Port of Brisbane Pty Ltd

Drinking Water Quality Management Plan

2016-17 Annual Report

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1. Introduction

The Port of Brisbane is located at the mouth of the Brisbane River on reclaimed land known as Fisherman Islands. The port is managed by the Port of Brisbane Pty Ltd (PBPL) and processes more than 2,600 ships each year.

PBPL is responsible for the site potable water reticulation network and is committed to ensuring that the water systems are managed so that the supply does not constitute a hazard to employees or the public. PBPL draws its drinking water supply from Queensland Urban Utilities' (QUU) reticulated supply through metered supply points. The management of water quality until it is supplied to PBPL is the responsibility of Queensland Urban Utilities, however, the Australian Drinking Water Guidelines (ADWG) require management of drinking water quality through to the consumer. PBPL is considered a Water Service Provider under Queensland legislation and is required to have a Drinking Water Quality Management Plan (DWQMP) in place to manage water quality within its reticulation system.

A DWQMP was developed in early 2012 and submitted to the Department of Energy and Water Supply (DEWS) in August 2012. The DWQMP was approved on 12 September 2012. Further correspondence from DEWS received on 16 October 2013 outlined repeal and re-approval of the DWQMP. The DWQMP was reviewed and updated in April 2014.

An external audit of the DWQMP was undertaken in March 2016 and the DWQMP underwent a significant review and was submitted to the Regulator in November 2016. In February 2017 PBPL received an Information Requirement Notice regarding the application for amendment, which PBPL then responded to in April 2017. In July 2017 a Further Information Request was received from DEWS in regards to PBPL's response to the Information Requirement Notice; the Further Information Request was addressed by PBPL in July 2017 as requested by DEWS. An Amendment Information Notice with conditional approval of the DWQMP was issued to PBPL in late July 2017, with conditions to be addressed by October 2017. PBPL addressed the conditions in a response to DEWS in October as requested, however in response DEWS directed PBPL to submit another application to amend the DWQMP – this application was submitted on 15 November 2017 and a decision from DEWS is yet to be received.

This report is the third annual report of the DWQMP and summarises all actions taken in the 2016-17 financial year in regards to the DWQMP.

2. Implementation of the DWQMP

2.1 Purpose and Objectives of the DWQMP

Purpose of the DWQMP

The PBPL DWQMP contributes to maintaining a safe and reliable drinking water supply for consumers. The plan is based on the principles described in the Framework for Management of Drinking Water Quality contained in the Australian Drinking Water Guidelines 2004 (ADWG).

The purpose of the DWQMP is to provide an overview of PBPL's current management system for achieving/maintaining drinking water quality and plans to develop and continually improve the water quality management systems. The management plan focuses on the section of the drinking water scheme over which PBPL has direct control (reticulation operation, maintenance, monitoring and corrective action). The supply components over which PBPL has no control (catchment management, treatment and storage) are the responsibility of QUU and Seqwater and are considered by their respective DWQMP's.

Objectives of the DWQMP

The PBPL DWQMP addresses the 12 elements of the ADWG Framework in order to meet the required levels of service relating to drinking water quality and the legislative requirements of the Queensland *Water Supply (Safety and Reliability) Act 2008* and the *Queensland Public Health Regulation 2005*. The specific objectives of the Drinking Water Quality Management Plan are:

- To demonstrate due diligence and protect public health by implementing a management strategy to ensure a high quality water is supplied to consumers;
- To improve consumer confidence in water quality and the supplier;
- Clearly define current and future management procedures and strategies for maintaining water quality;
- Clearly define strategies for monitoring the quality of water supplied to consumers; and
- To implement a process for continual review, development and improvement of the water quality management system.

2.2 Implementation of the DWQMP

The PBPL DWQMP was implemented in its current form in October 2012. The PBPL DWQMP was reviewed and updated in April 2014. A significant review of the DWQMP was undertaken in 2016 with the revised document submitted to the Regulator for approval in November 2016. An application for approval of another revision of the plan is currently awaiting a decision from DEWS; refer Section 1 for details.

3. DWQMP Review

3.1 DWQMP Review

A review of the DWQMP was undertaken in 2016 with the revised document submitted to the Regulator for approval in November 2016. A number of changes were made to the document. A new monitoring location (Pinkenba kitchen) was added to capture the provision of water on the northern side of the river. The BMT kitchen location was removed. An application for approval of another revision (addressing the requirements of an Information Requirement Notice and a Further Information Request received in response to PBPL's 2016 application for amendment of the plan) is currently awaiting a decision from DEWS; refer Section 1 for details.

3.2 DWQMP Audit

An audit of the DWQMP was undertaken in March 2016 (prior to 24 April 2016). A copy of the audit report was forwarded to the Regulator.

4. Details of information provided under sections 102 and 102A

There were one notice submitted under section 102 (noncompliance with water quality criteria) in the 2016-17 financial year. On investigation, it was identified that there was not a noncompliance and that the issue was specific to a site (see complaints managements).

5. Monitoring and Compliance

5.1 Quarterly Monitoring

PBPL undertakes quarterly verification monitoring at five representative sites at the Port of Brisbane. The original DWQMP included only three test sites. A fourth site, Port West Bunnings, was added in September 2013 to capture water quality at the new PBPL Port West estate. A fifth site, reclamation, was added in May 2014 to capture water quality at the Port of Brisbane reclamation site office.

Verification sampling was undertaken September 2016, December 2016, March 2017 and June 2017.

No exceedences were recorded in FY17.

Coliforms were detected at NPO Ground Floor Bathroom (~7 CFU/100mL) in December 2016 and the BMT Kitchen at Port West (~1 CFU/100mL) in June 2017. It should be noted that both faecal coliforms and Escherichia coli were below detection levels for all of these samples. No further actions were taken.

Heterotrophic plate count was scrutinised following the detection of elevated levels in the 2014-15 monitoring period. No action was taken in regards to these levels. Heterotrophic plate count levels were much more consistent this year however will continued to be closely monitored.

5.2 E.coli Monitoring

PBPL undertake weekly monitoring for E.coli at the PBPL Main Office. Initial samples are tested in a desktop E.coli sample kit. Where results indicate possible E.coli, a sample is sent to a laboratory for analysis.

All samples taken in the 2016-17 financial year found no evidence of E.coli.

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. samples collected	4	5	4	4	4	4	4	4	6	4	5	5
No. samples collected in which E.coli detected	0	0	0	0	0	0	0	0	0	0	0	0
No. detections in previous 12 months	0	0	0	0	0	0	0	0	0	0	0	0
% samples that comply	100	100	100	100	100	100	100	100	100	100	100	100
Compliance with 98% annual value	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

5.3 Additional Monitoring

Sampling for legionella is now undertaken at all sites. When legionella counts are detected, the water is flushed and retested until nil counts are recorded. No legionella counts of concern were detected.

6. Complaints Management

PBPL received one complaint from Queensland Fire and Emergency Services (QFES) on 19th of July 2017. The complaint outlined that QFES has been conducting water quality testing over a few months and had exceedances on lead and nickel above Australian Drinking Water Quality Guidelines from the main water supply test. It was found that the tenant had installed bulk water coolers at their site in March 2017 and have had water quality issues since.

An investigation by PBPL was undertaken and samples were collected and analysed by ALS. Three locations were sampled – QFES site, main water supply point and the Operations Base (control). The results showed no exceedances, therefore the contamination was not from PBPLs distribution network.

PBPL notified Queensland water supply regulator of the incident. No further action was required.

Appendix A – Water Quality Monitoring Results

September 2016

Analyte	Unit	Australian Drinking Water Quality Health Guidelines	BMT Kitchen	NPO Ground Floor	Port West	Reclaim	Ops Base Tea Room
pH	pH Unit	6.5-8.5 (aesthetic) No health guideline	7.91	7.42	7.49	8.10	7.57
TDS	mg/L	-	306	269	269	259	259
Colour (True)	PCU	-	2	2	2	2	2
Turbidity	NTU	-	0.4	0.5	0.4	0.6	0.6
Total Hardness as CaCO3	mg/L	-	135	122	120	130	125
Hydroxide Alkalinity as CaCO3	mg/L	-	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	mg/L	-	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	mg/L	-	100	91	90	100	90
Total Alkalinity as CaCO3	mg/L	-	100	91	90	100	90
Sulfate as SO4	mg/L	500	27	25	25	26	26
Chloride	mg/L	250 (aesthetic) No health guideline	71	69	70	65	70
Dissolved Major Cations							
Calcium	mg/L	-	31	26	25	29	27
Magnesium	mg/L	-	14	14	14	14	14
Sodium	mg/L	-	41	41	41	40	42
Potassium	mg/L	-	3	3	3	4	3

Dissolved Metals							
Aluminium	mg/L	-	0.02	0.03	0.04	0.14	0.03
Antimony	mg/L	-	<0.001	<0.001	0.003	<0.001	<0.001
Arsenic	mg/L	**0.01**	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	mg/L	**2**	0.024	0.023	0.025	0.033	0.024
Cadmium	mg/L	**0.002**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/L	**2**	0.012	0.256	0.139	0.002	0.081
Lead	mg/L	**0.01**	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	mg/L	**0.5**	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum	mg/L	**0.05**	<0.001	<0.001	0.001	<0.001	<0.001
Nickel	mg/L	**0.02**	<0.001	0.001	<0.001	<0.001	<0.001
Selenium	mg/L	**0.01**	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	mg/L	**0.1**	0.002	<0.001	0.003	<0.001	<0.001
Zinc	mg/L	-	<0.005	0.017	0.063	0.016	0.007
Boron	mg/L	**4**	<0.05	<0.05	<0.05	<0.05	<0.05
Iron	mg/L	-	<0.05	<0.05	<0.05	<0.05	<0.05
Total Metals							
Aluminium	mg/L	-	0.02	0.03	0.04	0.14	0.03
Antimony	mg/L	-	0.002	<0.001	<0.001	<0.001	<0.001
Arsenic	mg/L	**0.01**	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	mg/L	**2**	0.023	0.024	0.024	0.032	0.025
Cadmium	mg/L	**0.002**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/L	**2**	0.015	0.300	0.163	0.003	0.092
Lead	mg/L	**0.01**	<0.001	<0.001	<0.001	<0.001	<0.001

Manganese	mg/L	**0.5**	<0.001	<0.001	0.001	<0.001	<0.001
Molybdenum	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	mg/L	**0.02**	<0.001	0.001	<0.001	<0.001	<0.001
Selenium	mg/L	**0.01**	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	mg/L	**0.1**	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	mg/L	-	<0.005	0.019	0.060	0.019	<0.005
Boron	mg/L	**4**	<0.05	<0.05	<0.05	<0.05	<0.05
Iron	mg/L	-	<0.05	<0.05	<0.05	<0.05	<0.05
Mercury	mg/L		<0.0002	<0.0003	<0.0004	<0.0005	<0.0006
Total Cyanide	mg/L		<0.005	<0.006	<0.007	<0.008	<0.009
Fluoride	mg/L	**1.5**	0.8	0.8	0.8	0.8	0.8
Ammonia	mg/L	-	<0.01	<0.01	0.01	<0.01	<0.01
Nitrite	mg/L	**3**	<0.01	<0.01	0.01	<0.01	<0.01
Nitrate	mg/L	**50**	0.54	0.41	0.31	0.52	0.44
Nitrite and Nitrate as N	mg/L	-	0.54	0.41	0.32	0.52	0.44
Sulfide as S2	mg/L	-	<0.1	<0.1	<0.1	<0.1	<0.1
Monocyclic Aromatic Hydrocarbons							
Benzene	µg/L	**1**	<1	<1	<1	<1	<1
Toluene	µg/L	**800**	<2	<2	<2	<2	<2
Ethylbenzene	µg/L	**300**	<2	<2	<2	<2	<2
meta- & para-Xylene	µg/L	**600**	<2	<2	<2	<2	<2
Styrene	µg/L	**30**	<5	<5	<5	<5	<5
ortho-Xylene	µg/L	**600**	<2	<2	<2	<2	<2
Isopropylbenzene	µg/L	-	<5	<5	<5	<5	<5

n-Propylbenzene	µg/L	-	<5	<5	<5	<5	<5
1.3.5-Trimethylbenzene	µg/L	-	<5	<5	<5	<5	<5
sec-Butylbenzene	µg/L	-	<5	<5	<5	<5	<5
1.2.4-Trimethylbenzene	µg/L	-	<5	<5	<5	<5	<5
tert-Butylbenzene	µg/L	-	<5	<5	<5	<5	<5
p-Isopropyltoluene	µg/L	-	<5	<5	<5	<5	<5
n-Butylbenzene	µg/L	-	<5	<5	<5	<5	<5
Vinyl Acetate	µg/L	-	<50	<50	<50	<50	<50
2-Butanone (MEK)	µg/L	-	<50	<50	<50	<50	<50
4-Methyl-2-pentanone (MIBK)	µg/L	-	<50	<50	<50	<50	<50
2-Hexanone (MBK)	µg/L	-	<50	<50	<50	<50	<50
Carbon disulfide	µg/L	-	<5	<5	<5	<5	<5
2.2-Dichloropropane	µg/L	-	<5	<5	<5	<5	<5
1.2-Dichloropropane	µg/L	-	<5	<5	<5	<5	<5
cis-1.3-Dichloropropylene	µg/L	-	<5	<5	<5	<5	<5
trans-1.3-Dichloropropylene	µg/L	-	<5	<5	<5	<5	<5
1.2-Dibromoethane (EDB)	µg/L	-	<5	<5	<5	<5	<5
Halogenated Aliphatic Compounds							
Dichlorodifluoromethane	µg/L	-	<50	<50	<50	<50	<50
Chloromethane	µg/L	-	<50	<50	<50	<50	<50
Vinyl chloride	µg/L	**0.3**	<50	<50	<50	<50	<50
Bromomethane	µg/L	-	<50	<50	<50	<50	<50
Chloroethane	µg/L	-	<50	<50	<50	<50	<50
Trichlorofluoromethane	µg/L	-	<50	<50	<50	<50	<50

1.1-Dichloroethene	µg/L	**30**	<5	<5	<5	<5	<5
Iodomethane	µg/L	-	<5	<5	<5	<5	<5
trans-1.2-Dichloroethene	µg/L	**60**	<5	<5	<5	<5	<5
1.1-Dichloroethane	µg/L	-	<5	<5	<5	<5	<5
cis-1.2-Dichloroethene	µg/L	**60**	<5	<5	<5	<5	<5
1.1.1-Trichloroethane	µg/L	-	<5	<5	<5	<5	<5
1.1-Dichloropropylene	µg/L	-	<5	<5	<5	<5	<5
Carbon Tetrachloride	µg/L	**3**	<5	<5	<5	<5	<5
1.2-Dichloroethane	µg/L	**3**	<5	<5	<5	<5	<5
Trichloroethene	µg/L	-	<5	<5	<5	<5	<5
Dibromomethane	µg/L	-	<5	<5	<5	<5	<5
1.1.2-Trichloroethane	µg/L	-	<5	<5	<5	<5	<5
1.3-Dichloropropane	µg/L	-	<5	<5	<5	<5	<5
Tetrachloroethene	µg/L	**50**	<5	<5	<5	<5	<5
1.1.1.2-Tetrachloroethane	µg/L	-	<5	<5	<5	<5	<5
trans-1.4-Dichloro-2-butene	µg/L	-	<5	<5	<5	<5	<5
cis-1.4-Dichloro-2-butene	µg/L	-	<5	<5	<5	<5	<5
1.1.2.2-Tetrachloroethane	µg/L	-	<5	<5	<5	<5	<5
1.2.3-Trichloropropane	µg/L	-	<5	<5	<5	<5	<5
Pentachloroethane	µg/L	-	<5	<5	<5	<5	<5
1.2-Dibromo-3-chloropropane	µg/L	-	<5	<5	<5	<5	<5
Hexachlorobutadiene	µg/L	**0.7**	<5	<5	<5	<5	<5
Halogenated Aromatic Compounds							
Chlorobenzene	µg/L	**300**	<5	<5	<5	<5	<5
Bromobenzene	µg/L	-	<5	<5	<5	<5	<5

2-Chlorotoluene	µg/L	-	<5	<5	<5	<5	<5
4-Chlorotoluene	µg/L	-	<5	<5	<5	<5	<5
1.3-Dichlorobenzene	µg/L	-	<5	<5	<5	<5	<5
1.4-Dichlorobenzene	µg/L	**40**	<5	<5	<5	<5	<5
1.2-Dichlorobenzene	µg/L	**1500**	<5	<5	<5	<5	<5
1.2.4-Trichlorobenzene	µg/L	**30**	<5	<5	<5	<5	<5
1.2.3-Trichlorobenzene	µg/L	**30**	<5	<5	<5	<5	<5
Trihalomethanes							
Chloroform	µg/L	**250**	9	13	14	11	12
Bromodichloromethane	µg/L	**250**	<5	<5	20	<5	12
Dibromochloromethane	µg/L	**250**	<5	<5	24	<5	8
Bromoform	µg/L	**250**	<5	<5	8	<5	<5
*Note: the concentration of trihalomethanes, either individually **or in total**, must not exceed 250 µg/L*							
Naphthalene	µg/L	-	<5	<5	<5	<5	<5
VOC Surrogates							
1.2-Dichloroethane-D4	%	-	99.1	94.4	97.7	90.7	98.7
Toluene-D8	%	-	104	104	106	103	104
4-Bromofluorobenzene	%	-	98.5	96.6	100	97.5	97.7
Total Petroleum Hydrocarbons							
C6 - C9 Fraction	µg/L	-	<20	<20	30	<20	20
C10 - C14 Fraction	µg/L	-	<50	<50	<50	<50	<50
C15 - C28 Fraction	µg/L	-	<100	<100	<100	<100	<100

C29 - C36 Fraction	µg/L	-	<50	<50	<50	<50	<50
C10 - C36 Fraction (sum)	µg/L	-	<50	<50	<50	<50	<50
Heterotrophic Plate Count (22°C)	CFU/mL	-	76	24	<1	~6	13
Heterotrophic Plate Count (36°C)	CFU/mL	-	93	32	180	160	11
Faecal Coliforms	CFU/100 mL	**nil**	<1	<1	<1	<1	<1
Escherichia coli	CFU/100 mL	**nil**	<1	<1	<1	<1	<1
Coliforms	CFU/100 mL	**nil**	<1	<1	<1	<1	<1

December 2016

Analyte	Unit	Australian Drinking Water Quality Health Guidelines	BMT Kitchen	NPO Ground Floor	Port West	Reclaim	Ops Base Tea Room
pH	pH Unit	6.5-8.5 (aesthetic) No health guideline	7.91	8.00	7.99	8.24	8.05
TDS	mg/L	-	270	271	267	267	270
Colour (True)	PCU	-	2	2	2	2	2
Turbidity	NTU	-	3.7	0.2	0.2	0.1	0.3
Total Hardness as CaCO3	mg/L	-	119	128	118	117	121
Hydroxide Alkalinity as CaCO3	mg/L	-	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	mg/L	-	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	mg/L	-	92	98	97	104	100
Total Alkalinity as CaCO3	mg/L	-	92	98	97	104	100
Sulfate as SO4	mg/L	500	24	24	24	24	24
Chloride	mg/L	250 (aesthetic) No health guideline	70	74	76	72	74
Dissolved Major Cations							
Calcium	mg/L	-	23	26	26	29	27
Magnesium	mg/L	-	15	14	14	13	14
Sodium	mg/L	-	40	41	42	41	42
Potassium	mg/L	-	3	3	4	4	3

Dissolved Metals							
Aluminium	mg/L	-	0.02	0.07	0.06	0.23	0.05
Antimony	mg/L	-	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	mg/L	**0.01**	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	mg/L	**2**	0.023	0.026	0.026	0.036	0.024
Cadmium	mg/L	**0.002**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/L	**2**	0.272	0.254	0.229	0.003	0.082
Lead	mg/L	**0.01**	<0.001	0.001	<0.001	<0.001	<0.001
Manganese	mg/L	**0.5**	0.009	0.002	<0.001	<0.001	<0.001
Molybdenum	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	mg/L	**0.02**	0.001	0.002	0.002	<0.001	<0.001
Selenium	mg/L	**0.01**	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	mg/L	**0.1**	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	mg/L	-	0.465	0.031	0.065	0.011	0.006
Boron	mg/L	**4**	<0.05	<0.05	<0.05	<0.05	<0.05
Iron	mg/L	-	<0.05	<0.05	<0.05	<0.05	<0.05
Total Metals							
Aluminium	mg/L	-	0.03	0.05	0.06	0.24	0.06
Antimony	mg/L	-	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	mg/L	**0.01**	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	mg/L	**2**	0.021	0.023	0.025	0.036	0.025
Cadmium	mg/L	**0.002**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/L	**2**	0.311	0.254	0.247	0.004	0.098
Lead	mg/L	**0.01**	0.004	0.001	<0.001	<0.001	0.001
Manganese	mg/L	**0.5**	0.010	0.001	0.002	<0.001	0.003

Molybdenum	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	mg/L	**0.02**	<0.001	0.001	0.002	<0.001	<0.001
Selenium	mg/L	**0.01**	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	mg/L	**0.1**	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	mg/L	-	0.474	0.018	0.065	0.011	0.009
Boron	mg/L	**4**	<0.05	<0.05	<0.05	<0.05	<0.05
Iron	mg/L	-	0.31	<0.05	<0.05	<0.05	<0.05
Mercury	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Cyanide	mg/L		<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride	mg/L	**1.5**	0.8	0.9	0.9	0.8	0.9
Ammonia	mg/L	-	0.04	0.03	0.02	0.02	0.02
Nitrite	mg/L	**3**	0.03	<0.01	<0.01	<0.01	<0.01
Nitrate	mg/L	**50**	0.47	0.58	0.54	0.66	0.60
Nitrite and Nitrate as N	mg/L	-	0.50	0.58	0.54	0.66	0.60
Sulfide as S2	mg/L	-	<0.1	<0.1	<0.1	<0.1	<0.1
Monocyclic Aromatic Hydrocarbons							
Benzene	µg/L	**1**	<1	<1	<1	<1	<1
Toluene	µg/L	**800**	<2	<2	<2	<2	<2
Ethylbenzene	µg/L	**300**	<2	<2	<2	<2	<2
meta- & para-Xylene	µg/L	**600**	<2	<2	<2	<2	<2
Styrene	µg/L	**30**	<5	<5	<5	<5	<5
ortho-Xylene	µg/L	**600**	<2	<2	<2	<2	<2
Isopropylbenzene	µg/L	-	<5	<5	<5	<5	<5
n-Propylbenzene	µg/L	-	<5	<5	<5	<5	<5

1.3.5-Trimethylbenzene	µg/L	-	<5	<5	<5	<5	<5
sec-Butylbenzene	µg/L	-	<5	<5	<5	<5	<5
1.2.4-Trimethylbenzene	µg/L	-	<5	<5	<5	<5	<5
tert-Butylbenzene	µg/L	-	<5	<5	<5	<5	<5
p-Isopropyltoluene	µg/L	-	<5	<5	<5	<5	<5
n-Butylbenzene	µg/L	-	<5	<5	<5	<5	<5
Vinyl Acetate	µg/L	-	<50	<50	<50	<50	<50
2-Butanone (MEK)	µg/L	-	<50	<50	<50	<50	<50
4-Methyl-2-pentanone (MIBK)	µg/L	-	<50	<50	<50	<50	<50
2-Hexanone (MBK)	µg/L	-	<50	<50	<50	<50	<50
Carbon disulfide	µg/L	-	<5	<5	<5	<5	<5
2.2-Dichloropropane	µg/L	-	<5	<5	<5	<5	<5
1.2-Dichloropropane	µg/L	-	<5	<5	<5	<5	<5
cis-1.3-Dichloropropylene	µg/L	-	<5	<5	<5	<5	<5
trans-1.3-Dichloropropylene	µg/L	-	<5	<5	<5	<5	<5
1.2-Dibromoethane (EDB)	µg/L	-	<5	<5	<5	<5	<5
Halogenated Aliphatic Compounds							
Dichlorodifluoromethane	µg/L	-	<50	<50	<50	<50	<50
Chloromethane	µg/L	-	<50	<50	<50	<50	<50
Vinyl chloride	µg/L	**0.3**	<50	<50	<50	<50	<50
Bromomethane	µg/L	-	<50	<50	<50	<50	<50
Chloroethane	µg/L	-	<50	<50	<50	<50	<50
Trichlorofluoromethane	µg/L	-	<50	<50	<50	<50	<50
1.1-Dichloroethene	µg/L	**30**	<5	<5	<5	<5	<5
Iodomethane	µg/L	-	<5	<5	<5	<5	<5

trans-1.2-Dichloroethene	µg/L	**60**	<5	<5	<5	<5	<5
1.1-Dichloroethane	µg/L	-	<5	<5	<5	<5	<5
cis-1.2-Dichloroethene	µg/L	**60**	<5	<5	<5	<5	<5
1.1.1-Trichloroethane	µg/L	-	<5	<5	<5	<5	<5
1.1-Dichloropropylene	µg/L	-	<5	<5	<5	<5	<5
Carbon Tetrachloride	µg/L	**3**	<5	<5	<5	<5	<5
1.2-Dichloroethane	µg/L	**3**	<5	<5	<5	<5	<5
Trichloroethene	µg/L	-	<5	<5	<5	<5	<5
Dibromomethane	µg/L	-	<5	<5	<5	<5	<5
1.1.2-Trichloroethane	µg/L	-	<5	<5	<5	<5	<5
1.3-Dichloropropane	µg/L	-	<5	<5	<5	<5	<5
Tetrachloroethene	µg/L	**50**	<5	<5	<5	<5	<5
1.1.1.2-Tetrachloroethane	µg/L	-	<5	<5	<5	<5	<5
trans-1.4-Dichloro-2-butene	µg/L	-	<5	<5	<5	<5	<5
cis-1.4-Dichloro-2-butene	µg/L	-	<5	<5	<5	<5	<5
1.1.2.2-Tetrachloroethane	µg/L	-	<5	<5	<5	<5	<5
1.2.3-Trichloropropane	µg/L	-	<5	<5	<5	<5	<5
Pentachloroethane	µg/L	-	<5	<5	<5	<5	<5
1.2-Dibromo-3-chloropropane	µg/L	-	<5	<5	<5	<5	<5
Hexachlorobutadiene	µg/L	**0.7**	<5	<5	<5	<5	<5
Halogenated Aromatic Compounds							
Chlorobenzene	µg/L	**300**	<5	<5	<5	<5	<5
Bromobenzene	µg/L	-	<5	<5	<5	<5	<5
2-Chlorotoluene	µg/L	-	<5	<5	<5	<5	<5
4-Chlorotoluene	µg/L	-	<5	<5	<5	<5	<5
1.3-Dichlorobenzene	µg/L	-	<5	<5	<5	<5	<5

1.4-Dichlorobenzene	µg/L	**40**	<5	<5	<5	<5	<5
1.2-Dichlorobenzene	µg/L	**1500**	<5	<5	<5	<5	<5
1.2.4-Trichlorobenzene	µg/L	**30**	<5	<5	<5	<5	<5
1.2.3-Trichlorobenzene	µg/L	**30**	<5	<5	<5	<5	<5
Trihalomethanes							
Chloroform	µg/L	**250**	13	17	16	17	16
Bromodichloromethane	µg/L	**250**	11	<5	18	<5	8
Dibromochloromethane	µg/L	**250**	12	<5	22	<5	8
Bromoform	µg/L	**250**	<5	<5	7	<5	<5
*Note: the concentration of trihalomethanes, either individually **or in total**, must not exceed 250 µg/L*							
Naphthalene	µg/L	-	<5	<5	<5	<5	<5
VOC Surrogates							
1.2-Dichloroethane-D4	%	-	108	105	106	112	108
Toluene-D8	%	-	101	103	102	100	101
4-Bromofluorobenzene	%	-	96.8	99.3	99.3	103	99.2
Total Petroleum Hydrocarbons							
C6 - C9 Fraction	µg/L	-	20	20	30	<20	20
C10 - C14 Fraction	µg/L	-	<50	<50	<50	<50	<50
C15 - C28 Fraction	µg/L	-	<100	<100	<100	<100	<100
C29 - C36 Fraction	µg/L	-	<50	<50	<50	<50	<50
C10 - C36 Fraction (sum)	µg/L	-	<50	<50	<50	<50	<50

Heterotrophic Plate Count (22°C)	CFU/mL	-	220	18	25	13	12
Heterotrophic Plate Count (36°C)	CFU/mL	-	190	12	32	55	13
Faecal Coliforms	CFU/100mL	**nil**	<1	<1	<1	<1	<1
Escherichia coli	CFU/100mL	**nil**	<1	<1	<1	<1	<1
Coliforms	CFU/100mL	**nil**	<1	~7	<1	<1	<1

March 2017

Analyte	Unit	Australian Drinking Water Quality Health Guidelines	BMT Kitchen	NPO Ground Floor	Port West	Reclaim	Ops Base Tea Room
pH	pH Unit	6.5-8.5 (aesthetic) No health guideline	7.86	8.01	7.95	8.07	7.95
TDS	mg/L	-	292	261	249	267	245
Colour (True)	PCU	-	3	2	2	2	2
Turbidity	NTU	-	4.0	0.3	0.2	0.1	0.3
Total Hardness as CaCO3	mg/L	-	124	128	127	116	127
Hydroxide Alkalinity as CaCO3	mg/L	-	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	mg/L	-	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	mg/L	-	96	100	97	89	97
Total Alkalinity as CaCO3	mg/L	-	96	100	97	89	97
Sulfate as SO4	mg/L	500	27	26	26	28	26
Chloride	mg/L	250 (aesthetic) No health guideline	67	64	65	67	65
Dissolved Major Cations							
Calcium	mg/L	-	25	28	26	25	26
Magnesium	mg/L	-	15	14	15	13	15
Sodium	mg/L	-	43	42	42	44	43
Potassium	mg/L	-	3	3	3	5	3

Dissolved Metals							
Aluminium	mg/L	-	0.02	0.06	0.06	0.32	0.06
Antimony	mg/L	-	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	mg/L	**0.01**	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	mg/L	**2**	0.024	0.025	0.027	0.042	0.025
Cadmium	mg/L	**0.002**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/L	**2**	0.097	0.090	0.134	0.002	0.088
Lead	mg/L	**0.01**	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	mg/L	**0.5**	0.009	<0.001	<0.001	0.001	0.001
Molybdenum	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	mg/L	**0.02**	0.001	<0.001	0.003	0.006	<0.001
Selenium	mg/L	**0.01**	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	mg/L	**0.1**	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	mg/L	-	0.635	0.008	0.065	<0.005	0.005
Boron	mg/L	**4**	<0.05	<0.05	<0.05	<0.05	<0.05
Iron	mg/L	-	<0.05	<0.05	<0.05	<0.05	<0.05
Total Metals							
Aluminium	mg/L	-	0.04	0.07	0.06	0.33	0.06
Antimony	mg/L	-	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	mg/L	**0.01**	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	mg/L	**2**	0.026	0.026	0.028	0.045	0.026
Cadmium	mg/L	**0.002**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/L	**2**	0.165	0.115	0.124	0.002	0.085
Lead	mg/L	**0.01**	0.008	0.001	0.001	<0.001	<0.001
Manganese	mg/L	**0.5**	0.012	0.003	0.002	0.001	0.003

Molybdenum	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	mg/L	**0.02**	0.001	<0.001	0.002	<0.001	<0.001
Selenium	mg/L	**0.01**	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	mg/L	**0.1**	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	mg/L	-	0.713	0.008	0.064	<0.005	<0.005
Boron	mg/L	**4**	<0.05	<0.05	<0.05	<0.05	<0.05
Iron	mg/L	-	0.40	<0.05	<0.05	<0.05	<0.05
Mercury	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Cyanide	mg/L		<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride	mg/L	**1.5**	0.9	0.9	0.9	0.9	0.9
Ammonia	mg/L	-	0.02	<0.01	0.02	0.06	<0.01
Nitrite	mg/L	**3**	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrate	mg/L	**50**	0.39	0.45	0.48	0.63	0.46
Nitrite and Nitrate as N	mg/L	-	0.39	0.45	0.48	0.63	0.46
Sulfide as S2	mg/L	-	<0.1	<0.1	<0.1	<0.1	<0.1
Monocyclic Aromatic Hydrocarbons							
Benzene	µg/L	**1**	<1	<1	<1	<1	<1
Toluene	µg/L	**800**	<2	<2	<2	<2	<2
Ethylbenzene	µg/L	**300**	<2	<2	<2	<2	<2
meta- & para-Xylene	µg/L	**600**	<2	<2	<2	<2	<2
Styrene	µg/L	**30**	<5	<5	<5	<5	<5
ortho-Xylene	µg/L	**600**	<2	<2	<2	<2	<2
Isopropylbenzene	µg/L	-	<5	<5	<5	<5	<5
n-Propylbenzene	µg/L	-	<5	<5	<5	<5	<5

1.3.5-Trimethylbenzene	µg/L	-	<5	<5	<5	<5	<5
sec-Butylbenzene	µg/L	-	<5	<5	<5	<5	<5
1.2.4-Trimethylbenzene	µg/L	-	<5	<5	<5	<5	<5
tert-Butylbenzene	µg/L	-	<5	<5	<5	<5	<5
p-Isopropyltoluene	µg/L	-	<5	<5	<5	<5	<5
n-Butylbenzene	µg/L	-	<5	<5	<5	<5	<5
Vinyl Acetate	µg/L	-	<50	<50	<50	<50	<50
2-Butanone (MEK)	µg/L	-	<50	<50	<50	<50	<50
4-Methyl-2-pentanone (MIBK)	µg/L	-	<50	<50	<50	<50	<50
2-Hexanone (MBK)	µg/L	-	<50	<50	<50	<50	<50
Carbon disulfide	µg/L	-	<5	<5	<5	<5	<5
2.2-Dichloropropane	µg/L	-	<5	<5	<5	<5	<5
1.2-Dichloropropane	µg/L	-	<5	<5	<5	<5	<5
cis-1.3-Dichloropropylene	µg/L	-	<5	<5	<5	<5	<5
trans-1.3-Dichloropropylene	µg/L	-	<5	<5	<5	<5	<5
1.2-Dibromoethane (EDB)	µg/L	-	<5	<5	<5	<5	<5
Halogenated Aliphatic Compounds							
Dichlorodifluoromethane	µg/L	-	<50	<50	<50	<50	<50
Chloromethane	µg/L	-	<50	<50	<50	<50	<50
Vinyl chloride	µg/L	**0.3**	<50	<50	<50	<50	<50
Bromomethane	µg/L	-	<50	<50	<50	<50	<50
Chloroethane	µg/L	-	<50	<50	<50	<50	<50
Trichlorofluoromethane	µg/L	-	<50	<50	<50	<50	<50
1.1-Dichloroethene	µg/L	**30**	<5	<5	<5	<5	<5
Iodomethane	µg/L	-	<5	<5	<5	<5	<5

trans-1.2-Dichloroethene	µg/L	**60**	<5	<5	<5	<5	<5
1.1-Dichloroethane	µg/L	-	<5	<5	<5	<5	<5
cis-1.2-Dichloroethene	µg/L	**60**	<5	<5	<5	<5	<5
1.1.1-Trichloroethane	µg/L	-	<5	<5	<5	<5	<5
1.1-Dichloropropylene	µg/L	-	<5	<5	<5	<5	<5
Carbon Tetrachloride	µg/L	**3**	<5	<5	<5	<5	<5
1.2-Dichloroethane	µg/L	**3**	<5	<5	<5	<5	<5
Trichloroethene	µg/L	-	<5	<5	<5	<5	<5
Dibromomethane	µg/L	-	<5	<5	<5	<5	<5
1.1.2-Trichloroethane	µg/L	-	<5	<5	<5	<5	<5
1.3-Dichloropropane	µg/L	-	<5	<5	<5	<5	<5
Tetrachloroethene	µg/L	**50**	<5	<5	<5	<5	<5
1.1.1.2-Tetrachloroethane	µg/L	-	<5	<5	<5	<5	<5
trans-1.4-Dichloro-2-butene	µg/L	-	<5	<5	<5	<5	<5
cis-1.4-Dichloro-2-butene	µg/L	-	<5	<5	<5	<5	<5
1.1.2.2-Tetrachloroethane	µg/L	-	<5	<5	<5	<5	<5
1.2.3-Trichloropropane	µg/L	-	<5	<5	<5	<5	<5
Pentachloroethane	µg/L	-	<5	<5	<5	<5	<5
1.2-Dibromo-3-chloropropane	µg/L	-	<5	<5	<5	<5	<5
Hexachlorobutadiene	µg/L	**0.7**	<5	<5	<5	<5	<5
Halogenated Aromatic Compounds							
Chlorobenzene	µg/L	**300**	<5	<5	<5	<5	<5
Bromobenzene	µg/L	-	<5	<5	<5	<5	<5
2-Chlorotoluene	µg/L	-	<5	<5	<5	<5	<5
4-Chlorotoluene	µg/L	-	<5	<5	<5	<5	<5
1.3-Dichlorobenzene	µg/L	-	<5	<5	<5	<5	<5

1.4-Dichlorobenzene	µg/L	**40**	<5	<5	<5	<5	<5
1.2-Dichlorobenzene	µg/L	**1500**	<5	<5	<5	<5	<5
1.2.4-Trichlorobenzene	µg/L	**30**	<5	<5	<5	<5	<5
1.2.3-Trichlorobenzene	µg/L	**30**	<5	<5	<5	<5	<5
Trihalomethanes							
Chloroform	µg/L	**250**	14	15	16	18	14
Bromodichloromethane	µg/L	**250**	18	10	16	<5	11
Dibromochloromethane	µg/L	**250**	18	<5	<5	<5	9
Bromoform	µg/L	**250**	5	<5	<5	<5	<5
*Note: the concentration of trihalomethanes, either individually **or in total**, must not exceed 250 µg/L*							
Naphthalene	µg/L	-	<5	<5	<5	<5	<5
VOC Surrogates							
1.2-Dichloroethane-D4	%	-	99.3	102	101	98.2	102
Toluene-D8	%	-	95.7	94.7	95.4	96.0	98.2
4-Bromofluorobenzene	%	-	82.8	85.8	87.7	85.8	85.7
Total Petroleum Hydrocarbons							
C6 - C9 Fraction	µg/L	-	40	30	40	30	40
C10 - C14 Fraction	µg/L	-	<50	<50	<50	<50	<50
C15 - C28 Fraction	µg/L	-	<100	<100	<100	<100	<100
C29 - C36 Fraction	µg/L	-	<50	<50	<50	<50	<50
C10 - C36 Fraction (sum)	µg/L	-	<50	<50	<50	<50	<50

Heterotrophic Plate Count (22°C)	CFU/mL	-	320	47	73	25	10
Heterotrophic Plate Count (36°C)	CFU/mL	-	1400	100	180	60	25
Faecal Coliforms	CFU/100mL	**nil**	<1	<1	<1	<1	<1
Escherichia coli	CFU/100mL	**nil**	<1	<1	<1	<1	<1
Coliforms	CFU/100mL	**nil**	<1	<1	<1	<1	<1

June 2017

Analyte	Unit	Australian Drinking Water Quality Health Guidelines	BMT Kitchen	NPO Ground Floor	Port West	Reclaim	Ops Base Tea Room
pH	pH Unit	6.5-8.5 (aesthetic) No health guideline	7.86	7.92	8.06	8.34	8.09
TDS	mg/L	-	259	288	274	233	270
Colour (True)	PCU	-	3	3	3	3	3
Turbidity	NTU	-	5.5	0.4	0.3	0.2	0.5
Total Hardness as CaCO3	mg/L	-	127	128	132	94	128
Hydroxide Alkalinity as CaCO3	mg/L	-	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	mg/L	-	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	mg/L	-	96	101	106	65	102
Total Alkalinity as CaCO3	mg/L	-	96	101	106	66	102
Sulfate as SO4	mg/L	500	28	28	28	29	28
Chloride	mg/L	250 (aesthetic) No health guideline	68	70	70	73	68
Dissolved Major Cations							
Calcium	mg/L	-	26	28	30	18	28
Magnesium	mg/L	-	15	14	14	12	14
Sodium	mg/L	-	42	41	42	46	42
Potassium	mg/L	-	3	3	3	7	3

Dissolved Metals							
Aluminium	mg/L	-	0.01	0.02	0.02	0.26	0.02
Antimony	mg/L	-	<0.001	<0.001	0.001	<0.001	<0.001
Arsenic	mg/L	**0.01**	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	mg/L	**2**	0.022	0.023	0.024	0.047	0.023
Cadmium	mg/L	**0.002**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/L	**2**	0.607	0.251	0.018	0.001	0.078
Lead	mg/L	**0.01**	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	mg/L	**0.5**	0.011	<0.001	<0.001	<0.001	<0.001
Molybdenum	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	mg/L	**0.02**	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	mg/L	**0.01**	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	mg/L	**0.1**	<0.001	<0.001	0.002	<0.001	<0.001
Zinc	mg/L	-	0.457	0.015	<0.005	<0.005	<0.005
Boron	mg/L	**4**	<0.05	<0.05	<0.05	<0.05	<0.05
Iron	mg/L	-	<0.05	<0.05	<0.05	<0.05	<0.05
Total Metals							
Aluminium	mg/L	-	0.03	0.03	0.02	0.25	0.03
Antimony	mg/L	-	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	mg/L	**0.01**	<0.001	<0.001	0.003	0.002	0.001
Barium	mg/L	**2**	0.022	0.022	0.024	0.045	0.022
Cadmium	mg/L	**0.002**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/L	**2**	0.728	0.282	0.02	0.002	0.085
Lead	mg/L	**0.01**	0.002	0.001	<0.001	<0.001	<0.001
Manganese	mg/L	**0.5**	0.011	0.001	<0.001	<0.001	<0.001

Molybdenum	mg/L	**0.05**	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	mg/L	**0.02**	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	mg/L	**0.01**	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	mg/L	**0.1**	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	mg/L	-	0.489	0.021	<0.005	<0.005	<0.005
Boron	mg/L	**4**	<0.05	<0.05	<0.05	<0.05	<0.05
Iron	mg/L	-	0.54	<0.05	<0.05	<0.05	<0.05
Mercury	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Cyanide	mg/L		<0.004	<0.004	<0.004	<0.004	<0.004
Fluoride	mg/L	**1.5**	0.8	0.8	0.8	0.8	0.8
Ammonia	mg/L	-	0.03	<0.01	0.02	<0.01	0.02
Nitrite	mg/L	**3**	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrate	mg/L	**50**	0.23	0.4	0.53	0.64	0.43
Nitrite and Nitrate as N	mg/L	-	0.23	0.4	0.53	0.64	0.43
Sulfide as S2	mg/L	-	<0.1	<0.1	<0.1	<0.1	<0.1
Monocyclic Aromatic Hydrocarbons							
Benzene	µg/L	**1**	<1	<1	<1	<1	<1
Toluene	µg/L	**800**	<2	<2	<2	<2	<2
Ethylbenzene	µg/L	**300**	<2	<2	<2	<2	<2
meta- & para-Xylene	µg/L	**600**	<2	<2	<2	<2	<2
Styrene	µg/L	**30**	<5	<5	<5	<5	<5
ortho-Xylene	µg/L	**600**	<2	<2	<2	<2	<2
Isopropylbenzene	µg/L	-	<5	<5	<5	<5	<5
n-Propylbenzene	µg/L	-	<5	<5	<5	<5	<5

1.3.5-Trimethylbenzene	µg/L	-	<5	<5	<5	<5	<5
sec-Butylbenzene	µg/L	-	<5	<5	<5	<5	<5
1.2.4-Trimethylbenzene	µg/L	-	<5	<5	<5	<5	<5
tert-Butylbenzene	µg/L	-	<5	<5	<5	<5	<5
p-Isopropyltoluene	µg/L	-	<5	<5	<5	<5	<5
n-Butylbenzene	µg/L	-	<5	<5	<5	<5	<5
Vinyl Acetate	µg/L	-	<50	<50	<50	<50	<50
2-Butanone (MEK)	µg/L	-	<50	<50	<50	<50	<50
4-Methyl-2-pentanone (MIBK)	µg/L	-	<50	<50	<50	<50	<50
2-Hexanone (MBK)	µg/L	-	<50	<50	<50	<50	<50
Carbon disulfide	µg/L	-	<5	<5	<5	<5	<5
2.2-Dichloropropane	µg/L	-	<5	<5	<5	<5	<5
1.2-Dichloropropane	µg/L	-	<5	<5	<5	<5	<5
cis-1.3-Dichloropropylene	µg/L	-	<5	<5	<5	<5	<5
trans-1.3-Dichloropropylene	µg/L	-	<5	<5	<5	<5	<5
1.2-Dibromoethane (EDB)	µg/L	-	<5	<5	<5	<5	<5
Halogenated Aliphatic Compounds							
Dichlorodifluoromethane	µg/L	-	<50	<50	<50	<50	<50
Chloromethane	µg/L	-	<50	<50	<50	<50	<50
Vinyl chloride	µg/L	**0.3**	<50	<50	<50	<50	<50
Bromomethane	µg/L	-	<50	<50	<50	<50	<50
Chloroethane	µg/L	-	<50	<50	<50	<50	<50
Trichlorofluoromethane	µg/L	-	<50	<50	<50	<50	<50
1.1-Dichloroethene	µg/L	**30**	<5	<5	<5	<5	<5
Iodomethane	µg/L	-	<5	<5	<5	<5	<5

trans-1.2-Dichloroethene	µg/L	**60**	<5	<5	<5	<5	<5
1.1-Dichloroethane	µg/L	-	<5	<5	<5	<5	<5
cis-1.2-Dichloroethene	µg/L	**60**	<5	<5	<5	<5	<5
1.1.1-Trichloroethane	µg/L	-	<5	<5	<5	<5	<5
1.1-Dichloropropylene	µg/L	-	<5	<5	<5	<5	<5
Carbon Tetrachloride	µg/L	**3**	<5	<5	<5	<5	<5
1.2-Dichloroethane	µg/L	**3**	<5	<5	<5	<5	<5
Trichloroethene	µg/L	-	<5	<5	<5	<5	<5
Dibromomethane	µg/L	-	<5	<5	<5	<5	<5
1.1.2-Trichloroethane	µg/L	-	<5	<5	<5	<5	<5
1.3-Dichloropropane	µg/L	-	<5	<5	<5	<5	<5
Tetrachloroethene	µg/L	**50**	<5	<5	<5	<5	<5
1.1.1.2-Tetrachloroethane	µg/L	-	<5	<5	<5	<5	<5
trans-1.4-Dichloro-2-butene	µg/L	-	<5	<5	<5	<5	<5
cis-1.4-Dichloro-2-butene	µg/L	-	<5	<5	<5	<5	<5
1.1.2.2-Tetrachloroethane	µg/L	-	<5	<5	<5	<5	<5
1.2.3-Trichloropropane	µg/L	-	<5	<5	<5	<5	<5
Pentachloroethane	µg/L	-	<5	<5	<5	<5	<5
1.2-Dibromo-3-chloropropane	µg/L	-	<5	<5	<5	<5	<5
Hexachlorobutadiene	µg/L	**0.7**	<5	<5	<5	<5	<5
Halogenated Aromatic Compounds							
Chlorobenzene	µg/L	**300**	<5	<5	<5	<5	<5
Bromobenzene	µg/L	-	<5	<5	<5	<5	<5
2-Chlorotoluene	µg/L	-	<5	<5	<5	<5	<5
4-Chlorotoluene	µg/L	-	<5	<5	<5	<5	<5
1.3-Dichlorobenzene	µg/L	-	<5	<5	<5	<5	<5

1.4-Dichlorobenzene	µg/L	**40**	<5	<5	<5	<5	<5
1.2-Dichlorobenzene	µg/L	**1500**	<5	<5	<5	<5	<5
1.2.4-Trichlorobenzene	µg/L	**30**	<5	<5	<5	<5	<5
1.2.3-Trichlorobenzene	µg/L	**30**	<5	<5	<5	<5	<5
Trihalomethanes							
Chloroform	µg/L	**250**	7	8	8	15	8
Bromodichloromethane	µg/L	**250**	13	<5	<5	<5	7
Dibromochloromethane	µg/L	**250**	17	<5	<5	<5	7
Bromoform	µg/L	**250**	6	<5	<5	<5	<5
*Note: the concentration of trihalomethanes, either individually **or in total**, must not exceed 250 µg/L*							
Naphthalene	µg/L	-	<5	<5	<5	<5	<5
VOC Surrogates							
1.2-Dichloroethane-D4	%	-	106	110	110	108	108
Toluene-D8	%	-	102	105	105	104	102
4-Bromofluorobenzene	%	-	94.1	97.4	96.2	95.7	93.7
Total Petroleum Hydrocarbons							
C6 - C9 Fraction	µg/L	-	20	<20	<20	<20	<20
C10 - C14 Fraction	µg/L	-	<50	<50	<50	<50	<50
C15 - C28 Fraction	µg/L	-	<100	<100	<100	<100	<100
C29 - C36 Fraction	µg/L	-	<50	<50	<50	<50	<50
C10 - C36 Fraction (sum)	µg/L	-	<50	<50	<50	<50	<50

Heterotrophic Plate Count (22°C)	CFU/mL	-	32	110	47	~4	<1
Heterotrophic Plate Count (36°C)	CFU/mL	-	140	270	65	17	~3
Faecal Coliforms	CFU/100mL	**nil**	<1	<1	<1	<1	<1
Escherichia coli	CFU/100mL	**nil**	<1	<1	<1	<1	<1
Coliforms	CFU/100mL	**nil**	~1	<1	<1	<1	<1