									On-site: HSL A/B[7]	On-site: Intrusive Maint. Worker[4]	Off-site: HSL A/B[5]	
Ethylbenzene	<1 – 41 (<100)	<0.05 – 38 (<100)	<2 – 45 (<100)	<1 - <2	5[10]	300/3[#]	NE	300/3[2#]	300/3[#]	5[10]	5[10]	NE	NL	NL	NL	NE
Naphthalene	<2 - <100	<1 - 15	<5 - <100	<1 - <5	70	1.7[9]	NE	1.7[9]	1.7[9]	70	70	NE	NL	NL	NL	NE

Notes:

1: ANZECC (2000 revised 2018) National Water Quality Management Strategy. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. 95% trigger values for marine water.

2: NHMRC/NRMMC (2011 updated August 2018) National Water Quality Management Strategy. Australian Drinking Water Guidelines (# denotes aesthetic criteria).

3: ANZECC (2000 revised 2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Water Quality for Irrigation and General Water Use – Long-term Trigger Values. Unless otherwise specified.

4: ANZECC (2000 revised 2018) National Water Quality Management Strategy. Australian Water Quality Guidelines for Fresh and Marine Waters "Livestock Drinking Water" – Unless otherwise specified.

5: NHMRC/NRMMC (2008) Guidelines for Managing Risks in Recreational Water (Health / Aesthetic: # denotes aesthetic criteria). Unless otherwise specified. Adjusted by a factor of 10 in accordance with advice from NHMRC (2008). Adjustment was only applied to non-volatile chemicals.

6: Australian Standard AS2159-2009 Piling Design and Installation.

7: NEPC (2013) Health Screening Levels – Groundwater HSL-A (Low Density Residential) for Sand 2 to <4m.

8: NEPC (2013) Health Screening Levels – Groundwater HSL-A (Intrusive Maintenance Worker) for Sand 2 to <4m, adopted for information purposes only.

9: US EPA (November 2018) Regional Screening Levels for Tap Water. Adjusted to be consistent with Australian cancer risk policy. Adjusted by a factor of 10 in accordance with advice from NHMRC (2008)
(adjustment was only applied to non-volatile chemicals).

10: ANZECC (2000 revised 2018) National Water Quality Management Strategy. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Marine Low Reliability Trigger Levels.

11: WHO (2005a) Note the values are based on health effects via ingestion and do not include aesthetic effects.

12: US EPA (2003) Region 5 Ecological Screening Levels.

13: Guideline for chromium VI adopted.

14: Netherlands (2009) Circular on Target Values and Intervention Values for Soil Remediation. Ministry of Housing, Spatial Planning and the Environment, Netherlands Government (Groundwater Intervention Value).

15: NIWA (2013) Site-specific nitrate guidelines for Hawke's Bay, 95% protection.

16: NSW EPA (1994) Guidelines for Assessing Service Station Sites

17: ANZECC (1992) Australian Water Quality Guidelines for Fresh and Marine Waters – Raw Water criteria.

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19: ANZECC (2000 revised 2018) Long term trigger value for total nitrogen.

20: ANZECC (2000 revised 2018) Adopted range for chloride concentration is based on foliar injury to sensitive crops as detailed in Section 4.2.5.2 and Table 4.2.6.

21: ANZECC (2000 revised 2018) Adopted concentration range for sodium is based on Table 4.2.8 for the prevention of foliar injury to crops.

22: WHO (2005b). Odour threshold for MTBE in water.

23: ANZECC (2000 revised 2018) Long term trigger value for total nitrogen

#: Denotes Aesthetic number. NHMRC/NRMMC (2011 updated 2018) and NHMRC/NRMMC (2008).

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All values in ug/L

^ Off-site groundwater monitoring wells considered to be representative of up-gradient conditions: MW24AR, MW24BR, MW24CR, BMW2. Includes results from January 2019 sampling undertaken as part of Lot 2 on-going groundwater management adopted.

^^ On-site groundwater monitoring wells: CMW1, MW2A, MW17A, MW17B, MW23, MW23A, MW33R, MW50A, MW50B, MW50C

^^^ Off-site cross-gradient groundwater monitoring wells: MW25, MW26, MW34A, MW34B. Includes results from January 2019 sampling undertaken as part of Lot 2 on-going groundwater management adopted.

^^^ Off-site groundwater monitoring wells considered to be representative of down-gradient conditions: MW29, MW30, MW40.

Table I Contaminant Concentrations (µg/L) Prior to Audit (2008-2014)

Analyte	Concentration Range (µg/L)				Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[2]	Cultural and spiritual values[2]	Buildings and Structures[6]	Human Health – Vapour Intrusion			Calculated RBC
	Off-site Up-gradient^	On-site^^	Off-site Cross-gradient^^^	Off-site Down-gradient^^^									On-site: HSL A/B[7]	On-site: Intrusive Maint. Worker[4]	Off-site: HSL A/B[5]	
pH	5.19 – 7.68	5.32 – 7.62	5.09 – 7.80	5.43 – 6.90	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	>5.5	NE	NE	NE	NE
Arsenic	<1 – 16 (<20)	4 - 256	<1 - 185	4 - 251	13^[10] (AsV)	10	100	500	100	13^[10] (AsV)	13^[10] (AsV)	NE	NE	NE	NE	NE
Cobalt	2 - 125	<1 - 6	3 - 74	<1 - 279	1	6[9]	50	1,000	60[9]	1	1	NE	NE	NE	NE	NE
Copper	<5 – 38	2 - 31	<1 - 20	2 - 21	1.3	2,000/1,000[#]	200	400	20,000/1,000[#]	1.3	1.3	NE	NE	NE	NE	NE
Iron	<50 – 9,980	<50 – 3,060	<50 – 4,020	<50 – 13,100	300[10]	300[#]	200	Not toxic	300[#]	300[10]	300[10]	NE	NE	NE	NE	NE
Lead	1 – 44	<1 - 8	<1 - 6	<1 - 2	4.4	10	2,000	100	100	4.4	4.4	NE	NE	NE	NE	NE
Manganese	20 – 490	17 - 95	<5 - 1,190	9 - 150	1,900^	500/100[#]	200	NE	5,000/100[#]	1,900^	1,900^	NE	NE	NE	NE	NE
Mercury	<0.1 – 98	<0.1 - <0.5	<0.1 - 0.2	<0.1	0.4	1	2	2	10	0.4	0.4	NE	NE	NE	NE	NE
Nickel	4 – 31	3 - 22	4 – 52	4 - 20	70	20	200	1,000	200	70	70	NE	NE	NE	NE	NE
Zinc	18 - 670	16 - 215	13 – 105	21 - 109	15	3,000	2,000	20,000	3,000[#]	15	15	NE	NE	NE	NE	NE
Ammonia as N	<10 – 200	<10 - 300	20 – 23,000	<10 – 2,180	910	412	NE	412[2]	412	412	412	NE	NE	NE	NE	NE
Nitrate as N	5,670 – 95,800	20 - 16,200	<10 - 23,000	<10 - 15,900	2,400[15]	11,286	NE	90,293	112,866	2,400[15]	2,400[15]	NE	NE	NE	NE	NE
Nitrite as N	60 – 320	10 - 90	<10 - 110	<10 - 40	60[18]	912	3,040[18]	9,119	9,119	60[18]	60[18]	NE	NE	NE	NE	NE
Cyanide (total)	<4 - 820	<4 -116	<4 - 6	NA	4[10]	80	NE	80[2]	800[2]	4[10]	4[10]	NE	NE	NE	NE	NE
Chloride	21,000 – 2,300,000	66,000 – 949,0000	200,000 - 1,950,000	17,000 – 155,000	NE	250,000[#]	25,000[20]	NE	250,000[#]	NE	NE	6,000,000	NE	NE	NE	NE
Fluoride	<100 - 500	<100 – 1,300	<100 – 200 (<500)	<100 – 2,800	NE	1,500	1,000	2,000	15,000	NE	NE	NE	NE	NE	NE	NE
Sodium	259,000 – 1,020,000	170,000 – 710,000	230,000 – 1,340,000	19,000 – 214,000	NE	180,000[#]	115,000[21]	NE	180,000[#]	NE	NE	NE	NE	NE	NE	NE
Sulphate	37,000 – 638,000	165,000 – 566,000	165,000 – 427,000	45,000 – 176,000	NE	500,000/ 250,000[#]	1,000,000	1,000,000	250,000[#]	NE	NE	1,000,000	NE	NE	NE	NE
Carbon tetrachloride	<1 – 150 (<5,000)	<1 - <5	<1 - <2,000	<1 - <5	240[12]	3	NE	5[18]	3	240[12]	240[12]	NE	NE	NE	NE	10,000
Chloroform	<5 – 1,940 (<5,000)	<5 - 18	<5 – 262 (<2,000)	<5	370[10]	250	NE	250[2]	250	370[10]	370[10]	NE	NE	NE	NE	420,000
Dichloromethane	<5 – 179,000	<5	<1 - 6,500	<1 - 31	98[18]	4	NE	4[2]	4	98[18]	98[18]	NE	NE	NE	NE	1,500,000
Trichloroethene	<5 – 791,000	<5 - 31	10 - 278,000	<1 - 37	330[10]	30[18]/2.8[9]	NE	30[18]/2.8[10]	30[18]/2.8[10]	330[10]	330[10]	NE	NE	NE	NE	8,000
Tetrachloroethene	<5 – 7,970	<5	<1 - 2,590	<1 - <5	70[10]	50	NE	50[2]	50	70[10]	70[10]	NE	NE	NE	NE	720,000

Analyte	Concentration Range (µg/L)				Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[2]	Cultural and spiritual values[2]	Buildings and Structures[6]	Human Health – Vapour Intrusion			Calculated RBC
	Off-site Up-gradient^	On-site^^	Off-site Cross-gradient^^^	Off-site Down-gradient^^^									On-site: HSL A/B[7]	On-site: Intrusive Maint. Worker[4]	Off-site: HSL A/B[5]	
cis-1,2-dichlorothene	<5 – 168,000	<5 - 64	<5 – 343 (<2,000)	<1 - <5	NE	60	NE	60[2]	60	NE	NE	NE	NE	NE	NE	37,000
trans-1,2-dichloroethene	<5 – 49 (<100)	<5	<1 - <50	<1 - <5	970	60	NE	60[2]	60	970	970	NE	NE	NE	NE	270,000
Vinyl chloride	<10 – 230 (<1,000)	<10	<1 - <1,000	<1 - <50	930[12]	0.3	NE	0.3[2]	0.3	930[12]	930[12]	NE	NE	NE	NE	4,000
1,1-dichloroethane	<5 – 622 (<5,000)	<5 - 15	<1 - <2,000	<1 - <5	250[10]	2.7[9]	NE	2.7[9]	2.7[9]	250[10]	250[10]	NE	NE	NE	NE	830,000
1,1-dichloroethene	<5 – 2,720 (<5,000)	<5 - 9	<1 - <2,000	<1 - <5	700[10]	30	NE	30[2]	30	700[10]	700[10]	NE	NE	NE	NE	420,000
1,2-dichloroethane	<1 – 2,760 (<5,000)	<1 - 9	<1 – 474 (<2,000)	<1 - <5	1,900[10]	3	NE	3[2]	3	1,900[10]	1,900[10]	NE	NE	NE	NE	30,000
1,1,2-trichloroethane	<5 – 360 (<5,000)	<1 - <5	<1 - 155	<1 - <5	NE	0.41[9]	NE	0.41[9]	0.41[9]	NE	NE	NE	NE	NE	NE	150,000
1,2-dichlorobenzene	<1 – 94 (<5,000)	<1 – 21	<1 - <2,000	<1 - <5	160[10]	1,500/1[#]	NE	1,500/1[2#]	1,500/1[#]	160[10]	160[10]	NE	NE	NE	NE	S
1,4-dichlorobenzene	<1 – 6 (<5,000)	<1 - <5	<1 - <2,000	<1 - <5	60[10]	40/0.3[#]	NE	40/0.3[2#]	40/0.3[#]	60[10]	60[10]	NE	NE	NE	NE	S
Chlorobenzene	<5 – 1,460 (<5,000)	<2 - <5	<1 - <2,000	<1 - <5	55[10]	300/10[#]	NE	300/10[2#]	300/10[#]	55[10]	55[10]	NE	NE	NE	NE	3,500,000
Bromodichloromethane	<5 – 16 <5,000	<1 - <5	<1 - <2,000	<1 - <5	NE	8.7[9]	NE	8.7[9]	8.7[9]	NE	NE	NE	NE	NE	NE	NE
Benzene	<1 – 114 (<5,000)	<1 - 442	<1 - <2,000	<1	700	1	NE	1[2]	1	700	700	NE	800	NL	800	NE
Toluene	<2 – 12,200 (<5,000)	<2 - 108	<1 – 21 (<2,000)	<2	180[10]	800/25[#]	NE	800/25[2#]	800/25[#]	180[10]	180[10]	NE	NL	NL	NL	NE
Ethylbenzene	<1 – 353 (<5,000)	<1 - 59	<1 – 6 <2,000	<2	5[10]	300/3[#]	NE	300/3[2#]	300/3[#]	5[10]	5[10]	NE	NL	NL	NL	NE
Xylene (m&p)	<2 – 101 (<10,000)	<1 – 15	<2 – 5 <4,000	<2	75[10] (m) / 200[10] (p)	190[9]	NE	190[9]	190[9]	75[10] (m) / 200[10] (p)	75[10] (m) / 200[10] (p)	NE	NE	NE	NE	NE
Xylene (o)	<2 – 206 (<5,000)	<1 - 8	<1 – 3 <2,000	<1	350[10]	190[9]	NE	190[9]	190[9]	350[10]	350[10]	NE	NE	NE	NE	NE
Xylenes (total)	<3 – 307 (<15,000)	<3 - 23	<3 - <6,000	<4	NE	600/20[#]	NE	600/20[2#]	600/20[#]	NE	NE	NE	NL	NL	NL	NE
TRH C_6-C_9	<20 – 810,000	<50 - 500	<20 - 285,000	<20 - 40	NE	300[11]	NE	NE	300[11]	NE	NE	NE	1,000	NL	1,000	NE
Naphthalene	<1 - <500	<1 - 30	<1 - <500	<1 - <20	70	1.7[9]	NE	1.7[9]	1.7[9]	70	70	NE	NL	NL	NL	NE

Analyte	Concentration Range (µg/L)				Water dependent ecosystems and species[1]	Potable water supply[2]	Agriculture and irrigation (irrigation)[3]	Agriculture and irrigation (stock watering)[4]	Water based recreation (primary contact recreation)[5]	Traditional Owner cultural values[2]	Cultural and spiritual values[2]	Buildings and Structures[6]	Human Health – Vapour Intrusion			Calculated RBC
	Off-site Up-gradient^	On-site^^	Off-site Cross-gradient^^^	Off-site Down-gradient^^^									On-site: HSL A/B[7]	On-site: Intrusive Maint. Worker[4]	Off-site: HSL A/B[5]	
Isopropylbenzene	<5 - <100	<5 - 14	<5 - <5,000	<5	30[10]	450[9]	NE	450[9]	450[9]	30[10]	30[10]	NE	NE	NE	NE	NE
TRH C_{10}-C_{36} (sum)	<50 – 139,380	195 - 660	<50 - 250	<50	600[14]	600[14]	600[14]	600[14]	600[14]	600[14]	600[14]	NE	NE	NE	NE	NE
Acetone	<50 – 61,400	<50	<1 - <2,000	<1 - <50	NE	14,000	NE	14,000	14,000	NE	NE	NE	NE	NE	NE	S
n-propylbenzene	<5 - <5,000	<5 - 8	<5 - <50	<5	NE	660[9]	NE	660[9]	660[9]	NE	NE	NE	NE	NE	NE	NE

Notes:

1: ANZECC (2000 revised 2018) National Water Quality Management Strategy. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. 95% trigger values for marine water.

2: NHMRC/NRMMC (2011 updated August 2018) National Water Quality Management Strategy. Australian Drinking Water Guidelines (# denotes aesthetic criteria).

3: ANZECC (2000 revised 2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Water Quality for Irrigation and General Water Use – Long-term Trigger Values. Unless otherwise specified.

4: ANZECC (2000 revised 2018) National Water Quality Management Strategy. Australian Water Quality Guidelines for Fresh and Marine Waters "Livestock Drinking Water" – Unless otherwise specified.

5: NHMRC/NRMMC (2008) Guidelines for Managing Risks in Recreational Water (Health / Aesthetic: # denotes aesthetic criteria). Unless otherwise specified. Adjusted by a factor of 10 in accordance with advice from NHMRC (2008). Adjustment was only applied to non-volatile chemicals.

6: Australian Standard AS2159-2009 Piling Design and Installation.

7: NEPC (2013) Health Screening Levels – Groundwater HSL-A (Low Density Residential) for Sand 2 to <4m.

8: NEPC (2013) Health Screening Levels – Groundwater HSL-A (Intrusive Maintenance Worker) for Sand 2 to <4m, adopted for information purposes only.

9: US EPA (November 2018) Regional Screening Levels for Tap Water. Adjusted to be consistent with Australian cancer risk policy. Adjusted by a factor of 10 in accordance with advice from NHMRC (2008)
(adjustment was only applied to non-volatile chemicals).

10: ANZECC (2000 revised 2018) National Water Quality Management Strategy. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Marine Low Reliability Trigger Levels.

11: WHO (2005a) Note the values are based on health effects via ingestion and do not include aesthetic effects.

12: US EPA (2003) Region 5 Ecological Screening Levels.

13: Guideline for chromium VI adopted.

14: Netherlands (2009) Circular on Target Values and Intervention Values for Soil Remediation. Ministry of Housing, Spatial Planning and the Environment, Netherlands Government (Groundwater Intervention Value).

15: NIWA (2013) Site-specific nitrate guidelines for Hawke's Bay, 95% protection.

16: NSW EPA (1994) Guidelines for Assessing Service Station Sites

17: ANZECC (1992) Australian Water Quality Guidelines for Fresh and Marine Waters – Raw Water criteria.

18: CCME (2007) Canadian Water Quality Guidelines for the Protection of Aquatic Life/Agriculture - Freshwater or Livestock criteria.

19: ANZECC (2000 revised 2018) Long term trigger value for total nitrogen.

20: ANZECC (2000 revised 2018) Adopted range for chloride concentration is based on foliar injury to sensitive crops as detailed in Section 4.2.5.2 and Table 4.2.6.

21: ANZECC (2000 revised 2018) Adopted concentration range for sodium is based on Table 4.2.8 for the prevention of foliar injury to crops.

22: WHO (2005b). Odour threshold for MTBE in water.

23: ANZECC (2000 revised 2018) Long term trigger value for total nitrogen

#: Denotes Aesthetic number. NHMRC/NRMMC (2011 updated 2018) and NHMRC/NRMMC (2008).

NE: Not Established.

NL: Not Limiting. Denotes that a groundwater vapour source concentration for a petroleum mixture could not exceed a level that would result in the maximum allowable vapour risk for the given scenario.

All values in ug/L

^ Off-site groundwater monitoring wells considered to be representative of up-gradient conditions: MW12/1, MW13/2, MW15/3, MW18, MW24A, MW24B, MW24C and MW32.

^^ On-site groundwater monitoring wells: MW16/1, MW17/1, MW17/2, MW23 and MW33

^^^ Off-site cross-gradient groundwater monitoring wells: MW25, MW26, MW34A, MW34B.

^^^ Off-site groundwater monitoring wells considered to be representative of down-gradient conditions: MW29, MW30, MW40.

Table J Soil Vapour Results (2001)

Table 1: 601048.781 Soil Gas Survey Results

SGS Point	Depth	PID ppm	FID ppm
VP1	0.4	1	7.2
	0.8	3.9	5.9
VP2	0.4	1	6.5
	0.8	1.6	7.3
VP3	0.4	1.3	1
	0.8	1.5	1
VP4	0.4	5	7
	0.8	5	5
VP5	0.4	15	11
	0.8	13	7
VP6	0.4	1	6
	0.8	1.5	7
VP7	0.4	120	2000
	0.8	50	2150
VP8	0.4	70	12000
	0.8	40	3000
VP9	0.4	7	450
	0.8	1	201
VP10	0.4	1	4.5
	0.8	2	5.5
VP11	0.4	5.5	18
	0.8	8	42
VP12	0.4	7	3400
	0.8	10	1400
VP13	0.4	4	1500
	0.8	3.5	8000
VP14	0.4	2.5	3200
	0.8	7	3300
VP15	0.4	1	5
	0.8	3	15
VP16	0.4	2.5	80
	0.8	4	110
VP17	0.4	70	180
	0.8	5	39
VP18	0.4	2	1
	0.8	3.5	6
VP19	0.4	7	61
	0.8	13	93
VP20	0.4	1	4
	0.8	1	2
VP21	0.4	27	54
	0.8	30	56
VP22	0.4	1	1
	0.8	1.7	3.9
VP23	0.4	3	10
	0.8	7.9	48
VP24	0.4	3	25
	0.8	2	42
VP25	0.4	5	54
	0.8	14	120
VP26	0.4	40	305
	0.8		
VP27	0.4	6	24
	0.8	5	89
VP28	0.4	7	60
	0.8	12	95

SGS Point	Depth	PID ppm	FID ppm
VP29	0.4	49	25
	0.8	60	28
VP30	0.4	8.9	27000
	0.8	9.5	27000
VP31	0.4	40	40
	0.8	800	140
VP32	0.4	100	190
	0.8	400	
VP33	0.4	1.7	6
	0.8	2	5
VP34	0.4	12	29
	0.8	3	10
VP35	0.4	12	86
	0.8		
VP36	0.4	0.8	3
	0.8	10	4
VP37	0.4	32	121
	0.8	14	53
VP38	0.4	12	46
	0.8	4	14
VP39	0.4	5	27
	0.8	5	31
VP40	0.4	2.9	8.6
	0.8	2.5	60
VP41	0.4	12	6029
	0.8	2	6079
VP42	0.4	2	8
	0.8	2	5
VP43	0.4	35	2100
	0.8	50	4500
VP44	0.4	25	6500
	0.8	17	3050
VP45	0.4	25	90000
	0.8	24	120000
VP46	0.4	23	1000
	0.8	14	3100
VP47	0.4	17	75
	0.8	25	300
VP48	0.4	1.4	1700
	0.8	3.5	8500
VP49	0.4	8	15
	0.8	150	30
VP50	0.4	2	8
	0.8	2.5	70
VP51	0.4	360	382
	0.8	380	5260
VP52	0.4	1.5	20
	0.8	2	85
VP53	0.4	1.5	15
	0.8	2	25
VP54	0.4	4	6000
	0.8	3	15000
VP55	0.4	220	110
	0.8	300	119
VP56	0.4	25	390
	0.8	30	420

Appendix A
Statement of Environmental Audit

Lot 3, 14 Hamlet Street, Cheltenham, Victoria

ENVIRONMENT PROTECTION ACT 1970

STATEMENT OF ENVIRONMENTAL AUDIT

I, Timothy Kent Russell of Maple Auditing Pty Ltd, a person appointed by the Environment Protection Authority ('the Authority') under the *Environment Protection Act* 1970 ('the Act') as an Environmental Auditor for the purposes of the Act, having

1. been requested by Mr Andrew Johnston of Chandos Bay Pty Ltd (the owner of the site at the commencement of the Audit) to issue a certificate of environmental audit in relation to the site located at 14 Hamlet Street, Cheltenham, Victoria 3192; defined as Lot 3 on Plan of Subdivision PS802507 (Volume 11973 and Folio 118), ('the site') owned/occupied by The Bare Button Pty Ltd;

2. had regard to, among other things,

(i) guidelines issued by the Authority for the purposes of Part IXD of the Act,

(ii) the beneficial uses that may be made of the site

(iii) relevant State environment protection policies/industrial waste management policies, namely

SEPP *(Waters)*

SEPP *(Ambient Air Quality & Air Quality Management)*

SEPP *(Prevention and Management of Contamination of Land*)

EPA Environment Protection (Industrial Waste Resource) Regulations 2009

in making a total assessment of the nature and extent of any harm or detriment caused to, or the risk of any possible harm or detriment which may be caused to, any beneficial use made of the site by any industrial processes or activity, waste or substance (including any chemical substance), and

3. completed an environmental audit report in accordance with section 53X of the Act, a copy of which has been sent to the Authority and the relevant planning and responsible authority.

HEREBY STATE that I am of the opinion that

The site is suitable for the beneficial uses associated with commercial and industrial land uses subject to the following conditions attached thereto:

A. This Statement is directly referrable to and based upon the layout and construction of the development shown and described in the development plan attached to this Statement of Environmental Audit (i.e. commercial use with a caretaker's residence of the first floor, within the existing site configuration comprising a warehouse scenario). Any substantive change/s (i.e. construction or layout of the ground floor, pattern of use of the ground floor, ground floor ceiling height and/or alteration to sub surface infrastructure) must be verified by an environmental auditor appointed under Part IXD of the Environment Protection Act 1970, and this verification advised in writing to EPA and the planning authority.

B. Any landscaped area or garden bed must be constructed and maintained with at least 0.5 m thickness of soil below the finished surface, which is demonstrated to be suitable for the site and consistent with EPA Publication IWRG 621 Soil Hazard Categorisation and Management as 'fill material' (or commercially sourced garden soil such as topsoil or potting mix).

C. All physical barriers (as prescribed in condition 'B' above), must be maintained on the site and if subsequently damaged or removed during development or occupation of the site, must be reinstated as soon as possible and to the same condition or better as they were prior to any disturbance.

D. If removal of the physical barrier (as prescribed in condition 'B' above) is proposed, an environmental auditor appointed under Part IXD of the Environment Protection Act 1970 ("the Act") must be engaged to conduct an environmental audit of the site under Section 53X of the Act, to consider if the barrier is no longer required.

E. Groundwater at the site is polluted and is not suitable for any beneficial use. Groundwater must not be used for any beneficial use without prior testing and review of results by a suitably qualified professional to confirm its suitability for the proposed use. It may be extracted for the purpose of environmental monitoring or remediation.

The condition of the site is detrimental or potentially detrimental to any (one or more) beneficial uses of the site. Accordingly, I have not issued a certificate of environmental audit for the site in its current condition, the reasons for which are presented in the environmental audit report. The terms and conditions that need to be complied with before a certificate of environmental audit may be issued are set out as follows:

(i) Clean-up of polluted groundwater such that all beneficial uses of groundwater are restored.

(ii) All chemically and aesthetically unsuitable soils and materials are remediated such that all beneficial uses of land are restored.

Other related information

1) On 10 September 2019 the Authority determined that;

(i) groundwater had been cleaned up to the extent practicable, and

(ii) the site is within a Groundwater Quality Restricted Use Zone (GQRUZ). The extent of the GQRUZ is shown on the Authority GQRUZ Figure attached to this Statement of Environmental Audit.

2) The extractive beneficial uses 'Potable Water Supply – Desirable', 'Agriculture and Irrigation (irrigation)', 'Agriculture and Irrigation (stock watering)', 'Water-Based Recreation (primary contact recreation)' and 'Industrial and Commercial Use' are precluded by one or more of arsenic, benzene, ethylbenzene considered to be sourced from the site.

3) The beneficial uses 'Water Dependent Ecosystems', 'Potable Water Supply – Desirable', 'Agriculture and Irrigation (irrigation)', 'Agriculture and Irrigation (stock watering)', 'Water-Based Recreation (primary contact recreation)', 'Industrial and Commercial Use', 'Traditional Owner and Cultural Values' and 'Cultural and Spiritual Values' are precluded by one or more of cobalt, iron, manganese, nickel, lead, nitrate, fluoride, chloroform, dichloromethane, trihalomethanes, TRH C_6-C_{10}, trichloroethene, tetrachloroethene, cis-1,2- dichloroethene, vinyl chloride, carbon tetrachloride, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,1,2-trichloethane, 1,2-dichlorobenzene, and 1,4-dichlorobenzene which are not considered to be derived from the site but are regional in nature.

4) Groundwater contains naturally elevated concentrations of pH, copper, zinc, sulphate, sodium and chloride. The levels are considered typical of the regional groundwater quality surrounding the site and do not constitute pollution in accordance with pollution in accordance with clause 17(3)(b) of the SEPP (Waters).

5) At the completion of the audit, an ongoing groundwater monitoring program was being implemented for Lot 2 (i.e. through the 53X Audit on Lot 2 and with commitment to post audit groundwater sampling work through a Groundwater Quality Management Plan). Chandos Bay Pty Ltd is the responsible party for all future groundwater monitoring works for Lot 2 and committed to include monitoring of a selection of wells on Lot 3 as part of the Lot 2 GQMP. This was confirmed via a 'Notice to Identify Occupier' between Chandos Bay Pty Ltd and EPA on 1 October 2019. The GQMP states that groundwater monitoring will be implemented over a three year program (March 2020 to September 2022) with bi-annual monitoring. As such there is no specific GQMP requirement for Lot 3 and ongoing groundwater monitoring is being conducted as part of the Lot 2 audit. A copy of the GQMP is provided within Appendix J of this audit report.

6) In accordance with Clause 58(4) of the SEPP (Waters) the EPA may require periodic reassessment of the practicability of groundwater clean-up.

7) Groundwater monitoring bores present at the site (not required as part of the GQMP) should be decommissioned in accordance with the requirements of the most up to date version of "Minimum Construction Requirements for Water Bores in Australia", published by the Land and Water Biodiversity Committee.

8) Asbestos containing material has been reported on the site within the 'J Store' building. As part of future development, where the 'J Store' building is removed or refurbished, the works must be conducted in accordance with the Occupational Health & Safety Regulations 2007 (Part 4.3 Asbestos), including the use of an appropriately licensed contractor prior to occupation.

9) Any fill or soil imported to the site must be chemically tested soil or fill that classifies as "fill material" in accordance with relevant EPA guidelines.

10) Any soils proposed to be excavated from the site and disposed of off-site must be classified and managed in accordance with relevant statutory regulations and EPA guidelines (e.g. IWRG 621).

11) Soil containing odours and/or staining may be present at some locations on the site. This material is not considered to represent a human health risk in the context of the proposed development but may cause a noticeable odour if exposed during development or occupation of the site.

12) Soil at the site contains naturally elevated concentrations pH (slightly acidic) and vanadium. The levels are considered typical of the regional soil quality surrounding the site and do not constitute pollution or represent a health or ecological risk. Local natural plants and grasses and fauna are likely to be adapted to these background levels however there may be some impact on the development of some introduced plants, grasses and fauna.

13) In accordance with section 53ZE of the Environment Protection Act 1970, the owner/occupier of the site must provide a copy of this Statement of Environmental Audit to any person who becomes or proposes to become the occupier of the site.

This statement forms part of environmental audit report *(Maple Auditing Pty Ltd, Environmental Audit Report, Lot 3 on PS802507, 14 Hamlet Street, Cheltenham, VIC 3192, Report Number MA114-R02, 28 February 2020*). Further details regarding the condition of the site may be found in the environmental audit report.

DATED 28 February 2020

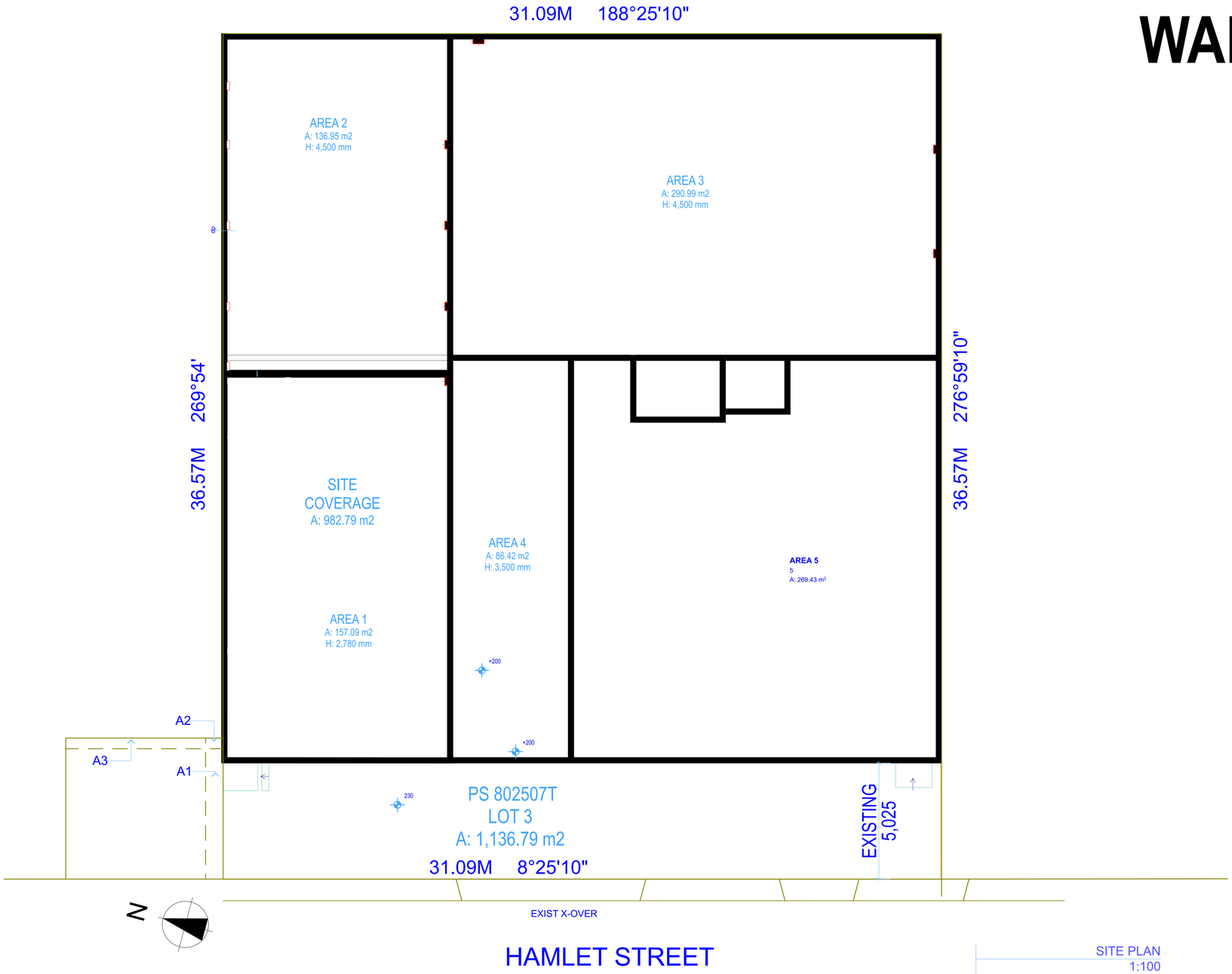
Signed 

ENVIRONMENTAL AUDITOR

WAREHOUSE MIXED DEVELOPMENT

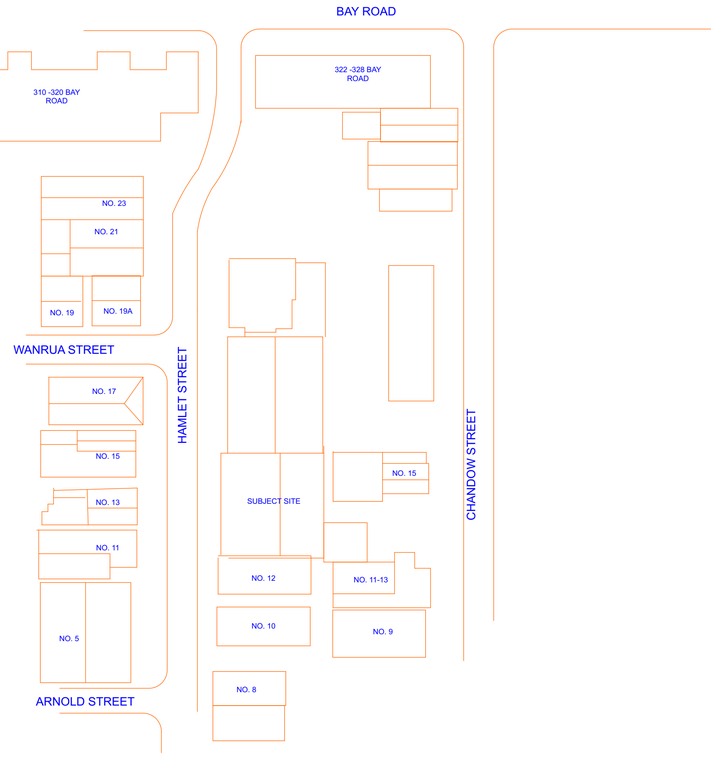
Christina XTHET.COM.AU
CHI BUILDING DESIGN STUDIO
4 / 601 SYDNEY ROAD,
BRUNSWICK 3056
ph. 9387 3702 mbl. 0422 927 407
email:christina@xthet.com.au
www.xthet.com.au

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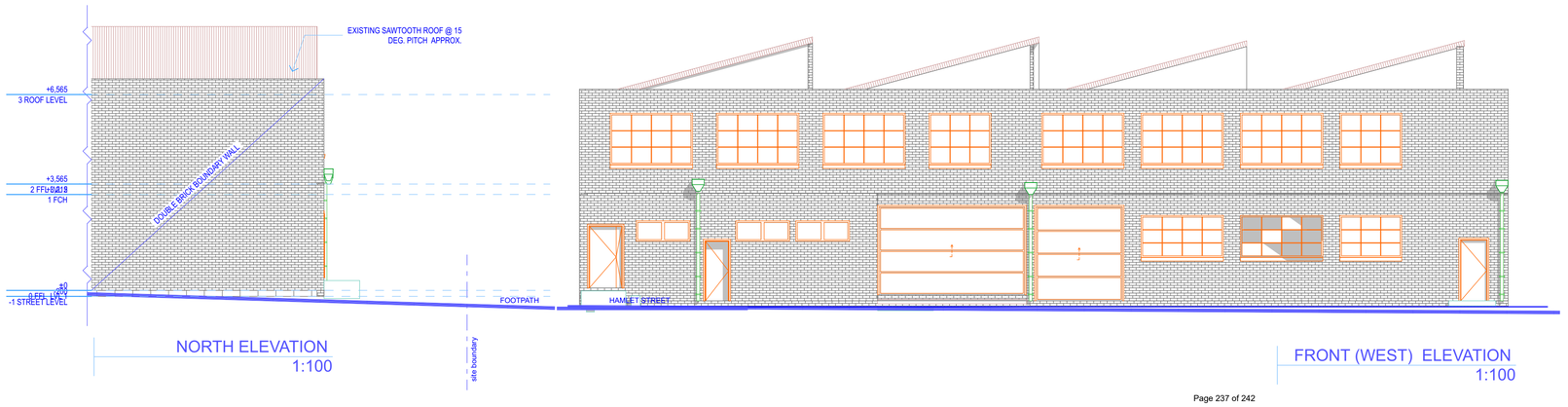


HAMLET STREET

SITE PLAN
1:100



NEIGHBOURHOOD CONTEXT
1:1000



NORTH ELEVATION
1:100

FRONT (WEST) ELEVATION
1:100

TOWN PLANNING APPLICATION SET FOR 14 HAMLET STREET, CHELTENHAM.

DRAWING No.	DESCRIPTION	SCALE	REV
TP01	SITE CONTEXT	1:100, 1:1000, 1:1	
TP02	EXISTING CONDITIONS	1:100	
TP03	PROPOSED PLANS & ELEVATION	1:100	
TP04	DESIGN RESPONSE	1:100, 1:50, 1:200	
TP05	BIN AREA	1:100	

EXISTING AREA ANALYSIS

	SITE COVERAGE	982.79	M2
PS 802507T	LOT 3	1,136.79	M2
1	AREA 1	157.09	M2
2	AREA 2	136.58	M2
3	AREA 3	290.99	M2
4	AREA 4	86.42	M2
5	AREA 5	269.43	M2
6	AREA 6	541.90	M2

REV	AMENDMENT DETAILS	BY	DATE

PROJECT STAGE: TOWN PLANNING
PROJECT DETAILS: WAREHOUSE MIXED DEVELOPMENT
14 HAMLET STREET
CHELTENHAM VIC. 3192
CLIENT DETAILS: MR PHIL SMITH
DRAWING TITLE: SITE CONTEXT
DRAWN: CZ
SHEET SIZE: A1
DATE DRAWN: 14/09/2018
DRAWING SCALE: 1:100, 1:1000, 1:1
PROJECT NUMBER: 1804
DRAWING NUMBER: TP01of4
REVISION:

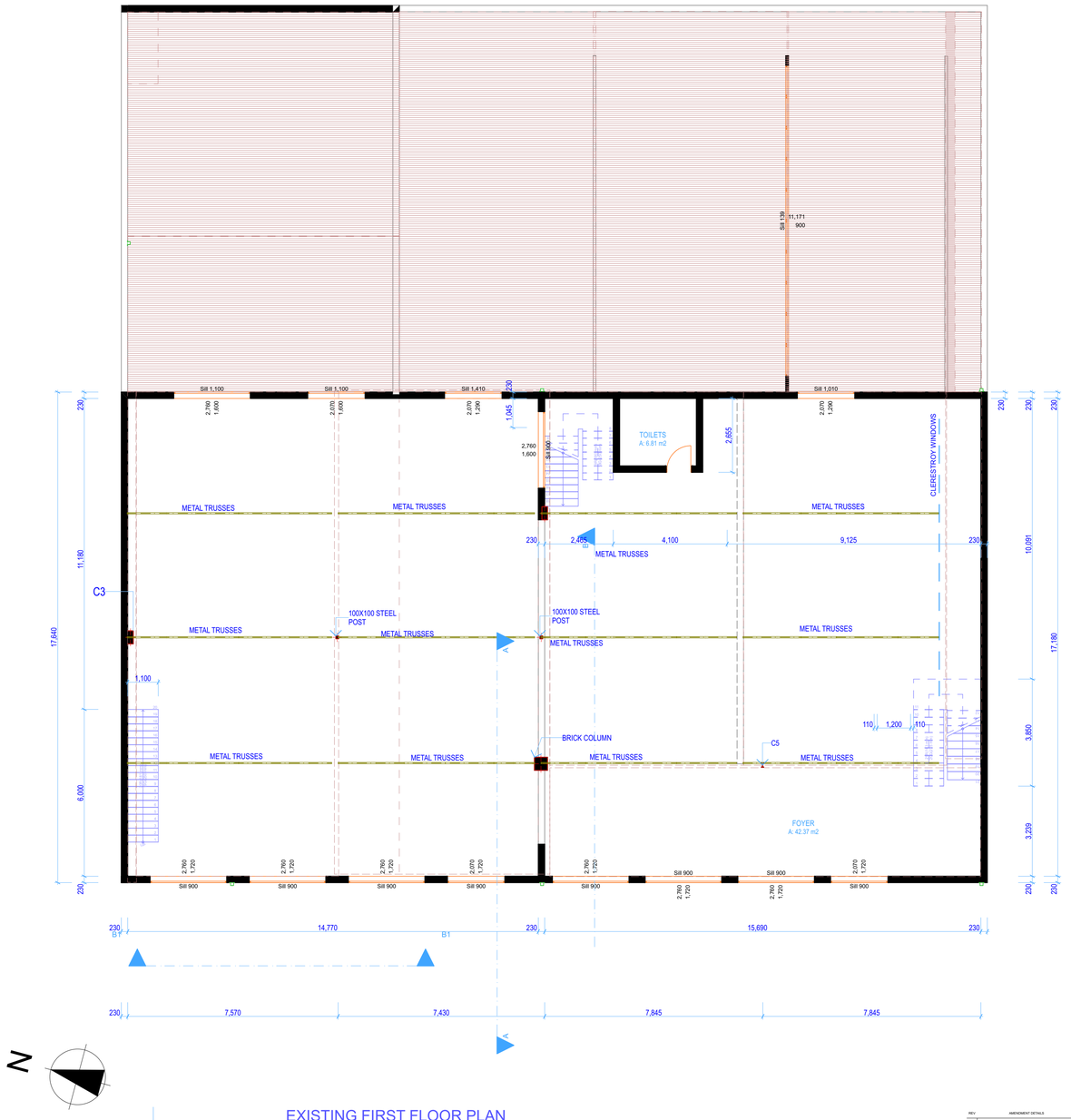
Christina XTHET.COM.AU
CHI BUILDING DESIGN STUDIO
4 / 601 SYDNEY ROAD,
BRUNSWICK 3056
ph. 9387 3702 mbl. 0422 927 407
email:christina@xthet.com.au
www.xthet.com.au

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N

EXISTING GROUND FLOOR PLAN
1:100



N

EXISTING FIRST FLOOR PLAN
1:100

REV	AMENDMENT DETAILS	BY	DATE

PROJECT STAGE
TOWN PLANNING

PROJECT DETAILS
WAREHOUSE MIXED DEVELOPMENT
14 HAMLET STREET
CHELTENHAM VIC. 3192

CLIENT DETAILS
MR PHIL SMITH

DRAWING TITLE
EXISTING CONDITIONS

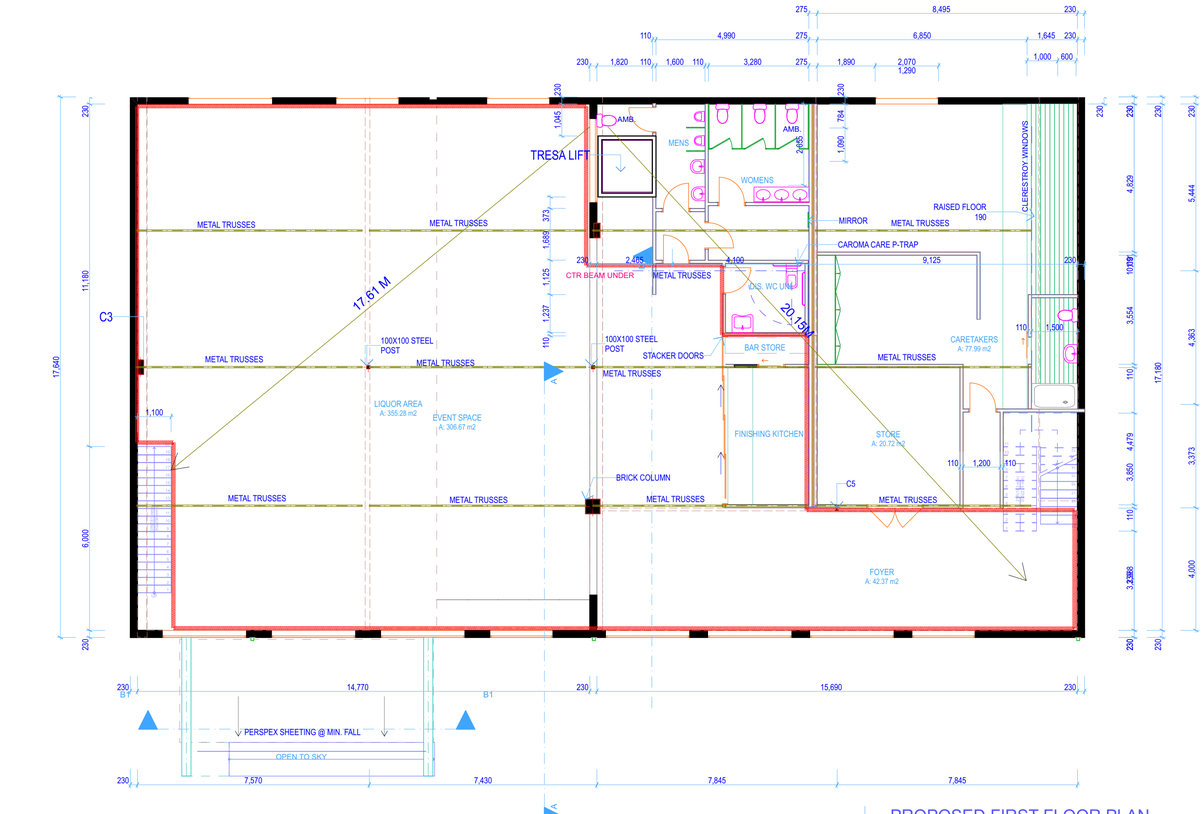
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DATE DRAWN	DRAWING SCALE
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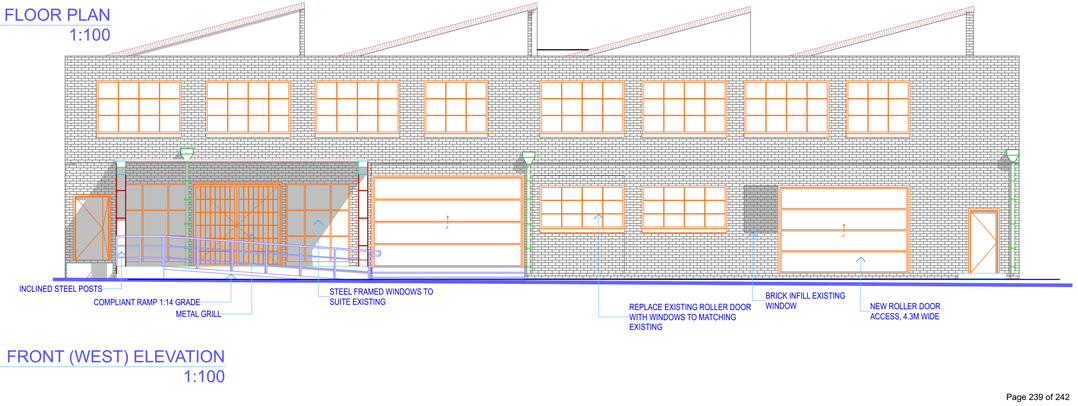
PROJECT NUMBER	DRAWING NUMBER	REVISION
1804	TP02of4	

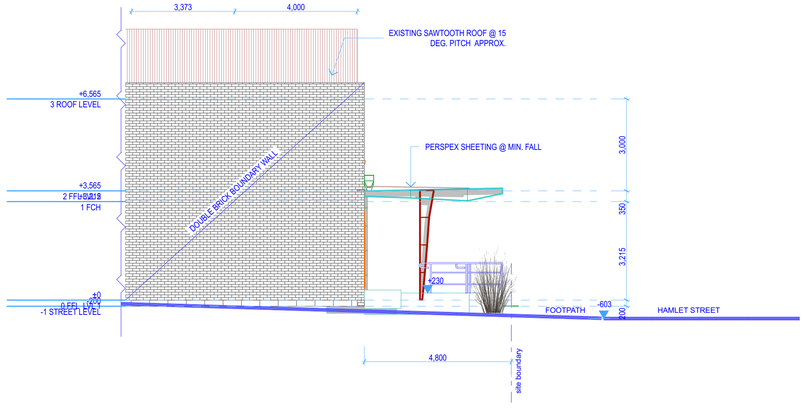
CHI BUILDING DESIGN STUDIO
4 / 601 SYDNEY ROAD,
BRUNSWICK 3056
ph. 9387 3702 mbl. 0422 927 407
email:christina@xthet.com.au
www.xthet.com.au

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LEGEND
LIQUOR LICENCE AREAS
GROUND FLOOR 653.20M²
FIRST FLOOR 355.28M²

REV	AMENDMENT DETAILS	BY	DATE

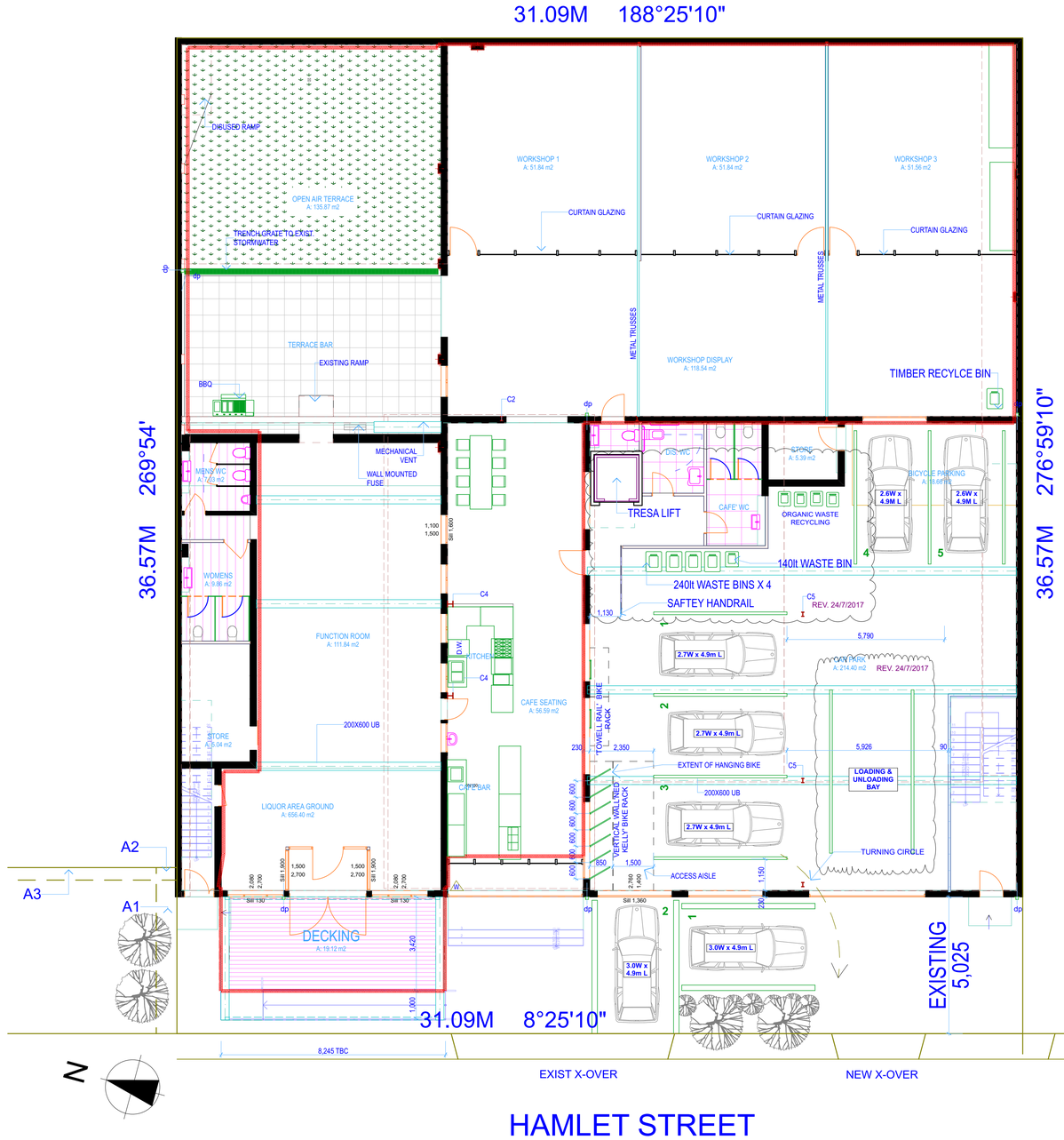
PROJECT STAGE
TOWN PLANNING

PROJECT DETAILS
WAREHOUSE MIXED DEVELOPMENT
14 HAMLET STREET
CHELTENHAM VIC. 3192

CLIENT DETAILS
MR PHIL SMITH

DRAWING TITLE
PROPOSED PLANS & ELEVATION

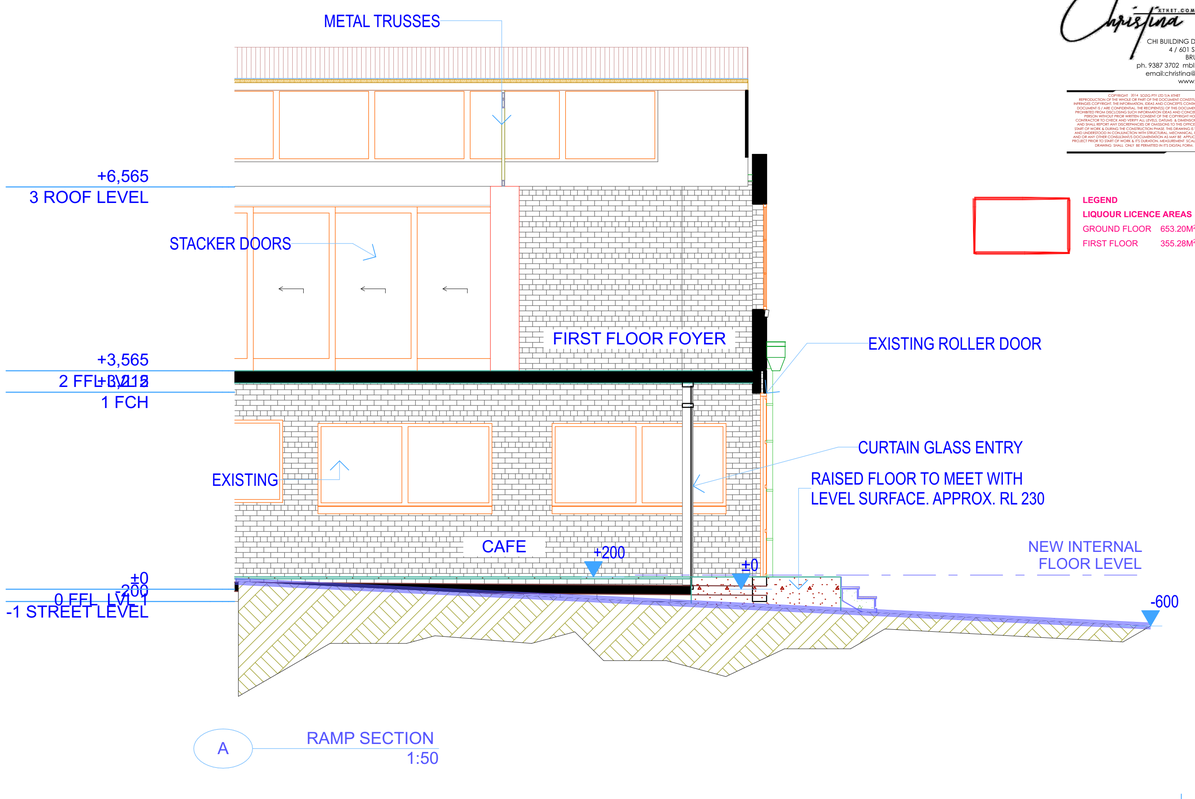
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DATE DRAWN: 14/09/2018
DRAWING SCALE: 1:100
PROJECT NUMBER: 1804
DRAWING NUMBER: TP03of4
REVISION:



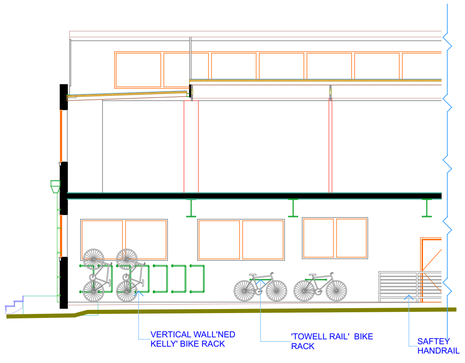
HAMLET STREET

AS1428.1 - ACCESSIBLE RAMP 1:14 4.09°

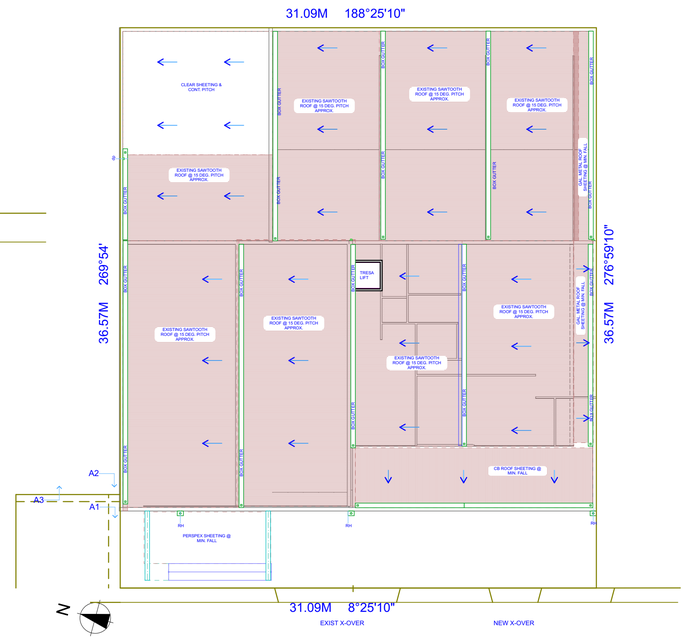
DESIGN RESPONSE
1:100



A RAMP SECTION
1:50



B BIKE RACKS
1:100



PROPOSED ROOF PLAN
1:200

Christina XTHET.COM.AU
CHI BUILDING DESIGN STUDIO
4 / 601 SYDNEY ROAD,
BRUNSWICK 3056
ph. 9387 3702 mbl. 0422 927 407
email:christina@xthet.com.au
www.xthet.com.au

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REV	AMENDMENT DETAILS	BY	DATE

PROJECT STATUS
TOWN PLANNING

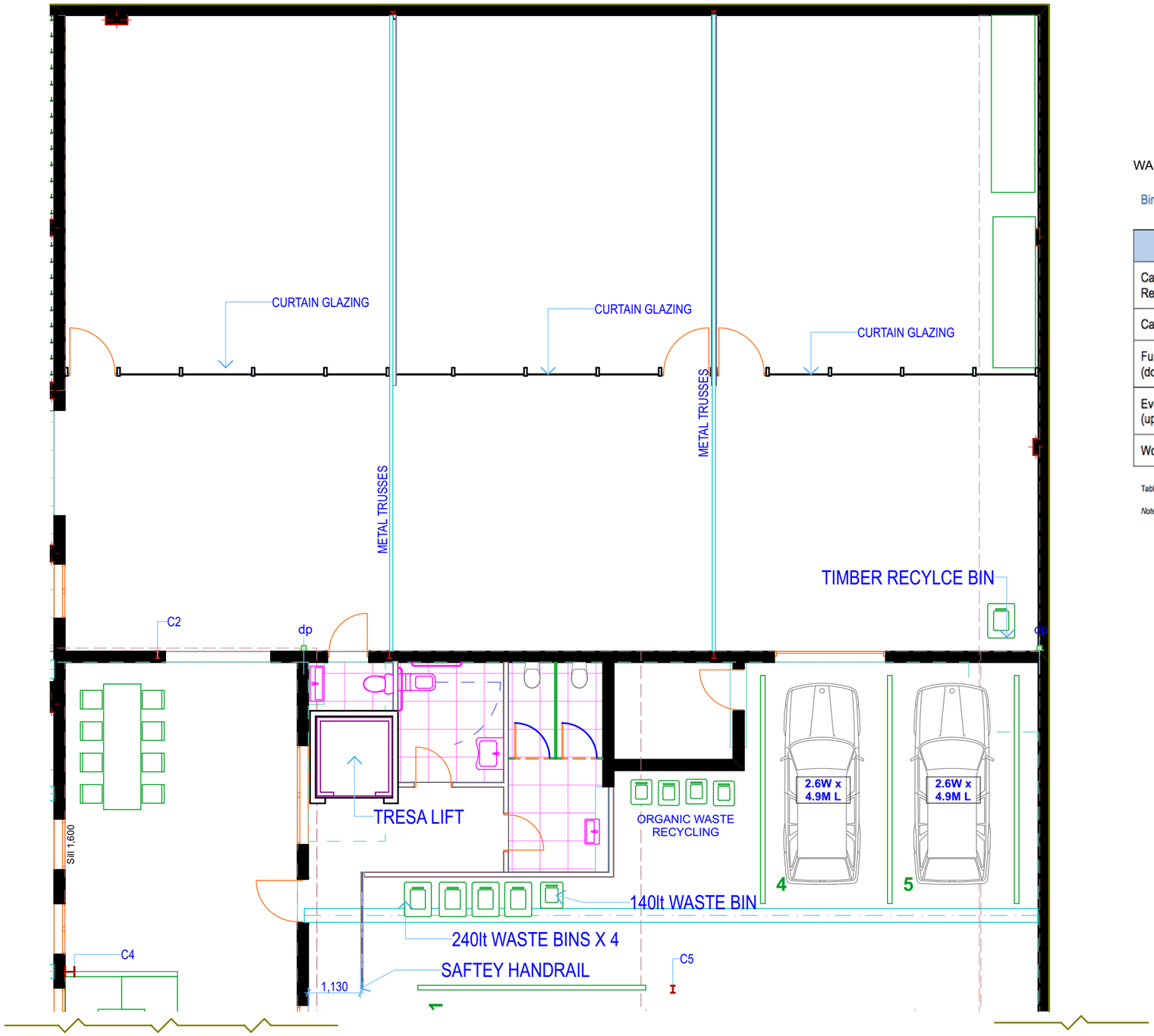
PROJECT DETAILS
WAREHOUSE MIXED DEVELOPMENT
14 HAMLET STREET
CHELTENHAM VIC. 3192

CLIENT DETAILS
MR PHIL SMITH

DRAWING TITLE
DESIGN RESPONSE

DRAWN	PAPER SIZE
CZ	A1
DATE DRAWN	DRAWING SCALE
14/09/2018	1:100, 1:50, 1:200

PROJECT NUMBER	DRAWING NUMBER	REVISION
1804	TP04of4	



WASTE STORAGE LOCATION
1:100

WASTE MANAGMENT PLAN EXERT (P.11)

Bins required (Table 7)

Use / Tenancy	General Waste	Paper	Glass	Plastic	Timber	Organic
Caretaker's Residence	140L	240L	240L	240L	240L	20L
Café						
Function Room (downstairs)						
Event Space (upstairs)						
Workshop Area						

Table 7: Bins required

Note: Combined tenancies - 20L Organic composting/ fermentation bin with sealable lid for transport to organic processing unit in bin area

Christina
XTHET.COM.AU
CHI BUILDING DESIGN STUDIO
4 / 601 SYDNEY ROAD,
BRUNSWICK 3056
ph. 9387 3702 mbl. 0422-927-407
email:christina@xthet.com.au
www.xthet.com.au

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REV	AMENDMENT DETAILS	BY	DATE

PROJECT STAGE
TOWN PLANNING

PROJECT DETAILS
WAREHOUSE MIXED DEVELOPMENT
14 HAMLET STREET
CHELTENHAM VIC. 3192

CLIENT DETAILS
MR PHIL SMITH

DRAWING TITLE
BIN AREA

DRAWN
CZ

DATE DRAWN
14/09/2018

DRAWING SCALE
1:100

SHEET SIZE
A3

PROJECT NUMBER
1804

DRAWING NUMBER
TP05of4

REVISION

Groundwater zone with restricted uses

CHELTENHAM

This zone has been cleaned up to the relevant environmental standards (section 53X environmental audit) but is still subject to restricted groundwater uses.

Environmental audit site

14 HAMLET ST CHELTENHAM VIC 3192

Restrictions on use

Drinking water
Livestock water supply
Irrigation of crops (including domestic gardens) and parks
Water used for recreational purposes (e.g. swimming)
Water used for industrial purposes

Site history

Chemical manufacturing/storage/blending

Legend

- Environmental audit site
- Groundwater zone with restricted uses
- Properties
- 452 Unit/house/building number
- Primary road



Disclaimer: The map represents an approximate estimation of an area where groundwater quality has been impacted by human activities. It does not provide information on the naturally occurring quality of groundwater, which can also have restrictions on its use. The environmental audit boundary and groundwater zone are based on land parcel boundaries at the time of mapping. Subsequent changes to land parcel boundaries do not change the location of the zone.

N

0 25 50 Metres

EPA CARMS ID: 74971-2
EPA IBIS ID: 7001954
Map generated on: 09 Sep 2019

This map may also contain data from: Vicmap

VICTORIA State Government | EPA VICTORIA

For more information contact 1300 EPA VIC