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Ongoing Groundwater Monitoring Report (April 2021 to September 2021)

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Glossary of Terms and Abbreviations

Abbreviation	Description
AGJV	Aurecon & GHD Design Joint Venture
ADWG	Australian Drinking Water Guidelines
AHD	Australian Height Datum
ANZECC & ARMCANZ	Australian and New Zealand Environment and Conservation Council (ANZECC) and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ)
BOD	Biological Oxygen Demand
BTEXN	Benzene, Toluene, Ethylbenzene, Xylene and Naphthalene
CBD	Central Business District
CGWMP	Construction Groundwater Monitoring Plan
CSM	Central Station Main Works
COPC	Contaminants of Potential Concern
DO	Dissolved Oxygen
EC	Electrical Conductivity
GILs	Groundwater Investigation Levels
HSL	Health Screening Level
LOR	Laing O'Rourke
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	National Environmental Protection Measure
NHMRC	National Health and Medical Research Council
NRAR	Natural Resources Access Regulator
OCP	Organochlorine Pesticides
OPP	Organophosphorus Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
QA/QC	Quality Assurance/Quality Control
RSA	Rail Services Australia
RPD	Relative percentage difference
SWL	Standing Water Level
TDS	Total Dissolved Solids
TRH	Total Recoverable Hydrocarbons
TSS	Total Suspended Solids

1 Introduction

AGJV Pty Ltd (AGJV) was commissioned by Laing O'Rourke (LOR) to undertake a groundwater monitoring program for selected groundwater wells at Central Station, as part of the Sydney Metro Central Station Main (CSM) works project.

LOR has identified three separate project work areas for the CSM project, these include:

- The Metro Station Box works
- The Central Walk and Eastern Entrance
- The Sydney Yard project access area

The approximate boundaries of the CSM project areas are presented in **Figure 1, Appendix A.**

A construction groundwater management plan (CGWMP) (LOR, September 2021) has been prepared for the CSM project and approved by the Natural Resources Access Regulator (NRAR). The CGWMP includes a groundwater monitoring program to establish the pre-construction, during construction and post construction groundwater conditions. The groundwater monitoring requirements are detailed in Section 7 of the CGWMP. Section 10 of the CGWMP also requires that the groundwater monitoring program be reviewed and amended on an annual basis to ensure it remains consistent with project priorities.

The groundwater monitoring program conducted to date includes:

- Baseline monitoring period:
  - Report one: September 2018 to February 2019
- Baseline / construction monitoring period:
  - Report two: March 2019 to September 2019 (includes baseline for the deeper monitoring wells and construction for the shallow monitoring wells)
- Construction monitoring period:
  - Report three: October 2019 to March 2020
  - Report four: April 2020 to September 2020
  - Report five: October 2020 to March 2021

This report has been prepared to document the sixth groundwater monitoring period, undertaken between April 2021 and September 2021 as part of the ongoing groundwater monitoring program for the construction phase of the project. It is noted that this report will take into consideration the previous monitoring periods to compare the current monitoring period with both the previous monitoring periods and the baseline monitoring period.

1.1 Objectives

The objectives of this groundwater monitoring program are to:

- Characterise the post-baseline groundwater conditions including groundwater levels and groundwater quality within and surrounding the CSM project area during construction.
- Comply with the groundwater monitoring program outlined in the CGWMP, which has been approved by NRAR.
- Assess any impacts the construction phase of the project has had on groundwater quality and groundwater levels. Baseline data and relevant public health and environmental water quality

criteria will be compared against the ongoing groundwater conditions within the project boundary to make this assessment.

1.2 Scope of work

The scope of work completed by AGJV is summarised below:

- Gauging of up to 16 monitoring wells on a monthly basis for six months. Constraints encountered, with regards to well access, during the monitoring program are discussed in **Section 2**.
- Collection and analysis of groundwater samples from the monitoring wells on a monthly basis for six months.
- Submission of groundwater samples to National Association of Testing Authorities (NATA) accredited laboratories for chemical analysis for a range of contaminants of potential concern (COPC) including: pH, total suspended solids (TSS), total dissolved solids (TDS), heavy metals; benzene, toluene, ethylbenzene and xylene (BTEX); total recoverable hydrocarbons (TRH); polycyclic aromatic hydrocarbons (PAH); phenols; cyanide; ammonia; ferrous iron, manganese and major anions and cations (chloride, sulfate, ammonia, nitrate, sodium, calcium, potassium and magnesium).
- Collection of groundwater depth data from data loggers located in five monitoring wells (CSM_BH02, CSM_BH04, CSM_BH06, SRT_BH047 and CSM_BH10S).
- Preparation of this report.

1.3 Limitations

AGJV's limitations to the assessment are provided in **Section 9.**

The table presented in **Table B1, Appendix B,** indicates that although the number of functioning groundwater monitoring wells used throughout this monitoring period have remained relatively stable, three wells were destroyed between October 2020 to March 2021. This has the potential to limit characterisation of construction impacts against baseline conditions for these wells and has created data gaps to the east and south of the monitoring area.

Three new wells were installed between April 2021 to September 2021 to address these data gaps.

Further to this, the number of wells sampled differs to that presented in Table-7.1 of the CGWMP (LOR, September 2021) and is outlined in **Section 2.4**.

2 Status of groundwater monitoring program

2.1 Groundwater monitoring between September 2018 and March 2021

The groundwater data collected between the September 2018 and March 2021 are presented in the following reports:

- AGJV. (June 2019). *Sydney Metro - Central Station Main Works - Groundwater Baseline Monitoring (September 2018 to February 2019) - SMCSWCSM-DJV-EW-00-COR-GE-000001.* Sydney: Aurecon GHD Joint Venture.
- AGJV. (January 2020). *Sydney Metro - Central Station Main Works - Groundwater Baseline Monitoring (April 2019 to September 2019) - SMCSWCSM-DJV-EW-00-PLN-GE-000003*. Sydney: Aurecon GHD Joint Venture.
- AGJV. (June 2020). *Sydney Metro - Central Station Main Works – Ongoing Groundwater Monitoring (October 2019 to March 2020) - SMCSWCSM-DJV-EW-00-PLN-GE-000233*. Sydney: Aurecon GHD Joint Venture.
- AGJV. (December 2020). *Sydney Metro - Central Station Main Works – Ongoing Groundwater Monitoring (April to September 2020) - SMCSWCSM-DJV-EW-00-PLN-GE-000234*. Sydney: Aurecon GHD Joint Venture.
- AGJV (May 2021). *Sydney Metro - Central Station Main Works – Ongoing Groundwater Monitoring (October 2020 to March 2021) - SMCSWCSM-DJV-EW-00-REP-GE-000235*. Sydney: Aurecon GHD Joint Venture.

2.2 Overview of the groundwater program

The groundwater baseline monitoring program for CSM commenced in September 2018, as per the CGWMP. The first six monthly baseline monitoring period was completed in February 2019 (AGJV, June 2019) and due to a number of constraints six shallow monitoring wells were available post baseline monitoring.

The second six monthly monitoring period was completed between April 2019 and September 2019 (AGJV, January 2020). During March 2019 five deep monitoring wells and an additional two shallow monitoring wells were installed. Therefore, the report represents the baseline monitoring for the deep monitoring wells as only shallow construction activities had begun and the construction phase for the shallow monitoring wells. Of note, a tunnel boring machine (TBM) passed through the site during this monitoring period.

In addition to this, LOR uncovered a former gasholder which was identified during heritage excavation and piling works at the south-western corner of the Metro Box footprint in April 2019. Five additional groundwater monitoring wells were installed by ADE in April and August 2019 in the vicinity of the former gasholder to assess the potential groundwater impacts. GASW_BH7 and GASW_BH10 are positioned within the gasworks former gasholder, GASW_BH23 and GASW_BH25A are within the former gasholder footprint and GASW_BH11 is outside the former gasholder footprint. These monitoring wells were incorporated into the ongoing groundwater monitoring program from June 2019 (GASW_BH7, GASW_BH10 and GASW_BH11) and September 2019 onwards (GASW_BH23 and GASW_BH25A). It should be noted that the latter two shallow monitoring wells (GASW_BH23 and GASW_BH25A) are unlikely to be representative of the broader shallow groundwater aquifer, given the gasholder structure (brick wall and concrete / puddle clay base) may act as an aquitard.

The third (AGJV, June 2020), fourth (AGJV, December 2020), and fifth (AGJV, May 2021) six monthly monitoring reports were completed between October 2019 and March 2020, April 2020 and September 2020, and October 2020 and March 2021, respectively, documenting groundwater conditions during the construction phase of the project.

A number of constraints have been encountered throughout the current and previous monitoring periods in relation to availability, access and condition of monitoring wells. Monitoring wells have been destroyed and new monitoring wells have been installed. These are discussed in this report and the AGJV reports mentioned above, and are summarised in **Table B1, Appendix B.**

2.3 Analytical suite changes

Analysis of polychlorinated biphenyls (PCBs), organochlorine pesticides (OCPs) and organophosphorus pesticides (OPPs) was conducted between September 2018 and June 2020. These analytes have not been included in the analytical scope since June 2020 due to the consistent absence of detections. In December 2019, cyanide and polycyclic aromatic hydrocarbons (PAH) compounds were analysed as trace rather than standard detection limits to improve the clarity of assessment for these analytes.

There were no changes to the analytical suite during this monitoring period.

2.4 CGWMP monitoring wells amendments

Due to the destruction and replacement of monitoring wells as the construction progresses, the following variations in Table 2-1 of sampling locations throughout the project entirety are noted as compared to those listed in **Table 7.1** of the latest CGWMP (LOR, September 2021):

Table 2-1 – Summary of monitoring wells removed from the monitoring program

Monitoring wells removed from the monitoring program	Targeted aquifer	Status
CSM_BH05	Deep aquifer	Destroyed (August 2019)
SRT_BH063	Shallow aquifer	Destroyed (February 2020)
SRT_CBH015	Shallow aquifer	Destroyed (January 2020)
SRT_CBH017	Shallow aquifer	Destroyed (February 2020)
SRT_BH059	Shallow aquifer	Destroyed (January 2021)
CSM_BH09S	Shallow aquifer	Destroyed (January 2021)
CSM_BH11S	Shallow aquifer	Destroyed (March 2021)

The following Table 2-2 shows the monitoring wells that have been added to the monitoring program throughout the entirety of the project.

Table 2-2 - Summary of monitoring wells added to the monitoring program

Monitoring wells added to the monitoring program	Targeted aquifer	Status
GASW_BH7	Shallow aquifer	Sampled from June 2019, Became dry from April 2020. Monitoring well targeting gasworks.
GASW_BH10	Deep aquifer	Sampled from June 2019. Monitoring well targeting gasworks.
GASW_BH11	Shallow aquifer	Sampled from June 2019. Monitoring well targeting gasworks.

Monitoring wells added to the monitoring program	Targeted aquifer	Status
GASW_BH23	Shallow aquifer	Sampled from September 2019. Monitoring well targeting gasworks.
GASW_BH25A	Shallow aquifer	Sampled from September 2019. Monitoring well targeting gasworks.
CSM_BH11S -since destroyed (see Table 7.1 above)	Shallow aquifer	Installed prior to September 2020 monitoring event. Dry well, water was not encountered. Monitoring well providing coverage to the north east
SRT_BH050	Shallow aquifer	Sampled from March 2020. Monitoring well providing coverage to the west.
SRT_BH052	Shallow aquifer	Sampled from October 2018. Monitoring well providing coverage to the north west.
CSM_BH12S	Shallow aquifer	Sampled from April 2021. New well providing coverage to the south of metro box (replacement of destroyed CSM-BH09S).
CSM_BH14S	Shallow aquifer	Sampled from September 2021. New well providing coverage to the south west of CSM project area (replacement of destroyed shallow wells on suburban platforms).
CSM_BH13	Deep aquifer	Sampled from September 2021. New well providing coverage to the west of CSM project area (replacement of destroyed SRT_BH063)

2.5 Construction works

The construction of the Metro box works (MBW) has being undertaken in stages:

- Enabling works: the demolition of the platforms and preparation earthworks.
- MBW excavation works commenced with piling works, including perimeter piles and plunge columns, to support the MBW excavation.
- MBW excavation.
- Installation of metro infrastructure and final fit out of Metro Station.

MBW excavations occurred over several stages within the MBW footprint. The MBW excavation was supported by the perimeter in-situ bored piles, which during the MBW excavation works were exposed at the excavation walls and the excavation wall was subsequently shotcreted to stabilise and secure the excavation walls. MBW excavation works were completed in May 2021. A program of works undertaken in presented in Table 2-3.

Table 2-3 – Construction program of works

Stage of works	Date commenced	Date completed
Enabling works	17 October 2018	13 December 2018
Piling works	10 December 2018	15 August 2019
MBW excavation works	11 February 2019	May 2021
Installation of metro infrastructure and final fit out of Metro Station	February 2019 (alongside MBW excavation works)	On-going

The following Table 2-4, shows the average excavation levels in relative height of each of the grid lines (GL) along the MBW. The grid lines are looking down on a 2-D model of the Metro Box

Table 2-4 – Average excavation depths in m RL for April and May 2021.

Locations	23-Apr-21	15-May-21
GL 7-8	-5.8	-5.8
GL 8-9	-5.8	-5.8
GL 9-10	-5.8	-5.8
GL 10-11	-5.8	-5.8
GL 11-12	-5.8	-5.8
GL 12-13	-5.8	-5.8
GL 13-14	-5.8	-5.8
GL 14-15	-5.8	-5.8
GL 15-16	-5.8	-5.8
GL 16-17	-5.8	-5.8
GL 17-18	-5.8	-5.8
GL 18-19	-5.8	-5.8
GL 19-20	-5.8	-5.8
GL 20-20.7	-5.1	-5.8
GL 20.7-21	-4	-5.8
GL 21-22	-4	-5.8
GL 22-23	-4	-5.8

The table shows that the majority of the deep excavation activities have occurred by the April 2021 monitoring period. There was some further excavation between the April and May 2021 monitoring period along GL 20.7-21, GL 21-22 and GL 22-23. By the May 2021 monitoring period, all GL were -5.8 m and excavation was completed.

During the excavation works, LOR are required to monitor the water discharge. The following Table 2-5 shows the amount of water discharge each month. The water discharge includes surface water / rainall collected around the site. The total water discharge for this monitoring period is less than the previous six month monitoring period that reported a total of 19,993.69 KL. May 2021 recorded the highest water discharge and this coincide with the excavation to depth of the remaining proportion of the MBW being completed. September 2021 had the lowest water discharge volume and water discharge is expected to decrease after the competition of the excavation.

Table 2-5 – Water discharge from the project (monthly)

Month	Amount of water discharge (KL)
April 2021	2,685.15
May 2021	2,847.15
June 2021	2,365.22
July 2021	2,293.18
August 2021	2,663.10
September 2021	1,859.36
Total	**14,713.16**

AGJV noted that a tunnel boring machines passed beneath the CSM project excavation during July and August 2019. The TBM would have been at depths of 15 to 20 m below ground level (top of invert

of tunnels is -0.6 RL). The TBM movement had significant impact on the groundwater levels and is further discussed in the AGJV. (January 2020) report and **Section 5.3.**

The MBW designs have been amended due to the discovery of the gasworks area, and resultant human health risk assessment (AGJV, 2020a). The revised designed included:

- A partial cut off structure which included increasing the shotcrete liner from 150 mm thickness to 250 mm with inclusion of a waterproof admixture and steel fibres to manage crack control. The expected extent of this works was proposed to be at least two shotcrete panels beyond the visually assessed extent of contaminated fill and the full depth of the pile retention wall (underside of the Concourse Floor Slab).
- A sika waterproof liner is to be located over the internal side of the shotcrete liner and tapped in place to reduce further seepage.
- Drainage separation works which will include preferential drainage of groundwater from behind the shotcrete walls using more resistant cupro nickel slotted pipe.

3 Basis for assessment

3.1 Relevant guidelines

The framework for the contamination assessment made herein, was developed in accordance with guidelines “made or approved”, by the NSW EPA under Section 105 of the *Contaminated Land Management Act, 1997*. These guidelines include, but are not limited to the following:

- Consultants Reporting on Contaminated Land: Contaminated Land Guidelines, NSW EPA (NSW EPA, 2020).
- NSW EPA Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (NSW EPA, 2015).
- National Environment Protection (Assessment of Site Contamination) Amendment Measure (No.1) (NEPM), National Environment Protection Council - NEPC (NEPC, 2013).
- Guidelines for Managing Risks in Recreational Water, National Health and Medical Research Council (NHMRC, 2008).
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Australian and New Zealand Environment and Conservation Council & Agriculture and Resource Management Council of Australia and New Zealand (ANZECC & ARMCANZ, 2000a).

3.2 On-site human health screening levels

The NEPM Health Screening Levels (HSLs) for petroleum hydrocarbons for commercial / industrial land use in sand (NEPC, 2013) have been adopted (HSL D). This criterion was adopted to characterise the risk posed to CSM construction workers and future metro infrastructure users and operation / maintenance workers from potential hydrocarbon vapour intrusion from potentially impacted groundwater. AGJV noted that NEMP HSLs are more stringent than other published screening criteria for petroleum hydrocarbons (i.e. CRC CARE guidelines for intrusive maintenance workers via vapour intrusion and direct contact pathways).

Recreational guidelines, in reference to National Health and Medical Research Council (NHMRC, 2008) have been used as a conservative screening tool for on-site intrusive maintenance workers coming into direct contact with groundwater. These guidelines are associated with incidental ingestion of water and are generally based on incidental consumption of 200 millilitres (mL) of impacted water per day, as opposed to two litres (L) per day which the Australian Drinking Water Guidelines (ADWG) (version 3.6 Updated March 2021) are based on (NHMRC, 2011). As stated in the NEPM (NEPC, 2013), recreational criteria have been adopted by applying a multiplication factor of ten to ADWG health-based criteria (NHMRC, 2011).

On this basis, criteria are expected to be more representative of the type of exposure that will occur to construction and maintenance workers during construction and operation of the project. Commercial users of the metro/commuters have not been considered as it is assumed these receptors will not come into contact with the groundwater.

3.3 Off-site human health

No potable water abstractions have been identified in hydraulic connection with groundwater beneath the CSM. The project area is also supplied by reticulated town water. Therefore, drinking water guidelines have not been considered for off-site human health receptors.

The nearest ecological receptor is located approximately one kilometre (km) north-west of the CSM (Cockle Bay and Blackwattle Bay). Potentially impacted groundwater has the potential to attenuate across this distance, however groundwater will be treated before being discharged into these Bay's during dewatering activities. These water bodies are primarily associated with recreational boating and potential fishing activities only, and as such, recreational criteria, in reference to NHMRC (2008) and ADWG (NHMRC, 2011), have been adopted.

3.4 Ecological criteria

Based on the site hydrogeology and client-supplied information, treated groundwater from the project will be discharged to the aquatic systems of Cockle Bay and/or Blackwattle Bay located approximately 1 km north-west of the project area. As such, NEPM Groundwater Investigation Levels (GILs) for protection of marine water ecosystems have been adopted (NEPC, 2013). GILs comprise screening criteria outlined in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC & ARMCANZ, 2000a). It is noted that the ANZECC & ARMCANZ has since been updated (ANZG, 2018), and t therefore, the ANZG (2018) guidelines have been adopted.

For assessment of pH values in groundwater, the trigger value for estuaries in NSW have been adopted from Volume 2 of ANZECC & ARMCANZ (ANZECC & ARMCANZ, 2000b). Screening criteria for estuaries was adopted as this was considered to be most representative of the receiving water environment (being Cockle Bay and/or Blackwattle Bay).

3.5 Aggressivity assessment criteria

The exposure classification criteria for concrete piles and steel piles presented in Australian Standard AS 2159-2009 *Piling – Design and installation* (Standards Australia, 2009) have been selected for assessing aggressivity of the groundwater.

3.6 Ochre potential assessment criteria

The criteria adopted for the assessment of ochre formation were based on Stuyt, Dierickx & Martinez Beltran (2005), and focused on ferrous iron concentrations in groundwater. These criteria state:

- Ferrous iron concentrations less than 1 mg/L indicate that ochre formation potential is negligible.
- Ferrous iron concentrations between 1 and 5 mg/L indicate that ochre formation potential is small.
- Ferrous iron concentrations between 5 and 10 mg/L indicate that ochre formation potential is moderate.
- Ferrous iron concentrations between 10 and 25 mg/L indicate that ochre formation potential is high.
- Ferrous iron concentrations more than 25 mg/L indicate that ochre formation potential is very high.

3.7 Groundwater drawdown

The groundwater-related management and mitigation measures in Chatswood to Sydenham Environmental Impact Statement (EIS) and Revised Environmental Mitigation Measures (REMM), as stated in the REMM (AGJV, 2020), include:

REMM GWG1	A detailed geotechnical model for the project would be developed and progressively updated during design and construction. The detailed geotechnical model would include: ▪ Assessment of the potential for damage to structures, services, basements and other sub-surface elements through settlement or strain ▪ Predicted changes to groundwater levels, including at nearby water supply works. Where building damage risk is rated as moderate or higher (as per the CIRIA 1996 risk-based criteria), a structural assessment of the affected buildings / structures would be carried out and specific measures implemented to address the risk of damage. With each progressive update of the geotechnical model the potential for exceedance of the following target changes to groundwater levels would be reviewed: ▪ Less than 2.0 metres – general target. ▪ Less than 4.0 metres – where deep building foundations present. ▪ Less than 1.0 metre – residual soils. ▪ Less than 0.5 metre – residual soils (Blues Point) (fill / Aeolian sand). Where a significant exceedance of target changes to groundwater levels are predicted at surrounding land uses and nearby water supply works, an appropriate groundwater monitoring program would be developed and implemented. The program would aim to confirm no adverse impacts on groundwater levels or to appropriately manage any impacts. Monitoring at any specific location would be subject to the status of the water supply work and agreement with the landowner. The geotechnical model and groundwater monitoring program would be developed in consultation with the Department of Primary Industries (Water).

This report includes an assessment of groundwater drawdown related to CSM works in **Section 5.3**.

4 Field investigation

4.1 Groundwater sampling dates

Groundwater sampling was conducted at accessible groundwater monitoring wells on the following dates:

- Event 31 – 27 to 29 April 2021
- Event 32 – 25 to 27 May 2021
- Event 33 – 15 to 17 June 2021
- Event 34 – 12 to 14 July 2021
- Event 35 – 9 to 11 August 2021
- Event 36 – 28 to 30 September 2021

4.2 Groundwater monitoring well status

The groundwater monitoring wells sampled during the current six-monthly program are presented in **Table B1, Appendix B**. The location of these monitoring wells is displayed in **Figure 1, Appendix A**.

Three wells were installed during the current monitoring period:

- CSM_BH12S, a monitoring well targeting the shallow groundwater aquifer located at the Sydney Yard. This well was installed before the April 2021 monitoring event.
- CSM_BH13, a monitoring well targeting the deep groundwater aquifer located in Randle Lane. This well was installed before the September 2021 monitoring event.
- CSM_BH14S, a monitoring well targeting the shallow groundwater aquifer located in Institute Drive. This well was installed before the September 2021 monitoring event.

4.3 Groundwater level gauging and monitoring methodology

The method used to gauge the monitoring wells is described below:

- Prior to gauging the standing water level (SWL) within each well, monitoring wells were left to stand for approximately five minutes to stabilise with atmospheric conditions.
- The depth of the SWL, depth of well and non-aqueous phase liquids (NAPL), if present, was measured at each monitoring well using an electronic interface probe (IP). All measurements were recorded from the top of the well casing.

During this monitoring period, data loggers present within the following wells were used to measure groundwater levels across the monitoring period:

- CSM_BH10S, a shallow monitoring well on Eddy Avenue.
- SRT_BH047, a shallow monitoring well on platforms 6/7.
- CSM_BH02, a deep monitoring well on platforms 10/11.
- CSM_BH04, a deep monitoring well on Eddy Avenue.
- CSM_BH06, a deep monitoring well on Ambulance Avenue.

The groundwater levels at these monitoring wells are graphed in **Appendix C**.

4.4 Groundwater sampling methodology

Representative groundwater samples were collected from monitoring wells using the following sampling techniques:

- Each well was purged using low-flow sampling techniques (peristaltic pump or low-flow bladder pump) with dedicated Teflon-free, low-density polyethylene (LDPE) tubing. The pump inlet tube was placed in the well screen at each location, with length of tubing within each well recorded.
- Field parameters (pH, electrical conductivity (EC), oxygen reduction potential (ORP), dissolved oxygen (DO) and temperature) were measured and recorded during purging to ensure that extracted groundwater was representative of the surrounding groundwater conditions. When field parameters reached equilibrium, i.e. consecutive measurements within 10% of each other for EC, ORP, DO and pH, groundwater was deemed representative of conditions and samples were collected.
- Visual and olfactory observations were recorded, in particular, the absence or presence of a hydrocarbon sheen or odour recorded during purging.
- Retrieved groundwater samples were immediately placed into laboratory-supplied bottles suitable for requested analyses.
- Sample bottles were filled directly from the pump with a minimal amount of air contact, with vials for volatile organic analysis filled completely to minimise headspace. Samples that were to be analysed for dissolved metals were field filtered with a dedicated filter prior to placing the sample into the sample bottle.
- The containers were labelled with the project number, sample identification, date collected and sampler's initials.
- Following the collection of each sample, the bottles were placed immediately into ice-filled coolers for preservation prior to and during transportation to a National Association of Testing Authorities (NATA) accredited laboratory.
- Samples were accompanied with chain of custody documentation to the primary laboratory and were submitted within holding times appropriate for the analysis required.
- Dedicated disposable sampling equipment (i.e. tubing, bailers, filters, nitrile gloves etc.) were disposed of after each well. Reusable sampling equipment (i.e. interface probe) was decontaminated using a mixture of laboratory-supplied phosphorus-free detergent solution and potable water, and rinsed with potable tap water between each sampling location.

Calibration certificates for equipment used throughout the monitoring program are provided in **Appendix D**. Groundwater purging sheets documenting the sampling procedure at each groundwater well are included in **Appendix E.**

4.5 Groundwater analysis

The analytical schedule for groundwater is presented in **Table B3, Appendix B**. In summary the primary groundwater samples were analysed as follows:

- Eight heavy metals (arsenic, cadmium, chromium, copper, mercury, nickel, lead, zinc).
- Ferrous iron and manganese.
- Total recoverable hydrocarbons (TRH) and TRH with silica gel clean up.
- Benzene, toluene, ethylbenzene, xylene, naphthalene (BTEXN).
- Phenols.
- Trace polycyclic aromatic hydrocarbons (PAH).
- Trace cyanide.

- Ammonia.
- Total dissolved solids (TDS) and total suspended solids (TSS).
- pH
- Anions and cations.

Field intra- and inter-laboratory duplicate samples were collected and submitted for laboratory analysis for heavy metals, TRH, BTEXN and trace PAH during each monitoring event. Trip blanks and trip spike samples were submitted with each batch of samples, and were analysed for BTEX and volatile TRH. One rinsate sample was collected per monitoring event from reusable equipment and analysed for heavy metals.

Analysis of groundwater samples were undertaken by NATA accredited laboratories (Eurofins-MGT and ALS Environmental) for the required analysis.

5 Monitoring results

5.1 Introduction

The primary aim of this section is to present the findings of the current six-monthly monitoring period (April 2021 to September 2021) as compared to the baseline monitoring periods.

5.2 Field observations

During sampling, no visual signs of contamination (such as sheens) were observed, however, organic and hydrocarbon odours were noted in the following wells:

- GASW_BH10 (sulphurous/organic odour noted in April, June, July, August and September 2021).
- GASW_BH11 (slight sulphurous odour noted in September 2021).
- GASW_BH23 (hydrocarbon odour noted in April, May, June, July, August and September 2021).
- GASW_BH25A (hydrocarbon odour noted in April, May, June, July, August and September 2021).

Field observations are summarised in **Table B5, Appendix B**. The groundwater purging sheets are included in **Appendix E**.

5.3 Groundwater levels and trends

5.3.1 Gauging results – shallow aquifer monitoring wells

The groundwater gauging data for shallow wells is presented in **Table B4, Appendix B.**

The depth to groundwater in the shallow groundwater aquifer ranged between 0.975 metres below the top of casing (m btoc) in GASW_BH25A (July 2021) and 7.201 mbtoc in GASW_BH11 (August 2021). The groundwater elevations of the shallow aquifer ranged between 11.188 m AHD in CSM_BH10S (August 2021) and 18.855 m AHD in SRT_BH050 (July 2021).

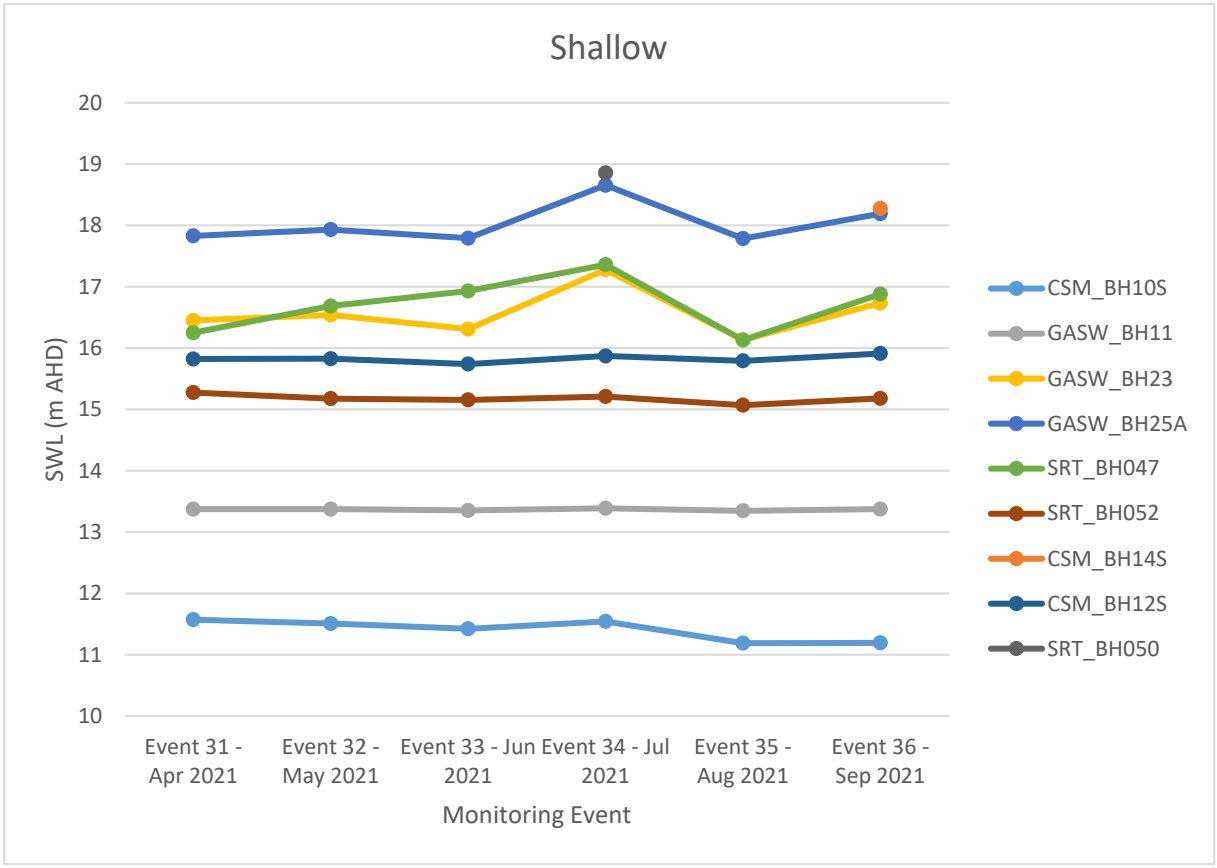

Figure 1 - Standing water level – Shallow aquifer monitoring wells

As presented in Figure 1, there does not appear to be any reduction in groundwater elevations with groundwater levels slightly increasing in July 2021. The July sampling event was undertaken after a large rainfall event and may account for the increase in groundwater levels.

Monitoring wells GASW_BH7 was gauged dry for the six month monitoring period and was not included in the shallow graph. The groundwater level for SRT_BH050 has remained relatively consistent with the previous data and gauged dry in April, May, June, August, and September 2021. The new well CSM_BH14S has been included for the September 2021 monitoring event.

The inferred shallow aquifer groundwater flow direction is presented in **Figure 2, Appendix A** and appears to flow broadly to the north-east and south-west.

5.3.2 Gauging results – deep aquifer monitoring wells

The groundwater gauging data for deep wells is presented in **Table B4, Appendix B.**

The depth to groundwater in the deeper groundwater system ranged between 18.435 mbtoc in CSM_BH08 (September 2021) and 26.840 mbtoc in CSM_BH06 (May 2021). As presented in Figure 2 below, the groundwater elevations of the deep aquifer ranged between -6.211 m AHD in CSM_BH04 (August 2021) and 3.162 m AHD in CSM_BH13 (September 2021).

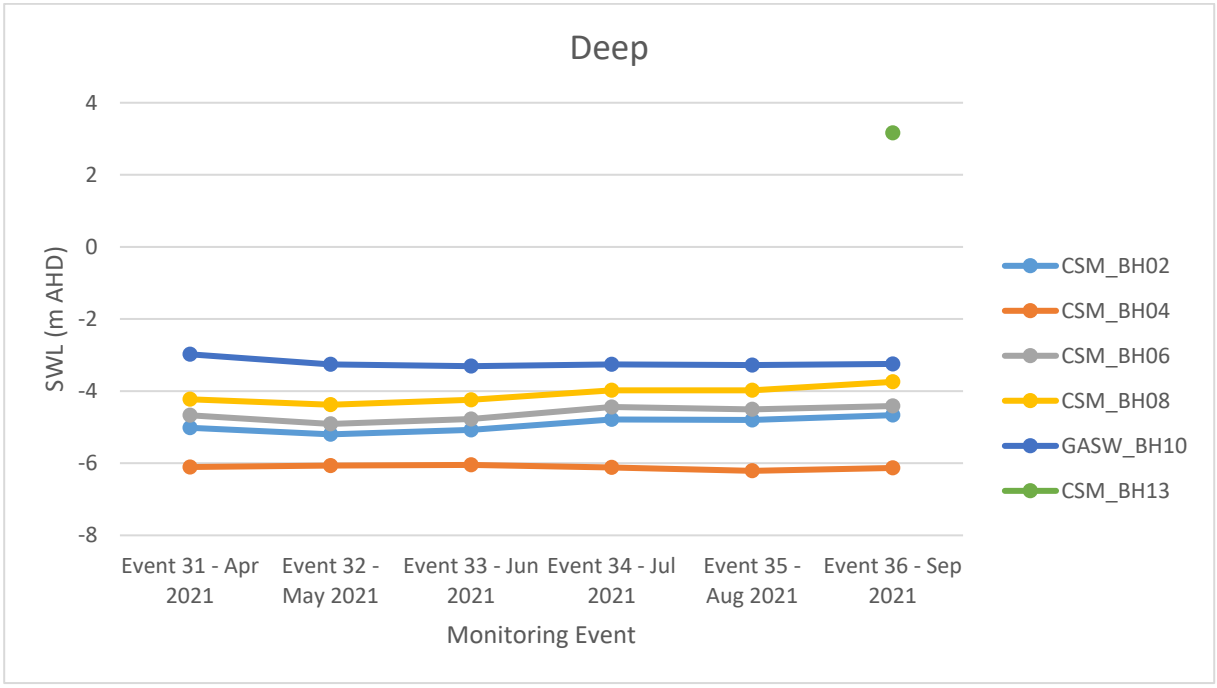

Figure 2 - Standing water level (m AHD) - Deep aquifer monitoring wells

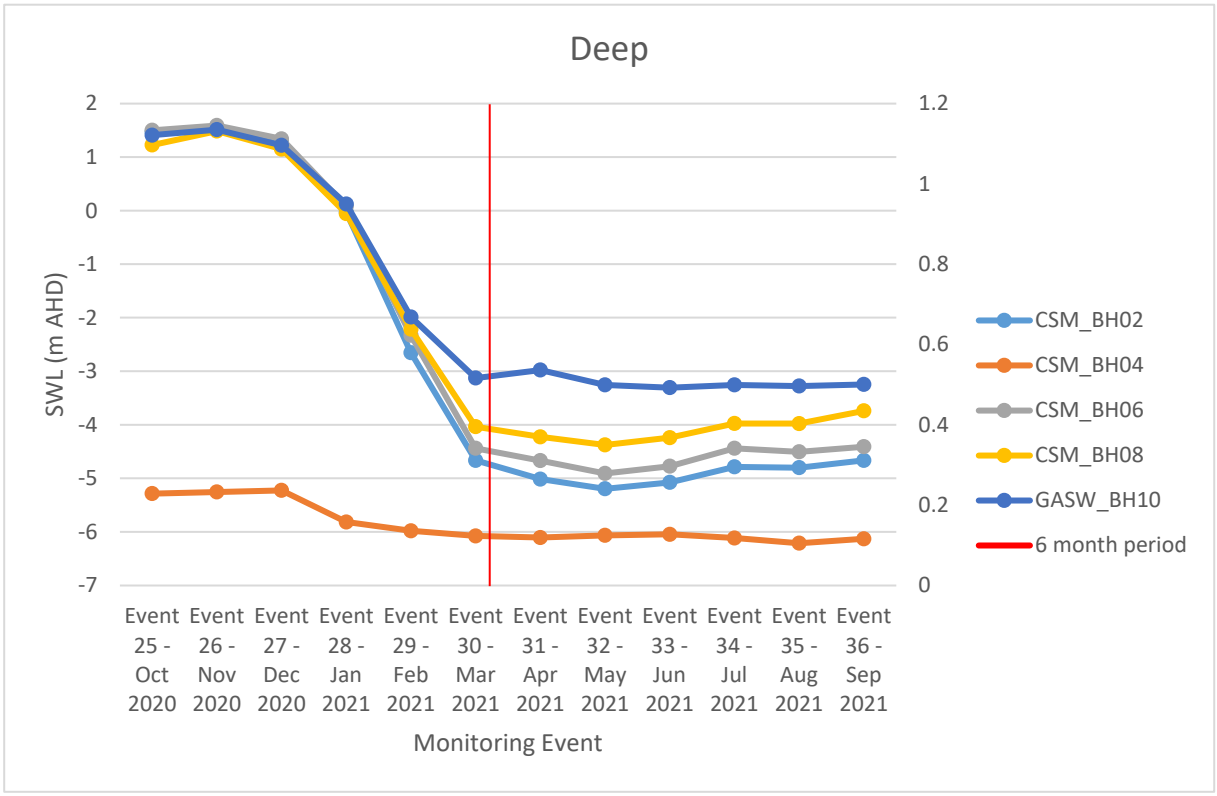

Figure 3 - Standing water level (m AHD) - Deep aquifer monitoring wells October 2020 to September 2021

As presented in Figure 2, the groundwater elevation at all sampled ground wells was observed to be relatively stable during the current monitoring period with a slight increase in September 2021.

Figure 3 shows the groundwater elevations between October 2020 and September 2021. A significant reduction in groundwater elevation at all sampled groundwater wells was observed the November 2020 sampling event. A sharp decline in elevations was apparent between the January and February 2021 events, where elevations continued to drop steadily throughout the monitoring period. This

coincided with the MBW deep excavation and the associated de-watering activities as discussed in Section 2.5. Groundwater elevations have remained below those observed in November 2020 during this monitoring period.

Groundwater levels at CSM_BH04 have remained lower than the other deeper bores and this is discussed further in Section 5.3.4.2. The groundwater level observed in the new well CSM_BH13 appears to be significantly higher compared to the other deep wells nearby, with an approximately 4 metre difference in water level from nearby CSM_BH06 in September 2021, however this bore has only been included in one monitoring event within this reporting period.

The inferred deep aquifer groundwater flow direction is presented in **Figure 3, Appendix A** and is broadly to the north east to south east.

5.3.3 Groundwater levels – gas works

The groundwater levels within the gasworks area have fluctuated within the shallow aquifer at GASW_BH23 and GASW_BH25A (presented on Figure 1) during this period. Groundwater levels increased in July 2021 and decreased in August 2021. The increase may be caused by the increase in rainfall during this period as well as the cut-off wall that has been installed to limit the amount of groundwater migration from the gasworks area into the MBW. The groundwater level has remained stable at GASW_BH11 with a lower groundwater elevation. GASW_BH11 is screened outside of the gasworks waste and within the residual/shale.

GASW_BH10 extends deeper than the cut-off wall and within the sandstone aquifer and therefore has not been affected by the construction of the wall.

5.3.4 Data loggers

The groundwater levels recorded by groundwater data loggers are presented with the daily rainfall data from Bureau of Meteorology Sydney Botanic Gardens weather station (066006) in Appendix C. The rapid decline and recovery in groundwater elevations at the time of manual gauging are associated with groundwater sampling works and do not reflect the background groundwater conditions.

5.3.4.1 CSM_BH02

CSM_BH02 is a deep monitoring well screened within sandstone.

Groundwater levels at CSM_BH02 generally ranged between -5.266 and -4.180 m AHD by data logger during the current monitoring period. This is the lowest groundwater level recorded in this well during the entire monitoring program (September 2018 to September 2021). Groundwater level data was only available from August 2019 onwards and therefore does not show the groundwater levels when the TBM was going through. The data shows the groundwater levels recovering after the TBM went through. From March to May 2021, the groundwater levels dropped below the data logger level and the groundwater levels were not recorded. The data logger level was readjusted during the May 2021 monitoring event.

During the current monitoring period, groundwater levels were observed to increase slightly from the lowest level recorded in May 2021 to stablise around approximately -4.5 m AHD in September 2021. Groundwater levels have not returned to the levels observed before the abrupt drop in December 2020. This is likely due to de-watering activities associated with the Metro Box excavation causing ongoing groundwater drawdown in this well.

Groundwater levels at CSM_BH02 spiked on 25 August 2021, which corresponds with a rainfall event, however, the groundwater levels did not respond to all rainfall events indicating a reduced connection with rainfall directly on the site. Previous monitoring rounds did not show a connection between the deep monitoring well and rainfall events, potential changes to site conditions and dewatering activities may be impacting on the groundwater levels observed during the recent rainfall event.

5.3.4.2 CSM_BH04

CSM_BH04 is a deep monitoring well screened within sandstone.

The groundwater levels at CSM_BH04 generally ranged between -6.225 and -5.870 m AHD by data logger during the current monitoring period.

The groundwater levels has not recovered to the levels prior to the TBM in 2019. The groundwater level remain approximately 2 to 3 m lower than prior initial groundwater levels. This well is located to the north near Eddy Avenue and has a well depth of 35 m. There are two potential possibilities as to the groundwater levels not recovering after the TBM. They include:

- After the TBM moved through the grouting may have been incomplete in one of the sections and has become a conduit to the geological structure (dyke) located to the north of Eddy Avenue.
- The cross passage (XP21) located approximately 90 m to the north may be extracting groundwater from the area with CSM_BH04 within the cone of depression. The construction of the cross passages is likely to create a sink and be unlined for large period. The cross passage was constructed between 30 August 2019 and 16 November 2019 and the groundwater levels start to stabilise around this time.

Groundwater levels at CSM_BH04 did not respond to rainfall events indicating a reduced connection with rainfall on site.

5.3.4.3 CSM_BH06

CSM_BH06 is a deep monitoring well screened within sandstone.

The groundwater levels at CSM_BH06 ranged between -4.918 and -3.261 m AHD during the current monitoring period. This is the lowest groundwater level recorded in this well during the entire monitoring program (September 2018 to March 2021). From February to May 2021, the groundwater levels dropped below the data logger level and the groundwater levels were not recorded. The data logger level was readjusted during the May 2021 monitoring event.

During the current monitoring period, a slight increase in groundwater levels was observed from around -4.9 to -4.3 m AHD from May to September 2020. Although, groundwater levels have not returned to the levels observed prior to the abrupt drop following the December 2020 monitoring event. This is likely due to de-watering activities associated with the Metro Box excavation causing ongoing groundwater drawdown in this well.

Groundwater levels at CSM_BH06 spiked on 25 August, which corresponds with a rainfall event, however, the groundwater levels did not respond to all rainfall events indicating a reduced connection with rainfall directly on the site. Previous monitoring rounds did not show a connection between the deep monitoring well and rainfall events, potential changes to site conditions and dewatering activities could be impacting on the groundwater levels observed during the recent rainfall event.

5.3.4.4 CSM_BH10S

CSM_BH10S is a shallow well with the well screened within residual soil (clayey sand and sandy clay).

The data logger was retrieved from SRT-CBH017 prior to being destroyed, and relocated to CSM_BH10S, where it has been recording data since January 2020.

The groundwater levels at CSM_BH10S ranged between 11.038 and 11.999 m AHD during the current monitoring period, and between 10.3 m AHD and 12.3 m AHD during the monitoring period between January 2020 and September 2021. The groundwater levels at CSM_BH10S have responded to rainfall events.

There did not appear to be a clear fall in groundwater elevations associated with ongoing excavation of the Metro Box to the top of bedrock and therefore limited hydraulic connection between the shallow and deeper aquifers.

5.3.4.5 SRT_BH047

SRT_BH047 is a shallow monitoring well with the well screened across sandstone and laminate / residual soil.

The groundwater levels at SRT_BH047 generally ranged between 15.708 and 17.945 m AHD during the current monitoring period, and between 15.5 m AHD and 18.5 m AHD during the monitoring period between September 2018 and September 2021. The groundwater levels responded to rainfall events. There did not appear to be any fall in groundwater elevations associated with ongoing excavation of the metro box to the top of bedrock.

5.3.5 Assessment of groundwater drawdown

The following groundwater monitoring well locations have been selected for assessment given that these monitoring wells have been gauged or installed with a data logger across a relatively long period of time (i.e. a minimum six months) and on the boundary of the Central Station footprint. These wells are considered to represent the groundwater levels of the surrounding areas.

These groundwater monitoring locations are shown in **Figure 1, Appendix A**.

Graphs showing the groundwater levels retrieved from data loggers and obtained during sampling events by gauging are included in **Appendix C**. Graphs showing the groundwater levels obtained during all sampling events by gauging are included in **Appendix C**.

Table 5-1 – Assessment of groundwater drawdown at selected monitoring wells

Well ID	Location	Well depth and targeting aquifer	Monitoring period	Data source	Monitoring findings
CSM_BH02	On the southern end of platforms 10 and 11, and immediately west of Metro Box footprint	35 m targeting aquifer with sandstone	August 2019 to September 2021	Gauging / Data logger	Groundwater levels ranged between -5.266 and -4.180 m AHD by data logger (excluding sampling response) and between -5.196 and -4.666 m AHD by gauging during the current monitoring period. The groundwater levels at CSM_BH02 between December 2020 and May 2021 fluctuated by over 6.0 m. Groundwater levels were relatively stable at CSM_BH02 prior to December 2020. The groundwater levels at CSM_BH02 were only available from the data logger from the end of August 2019. Data before that was lost due to the significant decline of groundwater levels likely caused by undermining of the TBM and technical issues with the data logger. Based on the available data, groundwater levels at CSM_BH02 had steadily recovered following impact by the TBM.

Well ID	Location	Well depth and targeting aquifer	Monitoring period	Data source	Monitoring findings
					Groundwater levels during the current monitoring period increased by less than 1.0 m and have not recovered to the groundwater levels observed prior to the abrupt drop in December 2020, likely due to the ongoing dewatering activities associated with the Metro Box excavation.
CSM_BH04	On Eddy Avenue and north of Metro Box footprint and Central Station footprint	35 m targeting aquifer with sandstone	April 2019 to September 2021	Gauging / Data logger	Groundwater levels ranged between -6.225 and -5.870 m AHD by data logger (excluding sampling response) and between -6.211 and -6.046 m AHD by gauging during the current monitoring period. Groundwater levels were relatively stable during the current monitoring period Groundwater levels were relatively stable at CSM_BH04 across the overall monitoring period until the tunnel boring machine moved through CSM project area in July 2019, resulting in groundwater drawdown of approximately 7 m. Groundwater levels have steadily recovered, however remain approximately 2-3 m lower than initial groundwater levels measured in April 2019.
CSM_BH06	On Institute Drive East of Metro Box footprint and south of Central Walk footprint	35 m targeting aquifer with sandstone	April 2019 to September 2021	Gauging / Data logger	Groundwater levels ranged between -4.918 and -3.261 m AHD by data logger (excluding sampling response) and between -4.91 and -3.85 m AHD by gauging during the current monitoring period. The groundwater levels during the current monitoring period, according to data logger information, increased approximately 1 m from May 2021 to August 2021. Groundwater levels at CSM_BH06 were relatively stable across the overall monitoring period until the TBM moved through CSM project area in July 2019 which resulted drawdown of groundwater level of about 3 m. Groundwater levels had

Well ID	Location	Well depth and targeting aquifer	Monitoring period	Data source	Monitoring findings
					steadily recovered until a sharp decline in groundwater levels by approximately 5.0 m that occurred after the December 2020 event. The groundwater levels have not recovered to the level prior to December 2020, likely due to the ongoing dewatering activities associated with the Metro Box excavation.
CSM_BH08	On Ambulance Drive west of Metro Box footprint / Central Station footprint	35 m / aquifer within sandstone	April 2019 to September 2021	Gauging	Groundwater levels ranged between -4.376 and -3.741 m AHD during the current monitoring period. Groundwater levels were slightly increasing during the current monitoring period. Groundwater levels fluctuated by approximately 5.0 m during the monitoring period between December 2020 and March 2021. Groundwater levels were relatively stable across the overall monitoring period until the tunnel boring machine passed Central Station in July 2019 which resulted drawdown of groundwater level of about 3 m. Then the groundwater levels have slowly recovered and stabilised to initial groundwater levels until December 2020 5.0 m decline due to the excavation of the Metro box.
GASW_BH10	In Sydney Yard within the uncovered gasworks footprint and immediately west of Metro Box footprint	25 m / aquifer with sandstone	June 2019 to September 2021	Gauging	Groundwater levels ranged between - 3.307 and -2.979 m AHD during the current monitoring period. Groundwater levels were stable during the current monitoring period. Groundwater levels fluctuated by approximately 4 m during the monitoring period between December 2020 and March 2021. Groundwater levels ranged between -3.127 and 8.118 m AHD during the overall monitoring period. However, AGJV consider the first gauged water level of 8.118 m AHD did not represent the equilibrium

Well ID	Location	Well depth and targeting aquifer	Monitoring period	Data source	Monitoring findings
					groundwater conditions. From the second monitoring event in July 2019, the groundwater levels fluctuated within a range less than 1.65 m prior to the decline in December 2020.
SRT_BH047	On platforms 6 / 7 west of Metro Box footprint	7 m / aquifer between residual soil and bedrock sandstone	September 2018 to September 2021	Gauging / Data logger	Groundwater levels ranged between 15.708 and 17.945 m AHD by data logger (excluding sampling response) and between 16.13 and 17.36 m AHD by gauging during the current monitoring period. The groundwater levels at SRT_BH047 fluctuated by approximately 1.0 m during the current monitoring period. Groundwater levels responded to rainfall. Groundwater level fluctuation during the overall monitoring period was approximately 2.5 m.
SRT_BH052	On platforms 6 /7 west of Metro Box footprint	8 m / aquifer with sandstone	October 2018 to September 2021	Gauging	Groundwater levels ranged between 15.07 and 15.28 m AHD during the current monitoring period, and 15.03 and 16.4 m AHD during the entire monitoring period. Fluctuations were less than 1.0 m during the current monitoring period. Groundwater level fluctuation during the overall monitoring period was approximately 1.5 m.
CSM_BH10S	On Eddy Avenue and north of Metro Box footprint and Central Station footprint	10 m / aquifer within residual soil	April 2019 to September 2021	Gauging / Datalogger from January 2020	Groundwater levels ranged between 11.038 and 11.999 m AHD (excluding sampling response) by data logger and between 11.188 and 11.573 m AHD by gauging during the current monitoring period. The groundwater levels during the current monitoring period, according to data logger information, fluctuated by approximately 1.0 m. Groundwater levels at this monitoring location remained relatively stable

Well ID	Location	Well depth and targeting aquifer	Monitoring period	Data source	Monitoring findings
					between 11 – 12 m AHD, while fluctuations were observed less than 1 m throughout the entire monitoring period after the initial monitoring point.

Based on the information presented in Table 5-1, groundwater within the shallow aquifer in wells surrounding Central Station / CSM footprint suggested a drawdown of generally less than 2.5 m. Groundwater levels in the deep aquifer within bedrock in wells surrounding Central Station / CSM project footprint suggested a drawdown of approximately 5 m since December 2020.

During this time, it is understood that the Metro Box was excavated to its designed depth as discussed in Section 2.5 and associated dewatering activity was enhanced as shown in Figure 2 to 5, Section 5.3.2. Groundwater levels in shallow wells did not respond and indicates a limited hydraulic connection with the deeper aquifer. Excessive drawdown in deep wells is considered to be influenced by the dewatering activity associated with the Metro Box excavation during the current monitoring period. AGJV considers this deep aquifer groundwater drawdown to be short-term and future monitoring rounds will determine whether groundwater levels have been recovered.

AGJV completed a hydrogeological inflow assessment in 2018 and the details of the assessment and findings are included in Hydrogeological Inflow Assessment Report (SMCSWCSM-LOR-SMC-GE-REP- 000202, dated 23 January 2019).

The hydrogeological inflow assessment report made the following findings related to groundwater drawdown:

- The modelled drawdowns in the residual soils show that drawdown is modelled as less than 4 m with the 2-4 m drawdown zone extending up to around 25 m from the edge of the excavation (and within the Central Station site). Drawdown of the track area is limited to between 0.5 and 1 m, other than a small zone immediately to the northwest and east, above a dyke zone, with up to 2 m of drawdown.
- Maximum drawdown in the upper weathered Hawkesbury Sandstone (Layer 5) was between 4 to 7 m at the southern end of the CSM box but generally less than 2 m outside the surface rail line footprint. The 1 m drawdown contour extended approximately 150-200 m around the CSM, with the 0.5 m drawdown limit generally extending to around 300 m, other than along the line of the dyke to the east. Consistent with the above, the drawdowns are likely to be exaggerated due to the high baseline conditions in the sandstone.

Based on this assessment the observed groundwater drawdown during current monitoring period are outside the original modelled predicted groundwater drawdown and therefore potential to exceed the trigger the implementation of an off-site groundwater level monitoring plan focusing on the buildings structure that may be impacted by this groundwater drawdown.

5.4 Field measured groundwater quality parameters

The field measured groundwater quality parameters are summarised in **Table B5**, **Appendix B**. The field purging sheets are included in **Appendix E**.

The measured temperature, electrical conductivity and pH at monitoring well locations were relatively consistent across the monitoring period. It is noted that the oxidation / reduction potential fluctuated

across the monitoring period and was similar in shallow and deep monitoring wells. Dissolved oxygen concentrations were generally lower in deep wells. The electrical conductivity at all locations was generally indicative of fresh water.

5.5 Laboratory analytical results

The results have been discussed separately relative to the adopted criteria in the following sections. The laboratory results are presented in **Table B2 and Table B3, Appendix B** and the laboratory reports are provided in **Appendix F**.

The following section discusses the laboratory analytical results during the current monitoring period (April to September 2021), relative to the adopted criteria. All monitoring data from the current and previous monitoring periods are included in **Table B2, Appendix B**. Monitoring data from the current monitoring period only are presented in **Table B3, Appendix B,** and discussed below.

5.5.1 Human health and ecological screening criteria

Heavy Metals

Copper, nickel and zinc all had exceedances of the adopted ecological screening criterion. Copper concentrations exceeded the ecological criterion in at least one monitoring period for wells CSM_BH02, CSM_BH06, CSM_BH08, CSM_BH10S, CSM_BH14S, GASW_BH10, GASW_BH25A, SRT_BH047, SRT_BH050, and SRT_BH052. Zinc was above the adopted ecological screening criterion at all monitoring well sampled, with the exception of CSM_BH10S, CSM_BH13 and SRT_BH052. Nickel exceeded the adopted ecological screening criteria once at CSM_BH08 in April 2021.

Total cyanide

The majority of groundwater samples reported total cyanide concentrations below the laboratory limit of reporting and adopted marine ecological screening criterion (0.004 mg/L). Seven samples reported concentrations exceeding the laboratory limit of reporting and the adopted ecological screening criterion, with five of these collected from GASW_BH23 (2 samples) and GASW_BH25A (3 samples).

TRH, BTEXN and PAH

The majority of the groundwater samples submitted for analysis reported concentrations of TRH fractions (with silica gel clean-up) below the laboratory limit of reporting. Reported detections above the limit of reporting were noted for TRH fractions >C_{10} to C_{16} (6 detections) and >C_{16} to C_{34} (9 detections) (with silica gel clean-up) in seven wells across the project area. Detections are considered indicative of impact associated with the gasworks. There are unlimited values or no criteria for heavier TRH factions in relation to vapour intrusion.

Exceedances of adopted screening criteria were noted in the following instances:

- Concentrations of benzene in groundwater samples collected from GASW_BH23 and GASW_BH25A exceeded adopted human health and/or marine water ecological criteria across current monitoring events. The August 2021 groundwater sample collected from GASW_BH25A likewise exceeded HSL D criterion (5,000 mg/L), reporting a maximum concentration of 8,900 mg/L.
- Detections of toluene, ethylbenzene and xylene were also reported in samples collected from GASW_BH23 and GASW_BH25A. Samples collected from GASW_BH25A exceeded the adopted ecological screening criteria for toluene and ethylbenzene in June and August 2021, and for toluene in April and May 2021. There was also one detection of toluene from SRT_BH052 (1 µg/L) during the August monitoring round. There were no exceedances for concentrations of xylene.

- Concentrations of naphthalene - MAHs were reported above the adopted ecological screening criterion in six samples collected from GASW_BH23 and GASW_BH25A, however this was due to the limit of reporting being raised above adopted assessment criteria. Concentrations in remaining monitoring events and locations reported naphthalene concentrations below the limit of reporting and adopted criteria. Concentrations of naphthalene-PAH were below the adopted ecological screening criterion for all locations and monitoring events.
- Majority of groundwater samples reported concentrations of benzo(a)pyrene below the laboratory limit of reporting. Five samples collected from CSM_BH08 (2 primary samples and 3 duplicates) exceeded the adopted recreational human health criterion (0.1 µg/L). The maximum detected concentration was reported in the duplicate sample of CSM_BH08 in August 2021 (0.42 µg/L).

Phenols

The majority of groundwater samples submitted for analysis reported concentrations of phenols below the laboratory detection limit. Detections of total phenols were reported in GASW_BH25A during April and August 2021 monitoring events. 3,4-Methylphenol was detected in GASW_BH10 during the April, May and August 2021 monitoring events. All groundwater samples reported phenol concentrations below adopted assessment criteria.

Ammonia

The majority of groundwater monitoring wells reported concentrations of ammonia above the laboratory detection limit (0.01 mg/L) with all samples reported concentrations below adopted marine ecological criterion (0.91 mg/L).

5.5.2 Statistical analysis

The statistical analysis of analytical results for cyanide, copper, nickel, zinc, ammonia, benzene, toluene and TRH (F1) fraction from all monitoring rounds was undertaken to understand the impact of the gasworks COPC and other COPCs on bulk groundwater concentrations and thus inform the need for groundwater treatment of these analytes before discharging off-site. Not all analytes have been assessed due to reporting either low concentrations and minimal number of exceedances to date, or the absence of exceedances. Given the wide range of concentrations of COPCs in wells throughout the project area and wells within the former gasworks, the use of the 95th upper confidence limit (UCL) of the average concentrations is expected to be skewed by outliers. Rather, the actual concentration is likely to fall somewhere between the calculated median and mean values. The mean is expected to be skewed upward but less so than the UCL, and therefore has been adopted as a conservative estimate of bulk formation water quality. Testing should be conducted on wastewater entering the treatment system to accurately inform discharge treatment and management requirements. To obtain mean and median values, as presented in Table 5-2 below, the reported concentration was recorded for each well during the current monitoring period.

The mean and median have been calculated with using half the limit of reporting where results are less than the limit of reporting.

Table 5-2 – Mean and Median statistical calculations

COPC	Mean concentration	Median concentration	Human health criteria - Vapour	Human health criteria – Recreational / Direct contact	Ecological criteria
Cyanide (mg/L)	0.0025	0.002	-	0.8	0.004
Copper (mg/L)	0.0023	0.0005	-	20	0.0013
Nickel (mg/L)	0.015	0.004	-	0.2	0.07
Zinc (mg/L)	0.033	0.024	-	na	0.008

COPC	Mean concentration	Median concentration	Human health criteria - Vapour	Human health criteria – Recreational / Direct contact	Ecological criteria
Ammonia (mg/L)	0.14	0.09	-	na	0.91
Benzene (µg/L)	159	0.5	5,000	10	700
Toluene (µg/L)	62	0.5	Non limiting	8,000	180
TRH (F1) (µg/L)	120	10	6,000	na	na

na = not available

The calculated mean and median cyanide concentrations are less than the adopted ecological criterion and human health criteria. The calculated values for cyanide are also impacted by the limit of reporting, as it is equal to the ecological criterion. The average and median concentrations of ammonia are below adopted ecological criterion.

The calculated mean concentration of benzene is in exceedance of the adopted recreational/direct contact human health criteria, while remaining below adopted HSL D vapour intrusion criteria. Concentrations of toluene and TRH (F1) are below nominated human health criteria.

The calculated mean concentrations of copper and zinc is in exceedance of the adopted ecological criteria. Groundwater may require treatment before discharging off-site.

The median and average values for all other analytes are presented in the summary statistics in **Table B3 Appendix B**.

It should be noted that these calculations are a conservative guide, and a mass balance approach may provide more representative results.

5.5.2.1 Comparison to baseline conditions

The 20th and 80th percentiles of cyanide, ammonia, copper, manganese, nickel, zinc, benzene, TRH (F1) and TRH (F2) fraction were calculated. Percentiles were calculated all monitoring well locations for selected COPCs. The 20th percentile is the value (or score) below which 20% of the observations are found. Equivalently, 80% of the observations are found above the 20th percentile. Table 5-3 presents percentiles for the current monitoring period (April to September 2021) against the baseline (shallow from September 2018 to February 2019 and deep from April to September 2019). The new well CSM_BH12S is located near the destroyed well CSM_BH09S and targets the same aquifer. Hence the percentiles for CSM_BH12S has been compared to the baseline percentiles for CSM_BH09S, although slight variations could be expected. The **BOLD** numbers on the tables show where the current period percentiles have exceeded the baseline percentiles.

Table 5-3 - 20th and 80th percentiles of COPC at monitoring well locations

Cyanide (Total)					
Adopted guideline:	**On-site health: N/A**				
	Off-site ecological: 0.004 mg/L				
	Off-site health: 0.8 mg/L				
Site ID	Current period (mg/L)			Monitoring period Baseline (mg/L)	
	N*	20th %ile	80th %ile	20th %ile	80th %ile
CSM_BH02	6	**0.0020**	0.0020	0.0025	0.0050
CSM_BH04	6	**0.0020**	0.0020	0.0025	0.0025
CSM_BH06	6	**0.0020**	0.0020	0.0025	0.0025
CSM_BH08	6	**0.0020**	0.0020	0.0025	0.0025
CSM_BH10S	6	**0.0020**	0.0020	0.0025	0.0025
CSM_BH12S	6	**0.0020**	0.0020	0.0025	0.0025
GASW_BH10	6	**0.0020**	0.0025	0.0025	0.0035
GASW_BH11	6	**0.0020**	0.0020	0.0025	0.0067
GASW_BH23	6	**0.0020**	0.0090	0.0339	0.0978
GASW_BH25A	6	**0.0020**	0.0050	0.0522	0.1362
SRT_BH047	6	**0.0020**	0.0020	0.0025	0.0025
SRT_BH052	6	**0.0020**	0.0020	0.0025	0.0025

Ammonia					
Adopted guideline:	**On-site health: N/A**				
	Off-site ecological: 0.91 mg/L				
	Off-site health: N/A				
Site ID	Current period (mg/L)			Monitoring period Baseline (mg/L)	
	N*	20th %ile	80th %ile	20th %ile	80th %ile
CSM_BH02	6	0.030	**0.130**	0.005	0.050
CSM_BH04	6	0.050	**0.080**	0.005	0.005
CSM_BH06	6	0.020	**0.040**	0.005	0.020
CSM_BH08	6	0.050	**0.130**	0.005	0.030
CSM_BH10S	6	0.030	**0.150**	0.005	0.005
CSM_BH12S	6	0.060	**0.240**	0.040	0.100
GASW_BH10	6	0.020	**0.130**	0.005	0.076
GASW_BH11	6	0.140	**0.240**	0.008	0.030
GASW_BH23	6	**0.400**	0.570	0.494	0.866
GASW_BH25A	6	**0.280**	0.350	0.426	0.480
SRT_BH047	6	0.030	**0.100**	0.005	0.005
SRT_BH052	6	0.030	**0.260**	0.005	0.005

Copper (Filtered)					
Adopted guideline:	**On-site health: N/A**				
	Off-site ecological: 0.0013 mg/L				
	Off-site health: 20 mg/L				
Site ID	Current period (mg/L)			Monitoring period Baseline (mg/L)	
	N*	20th %ile	80th %ile	20th %ile	80th %ile
CSM_BH02	6	0.0005	**0.0030**	0.0005	0.0005
CSM_BH04	10	0.0005	0.0005	0.0005	0.0030
CSM_BH06	7	0.0064	**0.0188**	0.0005	0.0096
CSM_BH08	10	0.0005	**0.0038**	0.0005	0.0008
CSM_BH10S	8	**0.0005**	0.0016	0.0010	0.0030
CSM_BH12S	6	0.0005	0.0005	0.0005	0.0008
GASW_BH10	6	0.0005	0.0005	0.0005	0.0005
GASW_BH11	6	0.0005	0.0010	0.0005	0.0030
GASW_BH23	6	0.0005	0.0005	0.0005	0.0014
GASW_BH25A	7	0.0005	**0.0030**	0.0005	0.0020
SRT_BH047	6	**0.0006**	0.0042	0.0064	0.0204
SRT_BH052	6	**0.0005**	0.0005	0.0120	0.0630

Manganese (Filtered)					
Adopted guideline:	**On-site health: N/A**				
	Off-site ecological: N/A				
	Off-site health: 5 mg/L				
Site ID	Current period (mg/L)			Monitoring period Baseline (mg/L)	
	N*	20th %ile	80th %ile	20th %ile	80th %ile
CSM_BH02	5	**0.0662**	0.1540	0.2000	0.3300
CSM_BH04	5	0.3940	0.4220	0.3000	0.4400
CSM_BH06	5	0.3780	**0.4420**	0.2100	0.2800
CSM_BH08	5	0.3380	**0.4040**	0.3200	0.3700
CSM_BH10S	5	0.5140	**0.5840**	0.4300	0.5100
CSM_BH12S	5	**0.4320**	0.7260	0.6400	0.7900
GASW_BH10	5	**0.0968**	0.1100	0.1696	0.3840
GASW_BH11	5	**0.1260**	0.1620	0.2000	0.2380
GASW_BH23	5	0.2200	**0.3820**	0.0408	0.3180
GASW_BH25A	5	**0.0025**	0.1060	0.1816	0.3064
SRT_BH047	5	0.0178	**0.0258**	0.0005	0.0084
SRT_BH052	5	**0.0025**	0.0025	0.0144	0.0318

Nickel (Filtered)					
Adopted guideline:	**On-site health: N/A**				
	Off-site ecological: 0.07 mg/L				
	Off-site health: 0.2 mg/L				
Site ID	Current period (mg/L)			Monitoring period Baseline (mg/L)	
	N*	20th %ile	80th %ile	20th %ile	80th %ile
CSM_BH02	6	0.0100	**0.0190**	0.0060	0.0120
CSM_BH04	10	0.0340	**0.0482**	0.0100	0.0290
CSM_BH06	7	**0.0112**	**0.0436**	0.0122	0.0200
CSM_BH08	10	0.0186	**0.0654**	0.0042	0.0124
CSM_BH10S	8	**0.0010**	0.0020	0.0020	0.0020
CSM_BH12S	6	0.0090	**0.0250**	0.0060	0.0090
GASW_BH10	6	**0.0005**	0.0020	0.0184	0.0424
GASW_BH11	6	0.0020	0.0020	0.0020	0.0020
GASW_BH23	6	**0.0005**	0.0005	0.0014	0.0032
GASW_BH25A	7	**0.0005**	0.0005	0.0011	0.0026
SRT_BH047	6	0.0040	0.0040	0.0020	0.0048
SRT_BH052	6	**0.0005**	0.0005	0.0040	0.0080

Zinc (Filtered)					
Adopted guideline:	**On-site health: N/A**				
	Off-site ecological: 0.008 mg/L				
	Off-site health: N/A				
Site ID	Current period (mg/L)			Monitoring period Baseline (mg/L)	
	N*	20th %ile	80th %ile	20th %ile	80th %ile
CSM_BH02	6	0.0150	**0.0210**	0.0070	0.0110
CSM_BH04	10	0.0308	0.0600	0.0025	0.1000
CSM_BH06	7	0.0550	0.0686	0.0410	0.0732
CSM_BH08	10	0.0238	**0.0632**	0.0144	0.0382
CSM_BH10S	8	**0.0025**	0.0040	0.0060	0.0110
CSM_BH12S	6	**0.0330**	**0.0990**	0.0360	0.0480
GASW_BH10	6	0.0090	0.0140	0.0025	0.0206
GASW_BH11	6	0.0340	**0.0880**	0.0142	0.0220
GASW_BH23	6	0.0025	0.0310	0.0025	0.3310
GASW_BH25A	7	0.0025	0.0025	0.0025	0.0025
SRT_BH047	6	0.0152	0.0346	0.0066	0.0374
SRT_BH052	6	**0.0025**	0.0025	0.0060	0.0860

Benzene					
Adopted guideline:	**On-site health (vapour intrusion): 5000 µg/L**				
	Off-site ecological: 700 µg/L				
	Off-site health: 10 µg/L				
Site ID	Current period (ug/L)			Monitoring period Baseline (ug/L)	
	N*	20th %ile	80th %ile	20th %ile	80th %ile
CSM_BH02	6	0.5	0.5	0.5	0.5
CSM_BH04	10	0.5	0.5	0.5	0.5
CSM_BH06	7	0.5	0.5	0.5	0.5
CSM_BH08	10	0.5	0.5	0.5	0.5
CSM_BH10S	8	0.5	0.5	0.5	0.5
CSM_BH12S	6	0.5	0.5	0.5	0.5
GASW_BH10	6	0.5	0.5	0.5	2.0
GASW_BH11	6	0.5	0.5	0.5	0.5
GASW_BH23	6	**31.0**	580.0	1654.0	1900.0
GASW_BH25A	7	**77.0**	1400.0	8160.0	15180.0
SRT_BH047	6	0.5	0.5	0.5	0.5
SRT_BH052	6	0.5	0.5	0.5	0.5

TRH F1					
Adopted guideline:	**On-site health (vapour intrusion): 6000 µg/L**				
	Off-site ecological: n/a				
	Off-site health: n/a				
Site ID	Current period (ug/L)			Monitoring period Baseline (ug/L)	
	N*	20th %ile	80th %ile	20th %ile	80th %ile
CSM_BH02	6	10	10	10	10
CSM_BH04	10	10	10	10	10
CSM_BH06	7	10	10	10	10
CSM_BH08	10	10	10	10	10
CSM_BH10S	8	10	10	10	10
CSM_BH12S	6	10	10	10	10
GASW_BH10	6	10	10	10	22
GASW_BH11	6	10	10	10	10
GASW_BH23	6	**30**	180	100	1720
GASW_BH25A	7	**100**	1400	1244	3884
SRT_BH047	6	10	10	10	10
SRT_BH052	6	10	10	10	10

TRH F2					
Adopted guideline:	**On-site health (vapour intrusion): Non limiting**				
	Off-site ecological: n/a				
	Off-site health: n/a				
Site ID	Current period (ug/L)			Monitoring period Baseline (ug/L)	
	N*	20th %ile	80th %ile	20th %ile	80th %ile
CSM_BH02	6	25	25	25	25
CSM_BH04	10	25	**30**	25	25
CSM_BH06	7	25	25	25	25
CSM_BH08	10	25	**50**	25	25
CSM_BH10S	8	25	**40**	25	25
CSM_BH12S	6	25	25	25	50
GASW_BH10	6	70	120	40	304
GASW_BH11	6	160	290	148	344
GASW_BH23	6	**120**	230	312	372
GASW_BH25A	7	**60**	370	328	1372
SRT_BH047	6	25	25	25	25
SRT_BH052	6	25	25	25	25

TDS					
Adopted guideline:	**On-site health: N/A**				
	Off-site ecological: N/A				
	Off-site health: N/A				
Site ID	Current period (mg/L)			Monitoring period Baseline (mg/L)	
	N*	20th %ile	80th %ile	20th %ile	80th %ile
CSM_BH02	6	490	560	434	562
CSM_BH04	6	260	290	248	318
CSM_BH06	6	470	580	470	600
CSM_BH08	6	340	360	274	364
CSM_BH10S	6	170	180	148	246
CSM_BH12S	6	**360**	390	390	460
GASW_BH10	6	760	810	600	956
GASW_BH11	6	210	**280**	186	218
GASW_BH23	6	**240**	490	670	712
GASW_BH25A	6	**170**	310	400	703
SRT_BH047	6	**180**	250	262	360
SRT_BH052	6	**230**	**300**	246	282

pH (Lab)					
Adopted guideline:	**On-site health: N/A**				
	Off-site ecological: N/A				
	Off-site health: N/A				
Site ID	Current period (pH units)			Monitoring period Baseline (pH units)	
	N*	20th %ile	80th %ile	20th %ile	80th %ile
CSM_BH02	6	**6.9**	7.7	7.8	8.1
CSM_BH04	6	**6.5**	7.3	6.7	7.5
CSM_BH06	6	**6.3**	7.1	7.1	8
CSM_BH08	6	**6.7**	7.2	7.2	7.5
CSM_BH10S	6	**5.9**	**6.7**	6.1	6.6
CSM_BH12S	6	**6.4**	**7.5**	6.6	6.9
GASW_BH10	6	7.4	**8.1**	7.3	7.7
GASW_BH11	6	6.8	**7.5**	6.3	6.5
GASW_BH23	6	7.9	**8.1**	7.5	7.8
GASW_BH25A	6	7.5	**8.2**	7.5	8.1
SRT_BH047	6	**6.5**	7.1	7.7	8.1
SRT_BH052	6	**6.8**	7.4	7.7	7.9

Cyanide

Concentrations of cyanide were reported above the adopted ecological criteria in all monitoring wells primarily until December 2019 when trace analysis was introduced, and the laboratory limit of reporting was reduced from 0.005 mg/L to 0.004 mg/L. There are no concentrations above the adopted human health recreational/direct contact criteria. There is no apparent trend of increasing cyanide concentrations in the data set.

Concentrations of cyanide in the gasworks waste wells (GASW_BH23 and GASW_BH25A) are elevated relative to remaining wells and consistently above the detection limit. This is considered reflective of gasworks waste impact rather than construction related impacts. Cyanide concentrations do not appear to show increasing trends, but rather a high variability. Ongoing monitoring will inform the range in variations that can be expected for wells screened in and around the former gasworks.

Ammonia

Ammonia concentrations have increased during this period compared to baseline in ten of the monitoring wells. The current ammonia concentrations are lower than the adopted ecological screening criterion and therefore these increases should continue to be assessed in the next monitoring period. This increase may have been attributed to the excavation of the MBW and changes to the groundwater regime.

Metals

Concentrations of copper, manganese and nickel have increased during this monitoring period compared to the baseline data in the deep wells CSM_BH06 and CSM_BH08 as well as zinc concentrations for CSM_BH08.

Concentrations of copper and zinc have generally increased during this monitoring period compared to the baseline data. However, the levels are fluctuating between events and could be more indicative of older pockets of groundwater flowing through the wells and lowering the pH of the water and increasing metal solubility.

Nickel and manganese concentrations had some minor exceedances of the 80th percentiles when compared to the baseline and are probably attributed to natural variations in the groundwater.

Benzene, TRH F1, TRH F2

Benzene and TRH F1 have no exceedances of the baseline 80th percentiles and therefore there has been no change due to the construction works.

There were minor exceedances of the baseline 80th percentiles for TRH F2 in wells CSM_BH04, CSM_BH08, and CSM_BH10S. The baseline 80th percentile for these wells is close to the limit of reporting and minor exceedances have been observed in previous rounds that are not present in the next monitoring events, suggesting variations in the concentrations that are unlikely to be associated with the construction works.

Total dissolved solids (TDS)

TDS have been relatively stable during this monitoring period when compared to baseline. There has been a slight increase of total dissolved solids in wells GASW_BH11 and SRT_BH052.

pH (Lab)

The pH levels have remained consistent during this monitoring period. When compared to the baseline there has been a slight reduction in the pH values in the wells CSM_BH02, CSM_BH04, CSM_BH06, CSM_BH08, CSM_BH10S, SRT_BH47, and SRT_BH052.

A lowering of the pH (more acidic) can encourage the solubility of heavy metals and may explain the fluctuations in metal concentrations.

5.5.3 Precipitation (Formation of Ochre)

Ferrous iron and manganese were analysed in groundwater samples and results are included in **Table B3**, **Appendix B.**

Ferrous iron concentrations ranged from below the laboratory reporting limits (0.05 mg /L) to a maximum concentration of 14 mg/L at GASW_BH23. Comparison of the current and previous results against the criteria outlined in **Section 3.6**, suggests that there is a negligible to high potential for ochre formation. The results have fluctuated throughout the monitoring period.

Manganese concentrations ranged from less than the laboratory reporting limit (0.005 mg/L) to 4.3 mg/L (not field filtered) at CSM_BH02.

5.5.4 Summary of statistical analysis

Overall, there has been no major changes in the COPC concentrations due to construction. However, ammonia levels have increased from the baseline during this monitoring period and should be re-assessed within the next monitoring period to assess if there have been further increases.

6 Quality assurance and quality control assessment results

6.1 Field program

As part of the AGJV QA/QC program, one intra-laboratory duplicate and one inter-laboratory duplicate sample was analysed during each monitoring event. Duplicate samples were analysed for heavy metals, TRH, BTEXN and PAH. It is noted that for some results, reported concentrations were below the laboratory limit of reporting and as a result, it was not possible to calculate relative percentage difference (RPD's) for these samples. For analytes with detected concentrations, RPDs were within the acceptable range, with the exception of exceedances shown in **Table B6, Appendix B** and discussed below.

Elevated RPDs were reported between the following primary and duplicate samples:

- CSM_BH08/QC02 in April 2021 for benzo(a)pyrene (75%), benzo(b+j)fluoranthene (67%), and benzo(g,h,i)perylene (58%).

These elevated RPDs were likely attributed to the concentrations of analytes being close to the laboratory reporting limits (i.e. less than 10 times of the laboratory reporting limits), where a small difference in concentrations trigger an exaggerated RPD result.

One rinsate sample was collected during each monitoring round and analysed for heavy metals. Concentrations of all rinsate samples collected during this monitoring period were below the laboratory limit of reporting, indicating that cross contamination of samples did not occur.

One set of water trip blank and trip spikes were analysed as part of each monitoring event during the current monitoring period. Concentrations of the trip blank samples were reported below the laboratory limit of reporting. The results of the trip spike have been reviewed by AGJV and were found to be within the acceptable criteria (70-130%), with the exception of C6-C10 Fraction recovery (58%) for the April 2021 monitoring event. In April 2021, C6-C10 Fraction detects were recorded in the Gasworks wells (GASW_BH23 and GASW_BH25A) and all other wells were below LOR. This was consistent with the other monitoring events and it is therefore considered unlikely that cross-contamination of samples occurred and the results reported during this monitoring period are representative.

The rinsate, trip spike and trip blank analytical results are summarised in **Table B7, Appendix B**. Laboratory analytical reports are included in **Appendix F**.

6.2 Laboratory program

Holding times

All analytes were extracted within the laboratory's required holding times for chemical analysis as presented on laboratory reports on **Appendix F,** with the exception of pH (Lab) that has a holding time of less than 1 day and those listed below:

- May 2021: TRH - 2013 NEPM Fractions (after silica gel clean-up)
- July 2021: Polycyclic Aromatic Hydrocarbons (Trace level)
- September 2021: Phenols (Halogenated, non-Halogenated), TRH - 2013 NEPM Fractions (after silica gel clean-up), and Polycyclic Aromatic Hydrocarbons (Trace level) (primary and duplicate).

Laboratory program

The NATA certified laboratories used for this assessment (Eurofins Sydney and Australian Laboratory Services) undertook their own quality assurance and quality control procedures for sample analysis. AGJV has reviewed the internal laboratory control data provided within the laboratory reports, which are attached as **Appendix F**. It is noted comments have been provided by the laboratory where a failure result was reported in laboratory QA/QC procedures.

6.3 Discussion

Despite the elevated RPD of a primary and duplicate sample for certain PAH compounds and some holding time exceedances, the results of the QA/QC program are considered to provide an acceptable degree of confidence in the analytical program completed. Overall, the analytical data set is considered valid and acceptable for assessing the contamination status of the site.

7 Findings, conclusions and recommendations

7.1 Findings and conclusions

In accordance with the objectives detailed in **Section 1.1** of this report, and based on the information contained within this monitoring program, the following findings are noted (subject to the limitations outlined in **Section 9**).

- Due to the destruction and replacement of monitoring wells as the construction progresses, the following variations in sampling locations are noted as compared to those listed in **Table 7.1** of the latest CGWMP (LOR, September 2021):
- With the construction of the MBW a number of monitoring wells to the east and south have been destroyed.

The groundwater elevation data, as presented in **Section 5.3.5**, suggests there are two distinct aquifers at the site, located in the overlying unconsolidated materials (the shallow aquifer) and within the Hawkesbury Sandstone (the deep aquifer). This statement is supported by the following evidence:

- A difference greater than 5 m in groundwater elevations between the shallow and deeper aquifers.
- A difference in response to rainfall events between wells screened within the shallow and deep aquifers. Shallow wells displayed an immediate response to rainfall events, whereas deep wells displayed a delayed response.

Groundwater flow direction within the shallow aquifer system is toward the north-east and south-west. It appears this is generally consistent with the general fall in topography and towards harbour areas. Groundwater flow direction in the deeper aquifer appears to be to the north-east and towards harbour areas. The groundwater flow directions in the deep and shallow aquifer have been consistent throughout the monitoring program.

The groundwater elevation data also indicates that groundwater drawdown in the shallow aquifer at the boundary of the CSM project area are within the acceptable range specified in the project EIS and REMM (AGJV, 2020). Groundwater drawdown in the deep aquifer for the current monitoring period, however, indicates excessive drawdown of approximately 5 m influenced by dewatering activities associated with the MBW excavation. This drawdown may be out of the acceptable range specified in the project EIS and REMM (AGJV, 2020). Excessive drawdown in the deep aquifer is expected to recover following reduction or conclusion of dewatering activities.

The groundwater quality sampling results suggest the following:

- Concentrations of copper and zinc have an increasing trend during this monitoring period and have exceeded the baseline percentiles in groundwater at some wells. However, they are fluctuating and with increasing spikes which may be due to the lowering of pH as older groundwater is migrating with the drawdown of the groundwater at the MBW.
- Ammonia concentrations have increased during this monitoring period compared against the baseline. This may have been caused by the changes in the groundwater regime due to the construction works. However, the current levels are well below the ecological screening criterion adopted for this project.
- TRH (with silica gel cleanup) results were detected above the laboratory limit of reporting in groundwater samples across seven monitoring wells. These detections were low and are considered to be indicative of low level impact associated with the former gasworks.
- Benzene, benzo(a)pyrene and toluene impacts, as well as manganese, reported above recreational criteria during the entire monitoring period (September 2018 to March 2021) may

present a potential contact risk for on-site intrusive maintenance workers, although it is noted that the adopted criteria are conservative.

- Concentrations of benzene in GASW_BH25A exceeded human health criteria for commercial/industrial receptors via vapour intrusion pathway during the August 2021 event. Exceedances of this criteria have also been reported in GASW_BH23 and GASW_BH25A during previous monitoring events. AGJV understand that the vapour intrusion risk is managed by the project Construction Environmental Management Plan (CEMP). The vapour intrusion risk for the operations phase has been assessed in the Gasworks Quantitative Risk Assessment (SMCSWCSM-DJV-EW-00-MEM-GE-000045) and appropriate mitigation measures have been incorporated into the construction design.
- There is a negligible to high potential for ochre formation throughout the site, particularly within the vicinity of the former gasworks holder, given ferrous iron concentrations were reported at more than 10 mg/L at GASW_BH7 and GASW_BH10 during previous monitoring period and at GASW_BH23 during past and current monitoring periods.
- There does not appear to be an ongoing emergence of groundwater quality impacts associated with the construction works. This is understandable given that groundwater flow is directed into excavation, where it is being collected and treated.

7.2 Recommendations

Based on the findings of the current groundwater monitoring period and consideration of findings from the previous monitoring periods, AGJV recommend:

- Continued monitoring and factual reporting on a six-monthly basis in accordance with the CGWMP.
- Ammonia concentrations should be reassessed next monitoring period to ascertain if there further increases in concentrations or just fluctuation through changes to the groundwater regime.
- Excessive drawdown in the deep aquifer is expected to recover following reduction or conclusion of dewatering activities. This data should be provided to the relevant AGJV groundwater movement specialist for further consideration as there is the potential to be outside the relevant drawdown criteria.
- The groundwater monitoring results should be provided to the relevant specialist operator of the construction and operational water treatment plants for the treatment of groundwater.
- To support the future validation works, ongoing characterisation of groundwater quality entering the treatment plant is required, particularly:
    - pH
    - Cyanide
    - Metals including chromium, copper, lead, manganese, mercury, nickel and zinc.
    - Benzo (a) pyrene
    - Benzene
- For five monitoring wells located within the gasworks area (GASW_BH7, GASW_BH10, GASW_BH11, GASW_BH23 and GASW_BH25A), laboratory analysis can be reduced to BTEXN, TRH C6-C10 and ammonia. This will need to be updated within the CGMWP and approved by the relevant authorities.
- With the finishing of all major excavations, it is recommended that groundwater quality monitoring does not need to occur on a monthly basis. Groundwater sampling is proposed on a quarterly event with groundwater gauging to continue monthly. This will need to be updated within the CGMWP and approved by the relevant authorities.

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9 Limitations

It is noted that AGJV does not rely on any data collected and reported by other consultants.

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The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of this report. AGJV has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

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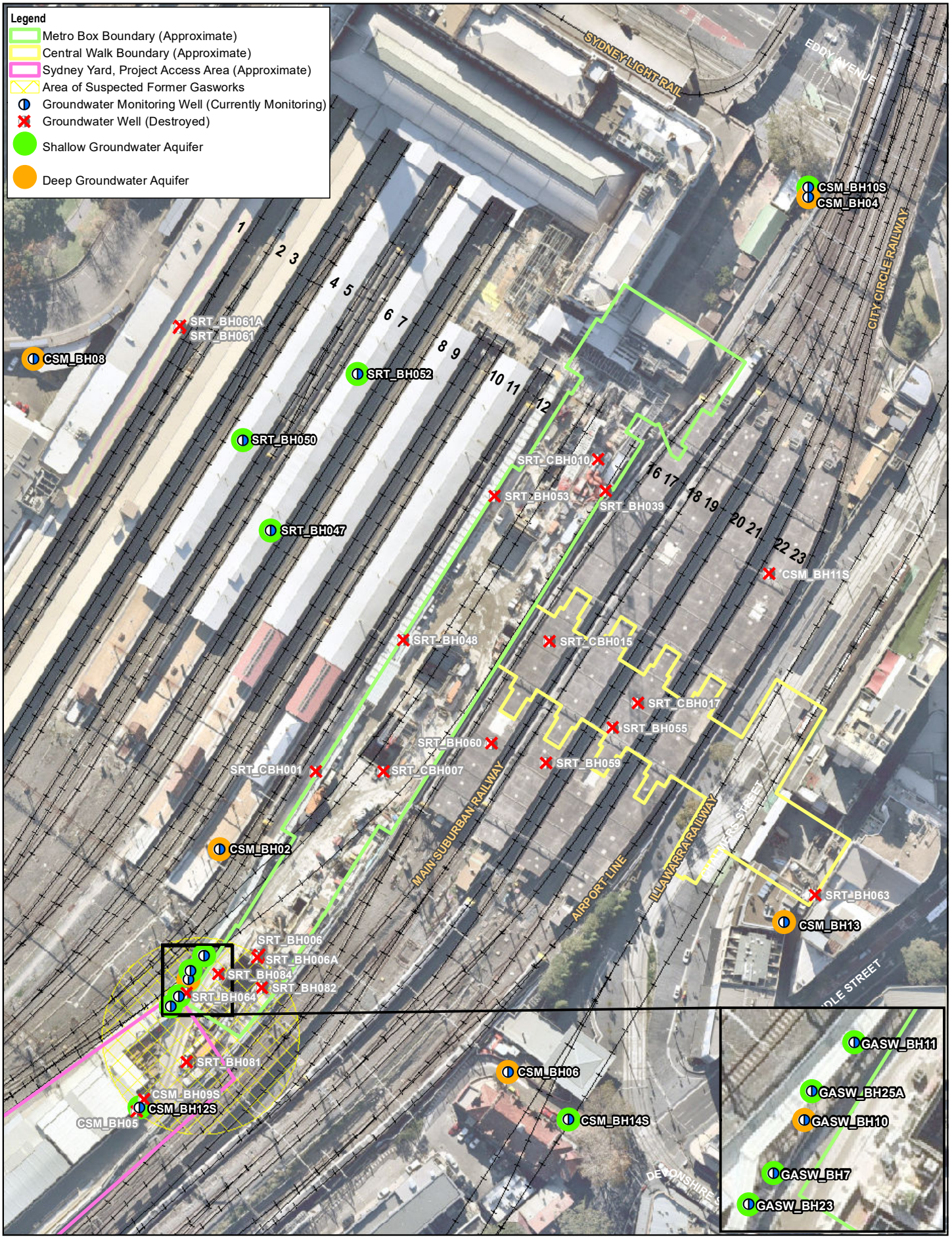
Appendices

Appendix A
Figures



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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

AGJV

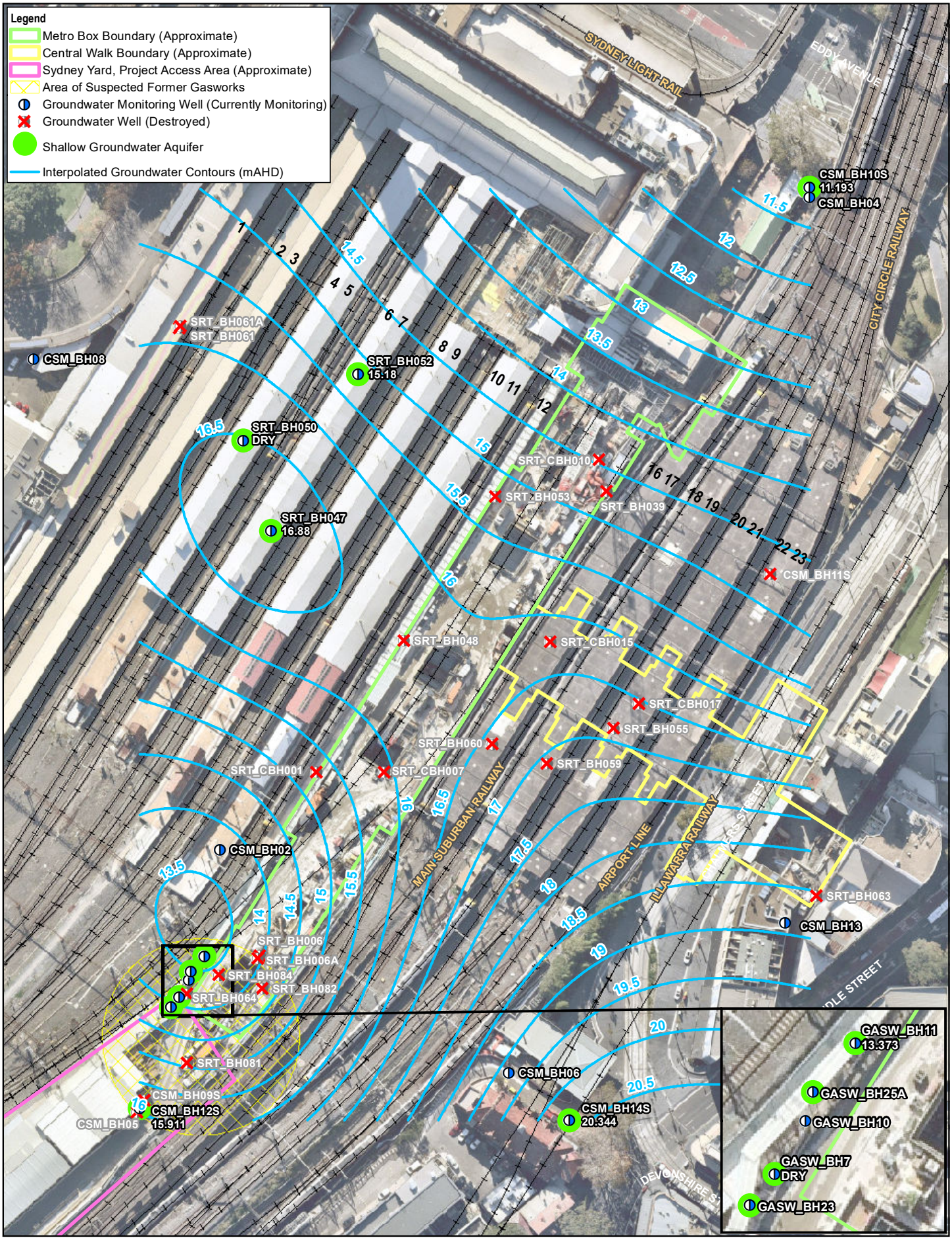
Laing O'Rourke
Central Station Main Works
Groundwater Monitoring

Monitoring Well Locations (September 2021)

Project No. 21-27234
Revision No. -
Date 22/12/2021

Figure 1

Data source: . Created by: tnham



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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

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Laing O'Rourke
Central Station Main Works
Groundwater Monitoring

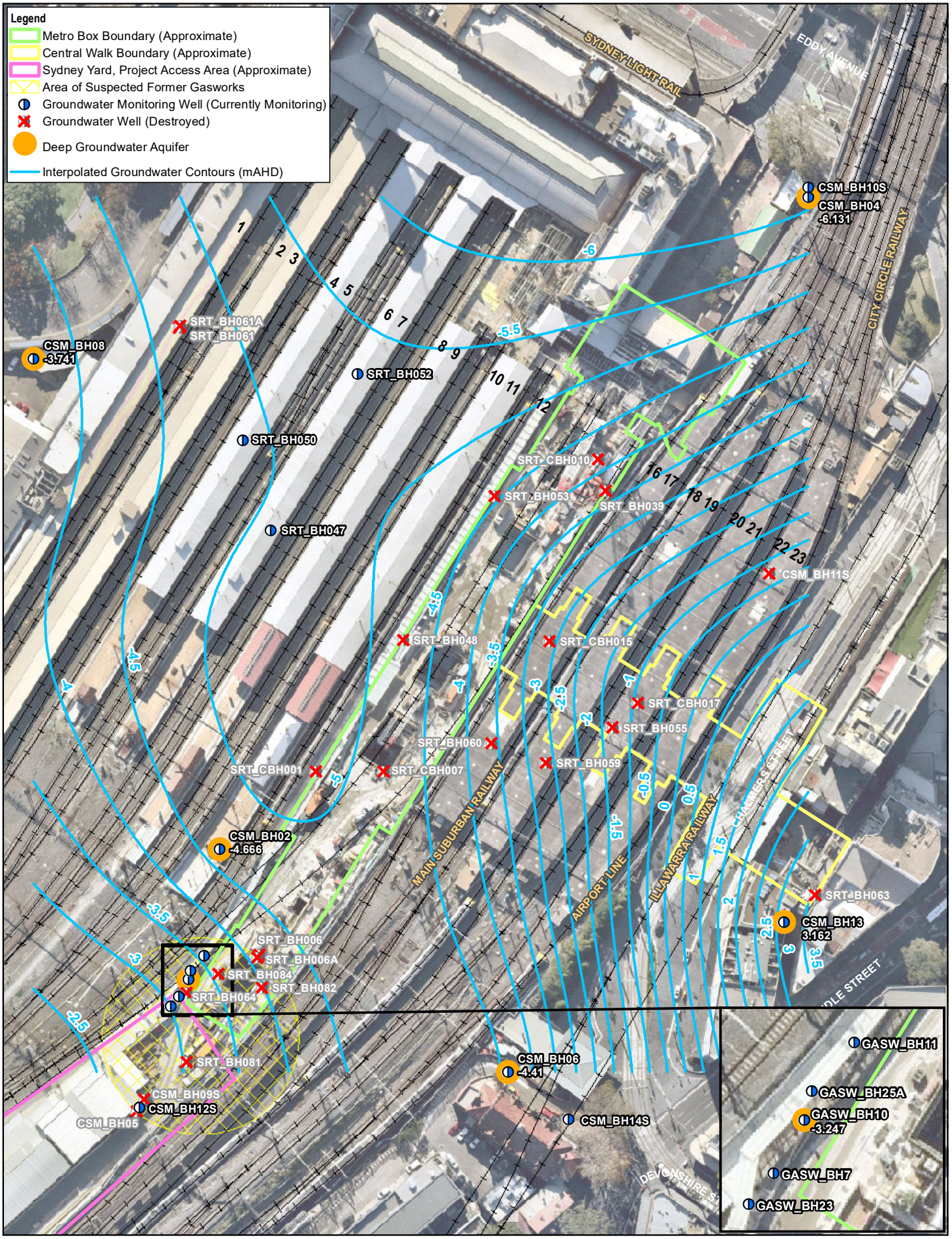
Interpolated Groundwater Contours - September 2021 (Shallow Aquifer)

Project No. 21-27234
Revision No. -
Date 22/12/2021

Figure 2

C:\GIS_Local\21-27234 Central

Data source: . Created by: tnham



Paper Size ISO A4

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

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Laing O'Rourke
Central Station Main Works
Groundwater Monitoring

Interpolated Groundwater Contours - September 2021 (Deep Aquifer)

Project No. 21-27234
Revision No. -
Date 22/12/2021

Figure 3

C:\GIS_Local\21-27234 Central

Data source: . Created by: tnham

Appendix B
Tables

Appendix B
Table B1 - Summary of Monitoring Well Status During Monitoring Program (September 2018 to September 2021)

Laing O'Rourke
Central Station Main Works
Groundwater Monitoring

Well ID	Approx. Location	Targeted Aquifer	Datalogger	Event 1 Sept 2018	Event 2 Oct 2018	Event 3 Nov 2018	Event 4 Dec 2018	Event 5 Jan 2019	Event 6 Feb 2019	Event 7 April 2019	Event 8 May 2019	Event 9 June 2019	Event 10 July 2019	Event 11 Aug 2019	Event 12 Sept 2019	Round 13 Oct 2019
SRT_BH006	Sydney Yard	Deep		Not Found / Destroyed												
SRT_BH006A	Sydney Yard	Shallow		Not Found / Destroyed												
SRT_BH039	Track 15	Deep		Sampled	Sampled	Destroyed										
SRT_BH047	Platform 6/7	Shallow	Logger + Baro	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
SRT_BH048	Platform 12/13	Shallow		Sampled	Sampled	Sampled	Destroyed									
SRT_BH050	Platform 4/5	Shallow														
SRT_BH052	Platform 6/7	Shallow		Covered by Hoarding	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
SRT_BH053	Platform 12/13	Deep		Sampled	Sampled	Covered by Hoarding	Destroyed									
SRT_BH055	Platform 20/21	Shallow		Dry												
SRT_BH059	Platform 18/19	Shallow			Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
SRT_BH060	Platform 16/17	Shallow														
SRT_BH063	Offsite Randle Lane	Shallow		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	No Access	No Access
SRT_BH064	Sydney Yard	Shallow		Sampled	Not Found / Destroyed											
SRT_BH081	Sydney Yard	Shallow			Not Found / Destroyed											
SRT_BH082	Sydney Yard	Shallow			Sampled	Sampled	Not Found / Destroyed									
SRT_BH084	Sydney Yard	Shallow		Not Found / Destroyed												
SRT_CBH001	Platform 12/13	Shallow		Sampled	Sampled	Sampled	Destroyed									
SRT_CBH007	Platform 14/15	Shallow		Sampled	Destroyed											
SRT_CBH015	Platform 16/17	Shallow		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
SRT_CBH017	Platform 20/21	Shallow	Logger	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH02	Platform 10/11	Deep	Logger							Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH04	Eddy Ave Driveway	Deep	Logger							Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH05	Sydney Yard	Deep								Sampled	Sampled	Sampled	Sampled	Destroyed		
CSM_BH06	Institute Drive	Deep	Logger							Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH08	Ambulance Ave	Deep								Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH09S	Sydney Yard	Shallow								Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH10S	Eddy Ave Driveway	Shallow								Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH11S	Platform 22	Shallow														
CSM_BH12S	Sydney Yard	Shallow														
CSM_BH13	Randle Lane	Deep														
CSM_BH14S	Institute Drive	Shallow														
GASW_BH7	Sydney Yard Gasworks	Shallow										Sampled	Sampled	Sampled	Sampled	Sampled
GASW_BH10	Sydney Yard Gasworks	Deep										Sampled	Sampled	Sampled	Sampled	Sampled
GASW_BH11	Sydney Yard Gasworks	Shallow										Sampled	Sampled	Sampled	Sampled	Sampled
GASW_BH23	Sydney Yard Gasworks	Shallow													Sampled	Sampled
GASW_BH25A	Sydney Yard Gasworks	Shallow													Sampled	Sampled

	Well Sampled
	Not Sampled
	Not scheduled / available for sampling
	Grab sample taken / Dry

Appendix B
Table B1 - Summary of Monitoring Well Status During Monitoring Program (September 2018 to September 2021)

Laing O'Rourke
Central Station Main Works
Groundwater Monitoring

Well ID	Approx. Location	Targeted Aquifer	Datalogger	Round 14 Nov 2019	Round 15 Dec 2019	Round 16 Jan 2020	Round 17 Feb 2020	Round 18 Mar 2020	Round 19 Apr 2020	Round 20 May 2020	Round 21 Jun 2020	Round 22 Jul 2020	Round 23 Aug 2020	Round 24 Sept 2020	Round 25 Oct 2020	Round 26 Nov 2020
SRT_BH006	Sydney Yard	Deep														
SRT_BH006A	Sydney Yard	Shallow														
SRT_BH039	Track 15	Deep														
SRT_BH047	Platform 6/7	Shallow	Logger + Baro	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
SRT_BH048	Platform 12/13	Shallow														
SRT_BH050	Platform 4/5	Shallow					No Sample	Grab Sampled	Grab Sampled	DRY	Grab Sampled	Grab Sampled	Grab Sampled	DRY	DRY	Grab Sampled
SRT_BH052	Platform 6/7	Shallow		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
SRT_BH053	Platform 12/13	Deep														
SRT_BH055	Platform 20/21	Shallow					Destroyed									
SRT_BH059	Platform 18/19	Shallow		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Grab Sampled	Sampled	Sampled	Sampled	Grab Sampled	Grab Sampled
SRT_BH060	Platform 16/17	Shallow					No Sample	Grab Sampled	Grab Sampled	Destroyed						
SRT_BH063	Offsite Randle Lane	Shallow		No Access	No Access	No Access	Destroyed									
SRT_BH064	Sydney Yard	Shallow														
SRT_BH081	Sydney Yard	Shallow														
SRT_BH082	Sydney Yard	Shallow														
SRT_BH084	Sydney Yard	Shallow														
SRT_CBH001	Platform 12/13	Shallow														
SRT_CBH007	Platform 14/15	Shallow														
SRT_CBH015	Platform 16/17	Shallow		Sampled	Sampled	Destroyed										
SRT_CBH017	Platform 20/21	Shallow	Logger	Sampled	Sampled	Sampled	Destroyed									
CSM_BH02	Platform 10/11	Deep	Logger	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH04	Eddy Ave Driveway	Deep	Logger	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH05	Sydney Yard	Deep														
CSM_BH06	Institute Drive	Deep	Logger	Sampled	Sampled	No Access	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH08	Ambulance Ave	Deep		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH09S	Sydney Yard	Shallow		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH10S	Eddy Ave Driveway	Shallow		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH11S	Platform 22	Shallow												DRY	DRY	DRY
CSM_BH12S	Sydney Yard	Shallow														
CSM_BH13	Randle Lane	Deep														
CSM_BH14S	Institute Drive	Shallow														
GASW_BH7	Sydney Yard Gasworks	Shallow		Sampled	Sampled	Sampled	Sampled	Sampled	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
GASW_BH10	Sydney Yard Gasworks	Deep		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
GASW_BH11	Sydney Yard Gasworks	Shallow		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Grab Sampled	Grab Sampled
GASW_BH23	Sydney Yard Gasworks	Shallow		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Grab Sampled	Grab Sampled	Grab Sampled	Grab Sampled	Grab Sampled	Sampled	Grab Sampled
GASW_BH25A	Sydney Yard Gasworks	Shallow		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Grab Sampled	Sampled	Sampled

	Well Sampled
	Not Sampled
	Not scheduled / available for sampling
	Grab sample taken / Dry

Appendix B
Table B1 - Summary of Monitoring Well Status During Monitoring Program (September 2018 to September 2021)

Laing O'Rourke
Central Station Main Works
Groundwater Monitoring

Well ID	Approx. Location	Targeted Aquifer	Datalogger	Round 27 Dec 2020	Round 28 Jan 2021	Round 29 Feb 2021	Round 30 Mar 2021	Round 31 Apr 2021	Round 32 May 2021	Round 33 Jun 2021	Round 34 Jul 2021	Round 35 Aug 2021	Round 36 Sept 2021
SRT_BH006	Sydney Yard	Deep											
SRT_BH006A	Sydney Yard	Shallow											
SRT_BH039	Track 15	Deep											
SRT_BH047	Platform 6/7	Shallow	Logger + Baro	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
SRT_BH048	Platform 12/13	Shallow											
SRT_BH050	Platform 4/5	Shallow		Grab Sampled	DRY	Grab Sampled	Grab Sampled	Grab Sampled	DRY	DRY	Grab Sampled	DRY	DRY
SRT_BH052	Platform 6/7	Shallow		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
SRT_BH053	Platform 12/13	Deep											
SRT_BH055	Platform 20/21	Shallow											
SRT_BH059	Platform 18/19	Shallow		No Access	Destroyed								
SRT_BH060	Platform 16/17	Shallow											
SRT_BH063	Offsite Randle Lane	Shallow											
SRT_BH064	Sydney Yard	Shallow											
SRT_BH081	Sydney Yard	Shallow											
SRT_BH082	Sydney Yard	Shallow											
SRT_BH084	Sydney Yard	Shallow											
SRT_CBH001	Platform 12/13	Shallow											
SRT_CBH007	Platform 14/15	Shallow											
SRT_CBH015	Platform 16/17	Shallow											
SRT_CBH017	Platform 20/21	Shallow	Logger										
CSM_BH02	Platform 10/11	Deep	Logger	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH04	Eddy Ave Driveway	Deep	Logger	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH05	Sydney Yard	Deep											
CSM_BH06	Institute Drive	Deep	Logger	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH08	Ambulance Ave	Deep		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH09S	Sydney Yard	Shallow		Sampled	Destroyed								
CSM_BH10S	Eddy Ave Driveway	Shallow		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH11S	Platform 22	Shallow		DRY	DRY	DRY	Destroyed						
CSM_BH12S	Sydney Yard	Shallow						Sampled	Sampled	Sampled	Sampled	Sampled	Sampled
CSM_BH13	Randle Lane	Deep											Sampled
CSM_BH14S	Institute Drive	Shallow											Sampled
GASW_BH7	Sydney Yard Gasworks	Shallow		DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
GASW_BH10	Sydney Yard Gasworks	Deep		Sampled	Sampled	Grab Sampled	Grab Sampled	Grab Sampled	Grab Sampled	Grab Sampled	Grab Sampled	Grab Sampled	Grab Sampled
GASW_BH11	Sydney Yard Gasworks	Shallow		Grab Sampled	Grab Sampled	Grab Sampled	Grab Sampled	Grab Sampled	Grab Sampled	Grab Sampled	Grab Sampled	Grab Sampled	Grab Sampled
GASW_BH23	Sydney Yard Gasworks	Shallow		Grab Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Grab Sampled	Sampled	Grab Sampled	Sampled
GASW_BH25A	Sydney Yard Gasworks	Shallow		Sampled	Sampled	Sampled	Sampled	Sampled	Sampled	Grab Sampled	Sampled	Sampled	Sampled

	Well Sampled
	Not Sampled
	Not scheduled / available for sampling
	Grab sample taken / Dry

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	Inorganics			Cyanide		Acidity & Alkalinity					Major Ions														Nutrients		Metals									
	pH (Lab)	Total Dissolved Solids	Total Suspended Solids	Cyanide (Free)	Cyanide (Total)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)	Hardness as CaCO3	Calcium	Calcium (Filtered)	Magnesium	Magnesium (Filtered)	Potassium	Potassium (Filtered)	Sodium	Sodium (Filtered)	Chloride	Sulfate	Sulfate (Filtered)	Cations Total	Anions Total	Ionic Balance	Ammonia as N	Nitrate (as N)	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Iron	Lead (Filtered)	Manganese	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)
	pH units	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	mg/L	mg/L	mg/L
EQL	0.01	5	1	0.004	0.004	1	1	1	1	1	0.5	1	0.5	1	0.5	1	0.5	1	1	2	1	0.01	0.01	0.01	0.01	0.02	0.001	0.0001	0.001	0.001	0.05	0.001	0.005	0.001	0.0001	0.001
ADWG 2011 Recreational (v3.6 updated 2021)					0.8															5000	5000					112.9	0.1	0.02		20		0.1	5	5	0.01	0.2
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)					0.004																				0.91			0.0055	0.0044	0.0013		0.0044			0.0004	0.07
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																				
2-4m																																				
4-8m																																				
>8m																																				
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_Number**																																
CSM_BH02	CSM_BH02	25/02/2020	Normal	706746	-	-	-	-	<0.005	<10	110	-	-	-	9.2	-	11	-	2.7	-	61	-	51	44	-	-	-	-	0.05	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.2	<0.0001	0.012
CSM_BH02	CSM_BH02	14/05/2019	Normal	656080	8.5	410	3300	-	0.005	11	240	-	-	-	43	-	26	-	3.2	-	64	-	68	38	-	-	-	-	0.12	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.55	<0.0001	0.012
CSM_BH02	CSM_BH02	6/06/2019	Normal	660130	7.8	470	970	-	<0.005	<10	290	-	-	-	48	-	36	-	6.6	-	110	-	150	35	-	-	-	-	0.04	<0.02	0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.33	<0.0001	0.009
CSM_BH02	CSM_BH02	30/07/2019	Normal	669059	8	550	42,000	-	0.092	<10	350	-	-	-	50	-	43	-	5.8	-	120	-	500	24	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.13	<0.0001	0.004
CSM_BH02	CSM_BH02	29/08/2019	Normal	674722	7.9	610	6400	-	<0.005	<10	320	-	-	-	49	-	40	-	5.7	-	120	-	190	25	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.24	<0.0001	0.006
CSM_BH02	CSM_BH02	26/09/2019	Normal	679636	7.8	440	3100	-	<0.005	<10	310	-	-	-	44	-	37	-	4.8	-	110	-	160	31	-	-	-	-	0.03	0.06	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	0.26	<0.0001	0.015
CSM_BH02	CSM_BH02	17/10/2019	Normal	683453	7.9	530	4400	-	<0.005	<10	290	-	-	-	48	-	39	-	5.7	-	120	-	500	28	-	-	-	-	0.06	0.04	0.002	<0.0002	<0.001	0.01	-	<0.001	-	0.33	<0.0001	0.028
CSM_BH02	CSM_BH02	13/11/2019	Normal	688512	7.9	620	4600	-	<0.005	<10	330	-	-	-	50	-	42	-	5.5	-	120	-	520	29	-	-	-	-	0.02	0.03	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	0.29	<0.0001	0.025
CSM_BH02	CSM_BH02	17/12/2019	Normal	694466	8.1	290	2800	-	<0.004	<10	280	-	-	-	33	-	30	-	5	-	78	-	150	34	-	-	-	-	0.02	0.16	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.19	<0.0001	0.009
CSM_BH02	CSM_BH02	21/01/2020	Normal	698379	4.8	560	2200	-	<0.004	<10	320	-	-	-	41	-	37	-	11	-	120	-	180	28	-	-	-	-	0.02	<0.02	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	0.26	<0.0001	0.027
CSM_BH02	CSM_BH02	25/02/2020	Normal	704673	8.3	540	1600	-	<0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.09	-	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.12	<0.0001	0.021
CSM_BH02	CSM_BH02	25/02/2020	Normal	706746	-	-	-	-	-	<10	290	-	-	-	49	-	37	-	10	-	100	-	190	34	-	-	-	-	-	0.04	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/03/2020	Normal	708508	7	870	1800	-	0.008	<10	310	-	-	-	43	-	39	-	7.2	-	110	-	150	32	-	-	-	-	0.05	0.04	<0.001	<0.0002	<0.001	0.009	-	<0.001	-	0.091	<0.0001	0.009
CSM_BH02	CSM_BH02	14/04/2020	Normal	714027	6.6	490	2000	-	<0.004	<10	380	-	-	-	63	-	51	-	8.6	-	150	-	190	28	-	-	-	-	0.05	<0.02	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.09	<0.0001	0.004
CSM_BH02	CSM_BH02	19/05/2020	Normal	720682	7.5	660	1600	-	<0.004	<10	410	-	-	-	44	-	38	-	5.1	-	110	-	150	29	-	-	-	-	0.03	0.09	0.001	<0.0002	<0.001	0.01	-	<0.001	-	0.63	<0.0001	0.014
CSM_BH02	CSM_BH02	18/06/2020	Normal	726825	7.4	470	1000	-	0.004	<10	390	-	-	-	<5	-	<5	-	<5	-	11	-	160	29	-	-	-	-	0.03	<0.02	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	0.35	<0.0001	0.023
QC02	CSM_BH02	18/06/2020	Field_D	726825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	<0.0002	<0.001	0.003	-	<0.001	-	-	<0.0001	0.025
CSM_BH02	CSM_BH02	18/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	15/07/2020	Normal	732590	6.4	1000	1600	-	0.02	<10	270	<20	270	-	38	-	37	-	7.4	-	110	-	160	32	-	-	-	-	<0.01	-	0.003	<0.0002	<0.001	<0.001	-	<0.001	-	0.3	<0.0001	0.027
CSM_BH02	CSM_BH02	18/08/2020	Normal	738860	6.9	350	980	-	<0.004	<10	240	-	-	-	26	-	19	-	<5	-	53	-	47	37	-	-	-	-	<0.01	0.03	<0.001	<0.0002	<0.001	0.006	-	0.002	-	0.13	<0.0001	0.013
CSM_BH02	CSM_BH02	14/09/2020	Normal	744463	7.9	420	1100	-	<0.004	<10	240	<20	240	200	35	-	28	-	<5	-	92	-	85	34	-	-	-	-	0.05	-	0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.49	<0.0001	0.019
QC02	CSM_BH02	14/09/2020	Field_D	744463	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	<0.0002	<0.001	0.002	-	<0.001	-	-	<0.0001	0.02
CSM_BH02	CSM_BH02	27/10/2020	Normal	753369	7.1	300	2800	-	<0.004	<10	240	<20	240	230	41	-	32	-	7.1	-	86	-	110	46	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	0.005	-	<0.001	-	0.04	<0.0001	0.007
CSM_BH02	CSM_BH02	19/11/2020	Normal	758435	7.8	490	1000	-	<0.004	<10	260	-	-	180	28	-	28	-	11	-	98	-	120	31	-	-	-	-	<0.01	0.08	0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.044	<0.0001	0.004
CSM_BH02	CSM_BH02	23/12/2020	Normal	765715	6.6	190	980	-	<0.004	<10	140	-	-	-	12	-	12	-	4.1	-	56	-	44	38	-	-	-	-	<0.01	0.05	<0.001	<0.0002	<0.001	<0.001	-	<0.001	0.36	-	<0.0001	0.009
CSM_BH02	CSM_BH02	27/01/2021	Normal	770782	7.1	330	740	-	0.01	<10	160	<20	160	240	36	-	36	-	<5	-	62	-	51	45	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.13	<0.0001	0.003
QC02	CSM_BH02	27/01/2021	Field_D	770782	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	0.002	<0.001	-	<0.001	-	-	<0.0001	0.003
CSM_BH02	CSM_BH02	18/02/2021	Normal	775277	7.2	560	12,000	-	<0.004	<10	330	<20	330	240	35	-	38	-	6.5	-	100	-	180	27	-	-	-	-	0.04	-	<0.001	<0.0002	<0.001	0.012	25	<0.001	0.45	-	<0.0001	0.007
CSM_BH02	CSM_BH02	17/03/2021	Normal	781353	7.6	280	5500	-	<0.004	<10	2000	<20	2000	140	23	-	20	-	3	-	69	-	83	36	-	-	-	-	0.18	-	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.11	0.0001	0.008
CSM_BH02	CSM_BH02	27/04/2021	Normal	791517	5.8	520	27,000	-	<0.004	<10	300	<20	300	410	61	-	62	-	13	-	100	-	160	25	-	-	-	-	0.17	-	0.001	<0.0002	<0.001	<0.001	-	<0.001	4.3	-	<0.0001	0.019
CSM_BH02	CSM_BH02	25/05/2021	Normal	799115	7.3	580	7700	-	<0.004	<10	360	<20	360	280	45	-	41	-	<5	-	120	-	190	31	-	-	-	-	0.06	-	<0.001	<0.0002	<0.001	0.004	-	<0.001	-	0.37	<0.0001	0.01
CSM_BH02	CSM_BH02	15/06/2021	Normal	803914	7.6	560	1200	-	<0.004	<10	290	<20	290	340	63	-	43	-	7.7	-	130	-	160	31	-	-	-	-	0.13	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.1	<0.0001	0.019
CSM-BH02	CSM_BH02	12/07/2021	Normal	810513	8.4	560	3000	-	<0.004	<10	300	<20	300	460	50	-	81	-	4.8	-	110	-	150	30	-	-	-	-	0.02	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.094	<0.0001	0.005
CSM_BH02	CSM_BH02	9/08/2021	Normal	816445	7.7	490	780	-	<0.004	<20	160	<20	160	180	37	-	21	-	3.5	-	92	-	92	32	-	-	-	-	0.03	-	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.068	<0.0001	0.01
CSM_BH02	CSM_BH02	28/09/2021	Normal	829222	6.9	260	1800	-	<0.004	<10	120	<20	120	100	14	-	<0.5	-	<0.5	-	<0.5	-	56	36	-	-	-	-	0.13	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.059	<0.0001	0.033
CSM_BH04	CSM_BH04	16/04/2019	Normal	651825	-	-	-	-	<0.005	<10	91	-	-	-	5.8	-	11	-	2.5	-	69	-	65	55	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.36	<0.0001	0.01
CSM_BH04	CSM_BH04	13/05/2019	Normal	656080	7.3	260	3700	-	<0.005	<10	85	-	-	-	5.2	-	9.5	-	2.4	-	66	-	56	56	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	0.004	-	<0.001	-	0.3	<0.0001	0.029
CSM_BH04	CSM_BH04	11/06/2019	Normal	660130	6.7	200	2700	-	<0.005	<10	86	-	-	-	4.5	-	11	-	2.4	-	69	-	63	56	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.44	<0.0001	0.023
CSM_BH04	CSM_BH04	30/07/2019	Normal	669059	7	280	6500	-	0.035	<10	100	-	-	-	9	-	15	-	3	-	79	-	110	38	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.42	<0.0001	0.018
CSM_BH04	CSM_BH04	29/08/2019	Normal	674722	6.5	290	630	-	<0.005	<10	120	-	-	-	6.3	-	12	-	2.2	-	72	-	55	45	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.45	<0.0001	0.037
CSM_BH04	CSM_BH04	26/09/2019	Normal	679636	8.5	430	260	-	<0.005	16	300	-	-	-	6.5	-	11	-	3.1	-	150	-	74	33	-	-	-	-	0.06	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.18	<0.0001	0.002
CSM_BH04	CSM_BH04	17/10/2019	Normal	683453	9.6	570	290	-	<0.005	150	240	-	-	-	5.9	-	8.8	-	4.8	-	200	-	110	34	-	-	-	-	0.22	0.15	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.048	<0.0001	0.001
QC02	CSM_BH04	17/10/2019	Field_D	683453	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.001
CSM_BH04	CSM_BH04	13/11/2019	Normal	688512	8	410	350	-	<0.005	<10	270	-	-	-	6.9	-	12	-	4.2	-	140	-	71	39	-	-	-	-	0.09	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.33	<0.0001	0.01
QC01	CSM_BH04	13/11/2019	Interlab_D	ES1937682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.01
CSM_BH04	CSM_BH04	17/12/2019	Normal	694466	7	140	1000	-	<0.004	<10	120	-	-	-	8.5	-	14	-	3.1	-	62	-	89	37	-	-	-	-	0.02	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.32	<0.0001	0.021
CSM_BH04	CSM_BH04	21/01/2020	Normal	698379	6.3	310	880	-	<0.004	<10	100	-	-	-	180	-	190	-	170	-	230	-	95	44	-	-	-	-	0.02	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.37	<0.0001	0.007
QC02	CSM_BH04	21/01/2020	Field_D	698379	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.008
CSM_BH04	CSM_BH04	25/02/2020	Normal	704673	7.3	310	2500	-	<0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.12	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.34	<0.0001	0.025
CSM_BH04	CSM_BH04	25/02/2020	Normal	706746	-	-	-	-	-	<10	110	-	-	-	8.2	-	15	-	13	-	71	-	140	38	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	25/02/2020	Field_D	704673	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.026
CSM_BH04	CSM_BH04	18/03/2020	Normal	708508	6.3	210	1300	-	0.006	<10	100	-	-	-	10	-	17	-	5.5	-	65	-	90	38	-	-	-	-	0.11	<0.02	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.33	<0.0001	0.007
CSM_BH04	CSM_BH04	14/04/2020	Normal	714027	5.9	260	950	-	<0.004	<10	110	-	-	-	9.5	-	18	-	5	-	92	-	140	34	-	-	-	-	0.11	2.6	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.35	<0.0001	0.006
CSM_BH04	CSM_BH04	20/05/2020	Normal	720682	6.3	260	2000	-	<0.004	<10	130	-	-	-	8.8	-	16	-	<5	-	77	-	76	35	-	-	-	-	<0.01	<0.02	<0.01	<0.002	<0.01	<0.01	-	<0.01	-	1.7	<0.001	0.026
CSM_BH04	CSM_BH04	18/06/2020	Normal	726825	6.8	310	450	-	<0.004	<10	200	-	-	-	<5	-	<5	-	<5	-	8.7	-	77	37	-	-	-	-	0.04	<0.02	<0.001	<0.0002	<0.001	0.005	-	<0.001	-	0.4	0.0001	0.033
CSM_BH04	CSM_BH04	18/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	15/07/2020	Normal	732590	6.4	430	420	-	0.005	<10	110	<20	110	-	9.1	-	16	-	5.1	-	69	-	58	46	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.43	<0.0001	0.038

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	Inorganics			Cyanide		Acidity & Alkalinity					Major Ions														Nutrients		Metals									
	pH (Lab)	Total Dissolved Solids	Total Suspended Solids	Cyanide (Free)	Cyanide (Total)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)	Hardness as CaCO3	Calcium	Calcium (Filtered)	Magnesium	Magnesium (Filtered)	Potassium	Potassium (Filtered)	Sodium	Sodium (Filtered)	Chloride	Sulfate	Sulfate (Filtered)	Cations Total	Anions Total	Ionic Balance	Ammonia as N	Nitrate (as N)	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Iron	Lead (Filtered)	Manganese	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)
	pH units	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	mg/L	mg/L	mg/L
EQL	0.01	5	1	0.004	0.004	1	1	1	1	1	0.5	1	0.5	1	0.5	1	0.5	1	1	2	1	0.01	0.01	0.01	0.01	0.02	0.001	0.0001	0.001	0.001	0.05	0.001	0.005	0.001	0.0001	0.001
ADWG 2011 Recreational (v3.6 updated 2021)					0.8															5000	5000					112.9	0.1	0.02		20		0.1	5	5	0.01	0.2
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)					0.004																				0.91			0.0055	0.0044	0.0013		0.0044			0.0004	0.07
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																				
2-4m																																				
4-8m																																				
>8m																																				

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_Number																																
CSM_BH04	CSM_BH04	17/08/2020	Normal	738860	6.5	260	940	-	<0.004	<10	110	-	-	-	6.3	-	13	-	<5	-	51	-	71	40	-	-	-	-	<0.01	0.02	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.51	<0.0001	0.048
QC01	CSM_BH04	17/08/2020	Interlab_D	ES2028968	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.043
CSM_BH04	CSM_BH04	14/09/2020	Normal	744463	6.7	260	330	-	<0.004	<10	95	<20	95	73	7.4	-	13	-	<5	-	70	-	73	34	-	-	-	-	0.13	-	<0.001	<0.0002	<0.001	0.083	-	0.003	-	0.44	<0.0001	0.032
CSM_BH04	CSM_BH04	27/10/2020	Normal	753369	6.4	220	1500	-	<0.004	<10	88	<20	88	120	14	-	21	-	6.6	-	69	-	120	50	-	-	-	-	0.07	-	<0.001	<0.0002	<0.001	0.01	-	<0.001	-	0.33	<0.0001	0.037
CSM_BH04	CSM_BH04	19/11/2020	Normal	758435	6.8	250	250	-	<0.004	<10	90	-	-	91	11	-	15	-	<5	-	69	-	84	25	-	-	-	-	<0.01	<0.02	0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.33	<0.0001	0.01
QC02	CSM_BH04	19/11/2020	Field_D	758435	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	-	<0.0001	0.01
CSM_BH04	CSM_BH04	23/12/2020	Normal	765715	6	330	17,000	-	<0.004	<10	99	-	-	-	58	-	66	-	16	-	58	-	110	29	-	-	-	-	0.13	<0.02	<0.001	<0.0002	<0.001	0.002	-	<0.001	7.4	-	<0.0001	0.046
CSM_BH04	CSM_BH04	27/01/2021	Normal	770782	7.1	320	190	-	0.004	<10	110	<20	110	85	8.2	-	16	-	<5	-	85	-	110	53	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.46	<0.0001	0.019
QC01	CSM_BH04	27/01/2021	Interlab_D	ES2102832	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	0.008	-	<0.001	-	-	<0.0001	0.014
CSM_BH04	CSM_BH04	17/02/2021	Normal	775277	5.7	190	340	-	<0.004	<10	100	<20	100	68	5.3	-	13	-	4	-	61	-	83	44	-	-	-	-	0.02	-	<0.001	<0.0002	0.001	0.005	24	<0.001	0.57	-	<0.0001	0.024
QC01	CSM_BH04	17/02/2021	Field_D	775277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	-	<0.0001	0.023
CSM_BH04	CSM_BH04	17/03/2021	Normal	781353	7.3	230	370	-	<0.004	<10	1900	<20	1900	68	6.8	-	12	-	2.6	-	70	-	69	56	-	-	-	-	0.03	-	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.42	<0.0001	0.026
QC02	CSM_BH04	17/03/2021	Interlab_D	ES2109792	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.023
CSM_BH04	CSM_BH04	27/04/2021	Normal	791517	5.4	260	1200	-	<0.004	<10	100	<20	100	120	14	-	20	-	4.3	-	64	-	82	33	-	-	-	-	0.07	-	<0.001	<0.0002	0.004	0.003	-	<0.001	1.2	-	<0.0001	0.046
CSM_BH04	CSM_BH04	25/05/2021	Normal	799115	6.8	280	1200	-	<0.004	<10	98	<20	98	84	8.6	-	15	-	<5	-	66	-	94	32	-	-	-	-	0.08	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.4	<0.0001	0.057
QC02	CSM_BH04	25/05/2021	Interlab_D	ES2119803	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.059
CSM_BH04	CSM_BH04	15/06/2021	Normal	803914	6.6	290	1300	-	<0.004	<10	100	<20	100	85	8.2	-	16	-	2.7	-	68	-	74	43	-	-	-	-	0.03	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.4	<0.0001	0.025
QC01	CSM_BH04	15/06/2021	Field_D	803914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.026
CSM-BH04	CSM_BH04	12/07/2021	Normal	810513	7.8	280	350	-	<0.004	<10	120	<20	120	79	8	-	14	-	2.8	-	72	-	66	38	-	-	-	-	0.1	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.37	<0.0001	0.041
QC01	CSM_BH04	12/07/2021	Field_D	810513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.042
CSM_BH04	CSM_BH04	9/08/2021	Normal	816445	7.3	290	390	-	<0.004	<20	88	<20	88	85	11	-	14	-	6.2	-	69	-	76	38	-	-	-	-	0.06	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.41	<0.0001	0.036
QC01	CSM_BH04	9/08/2021	Field_D	816445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.038
CSM_BH04	CSM_BH04	28/09/2021	Normal	829222	6.5	260	460	-	<0.004	<10	88	<20	88	81	7.3	-	15	-	2.5	-	69	-	78	38	-	-	-	-	<0.1	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.47	<0.0001	0.039
CSM_BH05	CSM_BH05	17/04/2019	Normal	651825	-	-	-	-	<0.005	<10	230	-	-	-	30	-	23	-	6	-	140	-	130	78	-	-	-	-	<0.01	<0.02	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	0.36	<0.0001	0.011
CSM_BH05	CSM_BH05	13/05/2019	Normal	656080	8.2	560	620	-	<0.005	<10	220	-	-	-	33	-	29	-	6.2	-	130	-	190	54	-	-	-	-	<0.01	<0.02	0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.37	<0.0001	0.008
CSM_BH05	CSM_BH05	11/06/2019	Normal	660130	7.4	520	110	-	<0.005	<10	240	-	-	-	44	-	39	-	8	-	150	-	220	50	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.44	<0.0001	0.005
CSM_BH05	CSM_BH05	29/07/2019	Normal	669059	7.2	500	930	-	0.025	<10	170	-	-	-	28	-	30	-	6.3	-	120	-	160	50	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.45	<0.0001	0.011
CSM_BH06	CSM_BH06	18/04/2019	Normal	651825	-	-	-	-	<0.005	<10	180	-	-	-	42	-	31	-	5.6	-	110	-	180	29	-	-	-	-	<0.01	0.03	<0.001	<0.0002	<0.001	0.009	-	<0.001	-	0.28	<0.0001	0.014
CSM_BH06	CSM_BH06	14/05/2019	Normal	656080	8	580	250	-	<0.005	<10	190	-	-	-	41	-	35	-	5.1	-	100	-	220	23	-	-	-	-	0.02	<0.02	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	0.25	<0.0001	0.011
QC02	CSM_BH06	14/05/2019	Field_D	656080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.011
CSM_BH06	CSM_BH06	6/06/2019	Normal	660130	7.2	490	240	-	<0.005	<10	190	-	-	-	43	-	34	-	6.8	-	120	-	210	27	-	-	-	-	0.08	0.03	0.004	<0.0002	<0.001	<0.001	-	<0.001	-	0.28	<0.0001	0.02
QC04	CSM_BH06	8/06/2019	Field_D	660130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.004	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.02
CSM_BH06	CSM_BH06	30/07/2019	Normal	669059	7.3	600	960	-	0.029	<10	180	-	-	-	39	-	35	-	4.9	-	110	-	180	22	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.21	<0.0001	0.019
CSM_BH06	CSM_BH06	28/08/2019	Normal	674722	8	600	810	-	<0.005	<10	210	-	-	-	41	-	34	-	5.2	-	110	-	200	22	-	-	-	-	<0.01	0.03	<0.001	<0.0002	<0.001	0.01	-	<0.001	-	0.23	<0.0001	0.019
CSM_BH06	CSM_BH06	26/09/2019	Normal	679636	6.9	390	180	-	<0.005	<10	150	-	-	-	29	-	22	-	4.4	-	71	-	140	15	-	-	-	-	<0.01	0.09	<0.001	<0.0002	0.007	0.043	-	<0.001	-	0.17	<0.0001	0.036
CSM_BH06	CSM_BH06	17/10/2019	Normal	683453	7.2	550	91	-	<0.005	<10	190	-	-	-	39	-	32	-	4.9	-	96	-	170	21	-	-	-	-	0.04	<0.02	<0.001	<0.0002	0.003	0.015	-	<0.001	-	0.36	<0.0001	0.027
CSM_BH06	CSM_BH06	13/11/2019	Normal	688512	7.4	570	66	-	<0.005	<10	200	-	-	-	43	-	35	-	5.1	-	100	-	210	26	-	-	-	-	0.03	<0.02	0.001	<0.0002	<0.001	0.013	-	<0.001	-	0.33	<0.0001	0.053
CSM_BH06	CSM_BH06	17/12/2019	Normal	694466	7	590	62	-	<0.004	<10	180	-	-	-	32	-	30	-	5.1	-	83	-	570	26	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	0.031	-	<0.001	-	0.29	<0.0001	0.026
QC01	CSM_BH06	17/12/2019	Field_D	694466	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.031	-	<0.001	-	-	<0.0001	0.027
CSM_BH06	CSM_BH06	25/02/2020	Normal	704673	7.7	560	69	-	<0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	0.002	<0.0002	<0.001	0.01	-	<0.001	-	0.28	<0.0001	0.01
CSM_BH06	CSM_BH06	25/02/2020	Normal	706746	-	-	-	-	-	<10	140	-	-	-	37	-	33	-	<5	-	120	-	590	31	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	16/03/2020	Normal	708508	6.3	430	110	-	0.005	<10	120	-	-	-	28	-	30	-	4.6	-	110	-	220	24	-	-	-	-	0.05	<0.02	0.002	<0.0002	<0.001	0.002	-	<0.001	-	0.34	<0.0001	0.006
QC01	CSM_BH06	16/03/2020	Interlab_D	ES2009232	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001	<0.0001	<0.001	0.006	-	<0.001	-	-	<0.0001	0.005
CSM_BH06	CSM_BH06	14/04/2020	Normal	714027	5.9	540	86	-	<0.004	<10	150	-	-	-	41	-	39	-	6.7	-	140	-	250	28	-	-	-	-	0.07	<0.02	0.002	<0.0002	<0.001	0.005	-	<0.001	-	0.27	<0.0001	0.007
QC01	CSM_BH06	14/04/2020	Interlab_D	ES2012716	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	<0.0001	0.001	0.017	-	<0.001	-	-	<0.0001	0.012
CSM_BH06	CSM_BH06	19/05/2020	Normal	720682	6.7	390	57	-	<0.004	<10	150	-	-	-	28	-	28	-	4.2	-	100	-	180	28	-	-	-	-	0.11	<0.02	0.002	<0.0002	<0.001	0.005	-	<0.001	-	0.31	<0.0001	0.022
CSM_BH06	CSM_BH06	18/06/2020	Normal	726825	6.6	470	210	-	<0.004	<10	180	-	-	-	<5	-	<5	-	<5	-	11	-	190	21	-	-	-	-	0.05	<0.02	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	0.37	<0.0001	0.004
CSM_BH06	CSM_BH06	18/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	15/07/2020	Normal	732590	6.6	610	120	-	<0.004	<10	130	<20	130	-	27	-	27	-	4.5	-	110	-	240	28	-	-	-	-	<0.01	-	0.002	<0.0002	0.001	0.016	-	0.001	-	0.29	<0.0001	0.085
CSM_BH06	CSM_BH06	18/08/2020	Normal	738860	6.6	490	97	-	<0.004	<10	120	-	-	-	20	-	23	-	<5	-	89	-	200	21	-	-	-	-	0.02	<0.02	0.002	<0.0002	<0.001	0.005	-	<0.001	-	0.38	<0.0001	0.015
CSM_BH06	CSM_BH06	14/09/2020	Normal	744463	7	440	200	-	<0.004	<10	86	<20	86	140	20	-	22	-	<5	-	96	-	200	20	-	-	-	-	0.09	-	0.002	<0.0002	<0.001	0.002	-	<0.001	-	0.4	<0.0001	0.017
CSM_BH06	CSM_BH06	27/10/2020	Normal	753369	6.6	390	120	-	<0.004	<10	110	<20	110	180	26	-	28	-	4.4	-	120	-	310	37	-	-	-	-	0.13	-	0.002	<0.0002	<0.001	0.019	-	<0.001	-	0.33	<0.0001	0.018
CSM_BH06	CSM_BH06	19/11/2020	Normal	758435	6.6	470	230	-	<0.004	<10	96	-	-	160	19	-	27	-	5.8	-	110	-	270	25	-	-	-	-	0.02	<0.02	0.002	<0.0002	<0.001	0.002	-	<0.001	-	0.44	<0.0001	0.007
CSM_BH06	CSM_BH06	22/12/2020	Normal	765715	6.4	430	2500	-	<0.004	<10	91	-	-	-	17	-	25	-	4.7	-	110	-	240	24	-	-	-	-	0.03	<0.02	<0.001	<0.0002	<0.001	0.006	-	<0.001	0.74	-	<0.0001	0.017
CSM_BH06	CSM_BH06	27/01/2021	Normal	770782	6.6	630	43	-	<0.004	<10	170	<20	170	240	39	-	34	-	<5	-	110	-	480	44	-	-	-	-	0.04	-	0.002	<0.0002	0.004	0.002	-	<0.001	-	0.28	<0.0001	0.017
CSM_BH06	CSM_BH06	18/02/2021	Normal	775277	6.4	410	350	-	<0.004	<10	150	<20	150	190	25	-	30	-	5.2	-	98	-	410	25	-	-	-	-	0.06	-	<0.001	<0.0002	<0.001	0.025	19	<0.001	0.38	-	<0.0001	0.01
CSM_BH06	CSM_BH06	17/03/2021	Normal	781353	7.4	510	90	-	<0.004	<10	1900	<20	1900	200	32	-	30	-	4.3	-	99	-	220	33	-	-	-	-	0.01	-	<0.001	<0.0002	<0.001	0.042	-	<0.001	-	0.27	<0.0001	0.01

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	Inorganics			Cyanide		Acidity & Alkalinity					Major Ions														Nutrients		Metals									
	pH (Lab)	Total Dissolved Solids	Total Suspended Solids	Cyanide (Free)	Cyanide (Total)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)	Hardness as CaCO3	Calcium	Calcium (Filtered)	Magnesium	Magnesium (Filtered)	Potassium	Potassium (Filtered)	Sodium	Sodium (Filtered)	Chloride	Sulfate	Sulfate (Filtered)	Cations Total	Anions Total	Ionic Balance	Ammonia as N	Nitrate (as N)	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Iron	Lead (Filtered)	Manganese	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)
	pH units	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	mg/L	mg/L	mg/L
EQL	0.01	5	1	0.004	0.004	1	1	1	1	1	0.5	1	0.5	1	0.5	1	0.5	1	1	2	1	0.01	0.01	0.01	0.01	0.02	0.001	0.0001	0.001	0.001	0.05	0.001	0.005	0.001	0.0001	0.001
ADWG 2011 Recreational (v3.6 updated 2021)					0.8															5000	5000					112.9	0.1	0.02		20		0.1	5	5	0.01	0.2
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)					0.004																				0.91			0.0055	0.0044	0.0013		0.0044			0.0004	0.07
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																				
2-4m																																				
4-8m																																				
>8m																																				

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_Number																																
CSM_BH06	CSM_BH06	27/04/2021	Normal	791517	5.7	330	50	-	<0.004	<10	140	<20	140	210	34	-	31	-	4.6	-	110	-	240	25	-	-	-	-	0.04	-	<0.001	<0.0002	<0.001	0.006	-	<0.001	0.3	-	<0.0001	0.046
CSM_BH06	CSM_BH06	25/05/2021	Normal	799115	6.7	560	130	-	<0.004	<10	150	<20	150	190	26	-	30	-	<5	-	110	-	220	28	-	-	-	-	0.02	-	<0.001	<0.0002	<0.001	0.018	-	<0.001	-	0.44	<0.0001	0.012
QC01	CSM_BH06	25/05/2021	Field_D	799115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.019	-	<0.001	-	-	<0.0001	0.012
CSM_BH06	CSM_BH06	16/06/2021	Normal	803914	7.1	580	200	-	<0.004	<10	140	<20	140	210	32	-	32	-	4.5	-	110	-	240	29	-	-	-	-	0.02	-	<0.001	<0.0002	<0.001	0.008	-	<0.001	-	0.37	<0.0001	0.055
CSM-BH06	CSM_BH06	12/07/2021	Normal	810513	8.3	580	260	-	<0.004	<10	150	<20	150	220	32	-	34	-	4.6	-	110	-	300	28	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	0.006	-	<0.001	-	0.45	<0.0001	0.01
CSM_BH06	CSM_BH06	9/08/2021	Normal	816445	7	560	320	-	<0.004	<20	120	<20	120	370	62	-	52	-	4.5	-	120	-	200	26	-	-	-	-	0.02	-	<0.001	<0.0002	<0.001	0.028	-	<0.001	-	0.43	<0.0001	0.011
CSM_BH06	CSM_BH06	29/09/2021	Normal	829222	6.3	470	680	-	<0.004	<10	140	<20	140	190	26	-	30	-	5.1	-	110	-	210	30	-	-	-	-	0.16	-	<0.001	<0.0002	<0.001	0.013	-	<0.001	-	0.38	<0.0001	0.034
CSM_BH08	CSM_BH08	18/04/2019	Normal	651825	-	-	-	-	<0.005	<10	120	-	-	-	13	-	16	-	4.1	-	79	-	93	41	-	-	-	-	0.06	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.34	<0.0001	0.007
QC02	CSM_BH08	18/04/2019	Field_D	651825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.007
CSM_BH08	CSM_BH08	15/05/2019	Normal	656080	7.9	310	180	-	<0.005	<10	120	-	-	-	11	-	16	-	3.3	-	71	-	92	42	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.3	<0.0001	0.003
CSM_BH08	CSM_BH08	6/06/2019	Normal	660130	7.2	250	73	-	<0.005	<10	110	-	-	-	49	-	28	-	11	-	71	-	90	42	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.37	<0.0001	0.006
QC03	CSM_BH08	6/06/2019	Interlab_D	ES1917968	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.006
CSM_BH08	CSM_BH08	30/07/2019	Normal	669059	7.3	350	6.2	-	0.019	<10	190	-	-	-	19	-	22	-	4.4	-	83	-	110	37	-	-	-	-	0.02	0.06	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.34	<0.0001	0.021
CSM_BH08	CSM_BH08	29/08/2019	Normal	674722	7.4	420	34	-	<0.005	<10	160	-	-	-	17	-	23	-	4.3	-	93	-	110	32	-	-	-	-	0.03	<0.02	<0.001	<0.0002	<0.001	0.021	-	<0.001	-	0.4	<0.0001	0.016
CSM_BH08	CSM_BH08	26/09/2019	Normal	679636	7.2	280	35	-	<0.005	<10	130	-	-	-	11	-	17	-	3.1	-	78	-	94	41	-	-	-	-	0.02	<0.02	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.32	<0.0001	0.002
CSM_BH08	CSM_BH08	18/10/2019	Normal	683453	7.5	330	9.4	-	<0.005	<10	99	-	-	-	11	-	15	-	3.4	-	75	-	120	43	-	-	-	-	0.03	0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.3	<0.0001	0.003
CSM_BH08	CSM_BH08	13/11/2019	Normal	688512	7.5	310	5.9	-	<0.005	<10	100	-	-	-	11	-	15	-	3.5	-	77	-	100	43	-	-	-	-	0.01	0.03	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.29	<0.0001	0.007
CSM_BH08	CSM_BH08	16/12/2019	Normal	694466	7.1	250	8.8	-	<0.004	<10	110	-	-	-	11	-	13	-	3.7	-	59	-	110	48	-	-	-	-	<0.01	0.1	<0.001	<0.0002	<0.001	0.005	-	<0.001	-	0.25	<0.0001	0.008
CSM_BH08	CSM_BH08	21/01/2020	Normal	698379	6.4	260	10	-	<0.004	<10	110	-	-	-	9.5	-	14	-	3.1	-	68	-	160	47	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.31	<0.0001	0.003
CSM_BH08	CSM_BH08	25/02/2020	Normal	704673	6.7	340	15	-	<0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.29	<0.0001	0.001
CSM_BH08	CSM_BH08	25/02/2020	Normal	706746	-	-	-	-	-	<10	110	-	-	-	12	-	16	-	<5	-	84	-	93	45	-	-	-	-	-	0.05	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	18/03/2020	Normal	708508	6.4	270	130	-	0.005	<10	85	-	-	-	8.9	-	14	-	3.4	-	77	-	92	45	-	-	-	-	0.08	0.03	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.29	<0.0001	0.002
CSM_BH08	CSM_BH08	14/04/2020	Normal	714027	6	300	120	-	<0.004	<10	120	-	-	-	12	-	17	-	6.4	-	95	-	120	40	-	-	-	-	0.08	0.2	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.31	<0.0001	0.002
CSM_BH08	CSM_BH08	18/05/2020	Normal	720682	6.4	230	11	-	<0.004	<10	100	-	-	-	9	-	13	-	3.1	-	72	-	79	42	-	-	-	-	0.02	0.07	<0.001	<0.0002	<0.001	0.007	-	<0.001	-	0.29	<0.0001	0.005
QC01	CSM_BH08	18/05/2020	Interlab_D	ES2017182	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	0.002	-	<0.001	-	-	<0.0001	0.005
CSM_BH08	CSM_BH08	17/06/2020	Normal	726825	6.7	290	290	-	<0.004	<10	140	-	-	-	<5	-	<5	-	<5	-	6.6	-	49	120	-	-	-	-	0.03	0.27	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.29	<0.0001	0.014
CSM_BH08	CSM_BH08	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	17/06/2020	Interlab_D	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.01
CSM_BH08	CSM_BH08	15/07/2020	Normal	732590	6.9	410	17	-	<0.004	<10	150	<20	150	-	14	-	18	-	3.7	-	79	-	90	46	-	-	-	-	0.03	-	<0.001	<0.0002	<0.001	0.009	-	<0.001	-	0.25	<0.0001	0.015
QC01	CSM_BH08	15/07/2020	Interlab_D	ES2024606	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.016
CSM_BH08	CSM_BH08	19/08/2020	Normal	738860	6.7	290	6.7	-	<0.004	<10	120	-	-	-	9.4	-	12	-	<5	-	61	-	84	46	-	-	-	-	0.02	0.35	<0.001	<0.0002	<0.001	0.005	-	<0.001	-	0.31	<0.0001	0.004
CSM_BH08	CSM_BH08	14/09/2020	Normal	744463	6.9	280	14	-	<0.004	<10	94	<20	94	71	8.3	-	12	-	<5	-	67	-	84	48	-	-	-	-	0.19	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.3	<0.0001	0.004
QC01	CSM_BH08	14/09/2020	Interlab_D	ES2032425	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.002
CSM_BH08	CSM_BH08	27/10/2020	Normal	753369	5.6	250	15	-	<0.004	<10	97	<20	97	89	17	-	12	-	7.2	-	79	-	110	60	-	-	-	-	0.02	-	<0.001	<0.0002	0.001	0.008	-	<0.001	-	0.21	<0.0001	0.02
QC01	CSM_BH08	27/10/2020	Field_D	753369	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	0.001	0.009	-	<0.001	-	-	<0.0001	0.022
QC02	CSM_BH08	27/10/2020	Interlab_D	ES2037870	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	0.0002	0.001	0.146	-	0.008	-	-	<0.0001	0.03
CSM_BH08	CSM_BH08	19/11/2020	Normal	758435	6.6	260	75	-	<0.004	<10	110	-	-	84	10	-	14	-	<5	-	82	-	95	32	-	-	-	-	0.01	0.04	<0.001	<0.0002	<0.001	0.006	-	<0.001	-	0.28	<0.0001	0.018
CSM_BH08	CSM_BH08	21/12/2020	Normal	765715	6.1	290	96	-	<0.004	<10	100	-	-	-	9	-	12	-	3.1	-	74	-	92	50	-	-	-	-	0.01	0.12	<0.001	<0.0002	<0.001	0.002	-	<0.001	0.29	-	<0.0001	0.024
BD01	CSM_BH08	21/12/2020	Field_D	765715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	-	<0.0001	0.023
SD01	CSM_BH08	21/12/2020	Interlab_D	ES2100056	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	0.001	-	<0.001	-	-	<0.0001	0.022
CSM_BH08	CSM_BH08	28/01/2021	Normal	770782	7.2	300	37	-	<0.004	<10	99	<20	99	78	10	-	13	-	<5	-	75	-	75	57	-	-	-	-	0.02	-	<0.001	0.0002	<0.001	0.15	-	0.004	-	0.29	<0.0001	0.028
CSM_BH08	CSM_BH08	19/02/2021	Normal	775277	6.8	300	430	-	<0.004	<10	140	<20	140	100	12	-	17	-	4.6	-	76	-	130	43	-	-	-	-	0.05	-	<0.001	<0.0002	<0.001	0.007	32	<0.001	1.7	-	<0.0001	0.002
CSM_BH08	CSM_BH08	17/03/2021	Normal	781353	7.4	310	270	-	<0.004	<10	2000	<20	2000	98	12	-	16	-	3.5	-	78	-	100	46	-	-	-	-	0.09	-	<0.001	<0.0002	<0.001	0.006	-	<0.001	-	0.39	<0.0001	0.005
QC01	CSM_BH08	17/03/2021	Field_D	781353	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.005
CSM_BH08	CSM_BH08	27/04/2021	Normal	791517	5.3	250	38	-	<0.004	<10	100	<20	100	110	15	-	17	-	4	-	83	-	110	47	-	-	-	-	0.15	-	<0.001	<0.0002	0.001	0.007	-	0.001	0.52	-	<0.0001	0.087
QC02	CSM_BH08	27/04/2021	Interlab_D	ES2115835	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	0.0001	<0.001	0.007	-	<0.001	-	-	<0.0001	0.093
CSM_BH08	CSM_BH08	27/05/2021	Normal	799115	7.2	380	50	-	<0.004	<10	140	<20	140	110	13	-	19	-	<5	-	94	-	130	46	-	-	-	-	0.13	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.4	<0.0001	0.004
CSM_BH08	CSM_BH08	15/06/2021	Normal	803914	6.9	360	11	-	<0.004	<10	99	<20	99	120	15	-	20	-	4	-	82	-	100	46	-	-	-	-	0.06	-	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.33	<0.0001	0.028
QC02	CSM_BH08	15/06/2021	Interlab_D	ES2122606	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	0.002	-	<0.001	-	-	<0.0001	0.031
CSM-BH08	CSM_BH08	12/07/2021	Normal	810513	6.7	340	20	-	<0.004	<10	110	<20	110	110	13	-	19	-	3.8	-	86	-	110	44	-	-	-	-	0.05	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.34	<0.0001	0.023
CSM_BH08	CSM_BH08	10/08/2021	Normal	816445	7.4	340	9	-	<0.004	<20	96	<20	96	120	15	-	20	-	4	-	88	-	120	45	-	-	-	-	0.04	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.39	<0.0001	0.06
QC02	CSM_BH08	10/08/2021	Interlab_D	ES2129447	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.05
CSM_BH08	CSM_BH08	28/09/2021	Normal	829222	7	350	1000	-	<0.004	<10	100	<20	100	150	21	-	24	-	3.9	-	88	-	120	48	-	-	-	-	0.1	-	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.42	<0.0001	0.019
QC02	CSM_BH08	28/09/2021	Interlab_D	EM2119579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.017
CSM_BH09S	CSM_BH09S	17/04/2019	Normal	651825	-	-	-	-	<0.005	<10	38	-	-	-	13	-	11	-	7.1	-	120	-	79	270	-	-	-	-	0.2	0.59	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.83	<0.0001	0.009
QC01	CSM_BH09S	17/04/2019	Interlab_D	ES1912362	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.008
CSM_BH09S	CSM_BH09S	13/05/2019	Normal	656080	7.4	460	66	-	<0.005	<10	76	-	-	-	6.2	-	7.3	-	4.5	-	100	-	57	190	-	-	-	-	0.1	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.54	<0.0001	0.004

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	Inorganics			Cyanide		Acidity & Alkalinity					Major Ions														Nutrients		Metals									
	pH (Lab)	Total Dissolved Solids	Total Suspended Solids	Cyanide (Free)	Cyanide (Total)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)	Hardness as CaCO3	Calcium	Calcium (Filtered)	Magnesium	Magnesium (Filtered)	Potassium	Potassium (Filtered)	Sodium	Sodium (Filtered)	Chloride	Sulfate	Sulfate (Filtered)	Cations Total	Anions Total	Ionic Balance	Ammonia as N	Nitrate (as N)	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Iron	Lead (Filtered)	Manganese	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)
	pH units	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	mg/L	mg/L	mg/L
EQL	0.01	5	1	0.004	0.004	1	1	1	1	1	0.5	1	0.5	1	0.5	1	0.5	1	1	2	1	0.01	0.01	0.01	0.01	0.02	0.001	0.0001	0.001	0.001	0.05	0.001	0.005	0.001	0.0001	0.001
ADWG 2011 Recreational (v3.6 updated 2021)					0.8															5000	5000					112.9	0.1	0.02		20		0.1	5	5	0.01	0.2
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)					0.004																				0.91			0.0055	0.0044	0.0013		0.0044			0.0004	0.07
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																				
2-4m																																				
4-8m																																				
>8m																																				

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_Number																																	
QC01	CSM_BH09S	13/05/2019	Interlab_D	ES1914810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.005
CSM_BH09S	CSM_BH09S	11/06/2019	Normal	660130	6.6	390	46	-	<0.005	<10	66	-	-	-	12	-	8.7	-	7.2	-	130	-	72	210	-	-	-	-	0.1	0.31	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.78	<0.0001	0.009
CSM_BH09S	CSM_BH09S	29/07/2019	Normal	669059	6.7	460	58	-	0.01	<10	59	-	-	-	7.8	-	8.5	-	4.7	-	120	-	88	210	-	-	-	-	0.08	<0.02	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.64	<0.0001	0.006
QC01	CSM_BH09S	29/07/2019	Interlab_D	ES1924197	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	0.005	-	<0.001	-	-	<0.0001	0.007
CSM_BH09S	CSM_BH09S	28/08/2019	Normal	674722	6.8	440	87	-	<0.005	<10	61	-	-	-	5.1	-	6.6	-	3.6	-	110	-	49	160	-	-	-	-	0.04	<0.02	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.65	<0.0001	0.008
QC01	CSM_BH09S	28/08/2019	Interlab_D	EM1914568	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.009
CSM_BH09S	CSM_BH09S	25/09/2019	Normal	679636	6.6	390	49	-	<0.005	<10	49	-	-	-	6.4	-	7.9	-	3.4	-	120	-	56	220	-	-	-	-	0.03	0.32	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.79	<0.0001	0.009
QC01	CSM_BH09S	25/09/2019	Interlab_D	ES1931406	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	0.001	-	<0.001	-	-	<0.0001	0.008
CSM_BH09S	CSM_BH09S	16/10/2019	Normal	683453	6.7	420	37	-	<0.005	<10	39	-	-	-	6.1	-	8	-	3.5	-	110	-	100	200	-	-	-	-	0.02	0.18	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.87	<0.0001	0.009
CSM_BH09S	CSM_BH09S	14/11/2019	Normal	688512	7	400	55	-	<0.005	<10	55	-	-	-	5.5	-	8.4	-	3.4	-	110	-	65	180	-	-	-	-	0.03	<0.02	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.88	<0.0001	0.008
CSM_BH09S	CSM_BH09S	16/12/2019	Normal	694466	6.7	380	48	-	<0.004	<10	75	-	-	-	4.1	-	6.7	-	2.7	-	88	-	48	150	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.73	<0.0001	0.006
QC02	CSM_BH09S	16/12/2019	Interlab_D	ES1941823	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.006
CSM_BH09S	CSM_BH09S	21/01/2020	Normal	698379	6.1	340	28	-	<0.004	<10	77	-	-	-	3.7	-	6.2	-	2.6	-	97	-	46	160	-	-	-	-	0.05	0.02	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.71	<0.0001	0.004
CSM_BH09S	CSM_BH09S	24/02/2020	Normal	704673	7.1	370	21	-	<0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.6	<0.0001	0.002
CSM_BH09S	CSM_BH09S	24/02/2020	Normal	706746	-	-	-	-	-	<10	76	-	-	-	3.3	-	6.4	-	<5	-	110	-	52	150	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH09S	24/02/2020	Interlab_D	ES2006512	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.003
CSM_BH09S	CSM_BH09S	17/03/2020	Normal	708508	6.1	330	59	-	0.005	<10	60	-	-	-	3.3	-	6.9	-	3	-	100	-	46	120	-	-	-	-	0.05	<0.02	0.001	<0.0002	<0.001	0.009	-	<0.001	-	0.67	<0.0001	0.008
CSM_BH09S	CSM_BH09S	16/04/2020	Normal	714027	5.8	320	74	-	<0.004	<10	79	-	-	-	4	-	8	-	5.1	-	130	-	59	130	-	-	-	-	0.07	<0.02	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.82	<0.0001	0.005
CSM_BH09S	CSM_BH09S	20/05/2020	Normal	720682	6.4	250	140	-	<0.004	<10	82	-	-	-	3	-	5.2	-	2.5	-	97	-	47	120	-	-	-	-	0.05	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.81	<0.0001	0.003
CSM_BH09S	CSM_BH09S	19/06/2020	Normal	726825	6.6	320	53	-	<0.004	<10	100	-	-	-	<5	-	6.1	-	<5	-	110	-	48	120	-	-	-	-	0.05	<0.02	<0.001	<0.0002	<0.001	0.01	-	<0.001	-	0.7	<0.0001	0.009
CSM_BH09s	CSM_BH09S	19/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/07/2020	Normal	732590	6.4	420	190	-	0.014	<10	87	<20	87	-	3.6	-	7.6	-	3.5	-	110	-	49	130	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.8	<0.0001	0.007
QC02	CSM_BH09S	16/07/2020	Field_D	732590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.007
CSM_BH09S	CSM_BH09S	18/08/2020	Normal	738860	6.4	360	57	-	<0.004	<10	59	-	-	-	<5	-	6.1	-	<5	-	83	-	52	140	-	-	-	-	0.03	<0.02	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	1.2	<0.0001	0.011
QC02	CSM_BH09S	18/08/2020	Field_D	738860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	-	<0.0001	0.011
CSM_BH09S	CSM_BH09S	16/09/2020	Normal	744463	6.5	350	91	-	<0.004	<10	59	<20	59	35	<5	-	6.4	-	<5	-	89	-	51	130	-	-	-	-	0.05	-	<0.001	<0.0002	<0.001	0.015	-	<0.001	-	0.89	<0.0001	0.006
CSM_BH09S	CSM_BH09S	28/10/2020	Normal	753369	6.3	280	98	-	<0.004	<10	59	<20	59	41	3.6	-	7.7	-	3	-	110	-	69	190	-	-	-	-	0.04	-	<0.001	<0.0002	<0.001	0.11	-	0.001	-	0.89	<0.0001	0.017
CSM_BH09S	CSM_BH09S	20/11/2020	Normal	758435	6.4	370	41	-	<0.004	<10	56	-	-	47	<5	-	8.5	-	<5	-	110	-	55	120	-	-	-	-	0.02	<0.02	0.001	<0.0002	<0.001	0.012	-	<0.001	-	1.1	<0.0001	0.009
CSM_BH09S	CSM_BH09S	21/12/2020	Normal	765715	6.3	370	84	-	<0.004	<10	63	-	-	-	3.8	-	7.9	-	2.8	-	110	-	60	170	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	0.086	-	0.002	1.3	-	<0.0001	0.022
CSM_BH10S	CSM_BH10S	16/04/2019	Normal	651825	-	-	-	-	<0.005	<10	23	-	-	-	3.4	-	5.5	-	3.1	-	49	-	38	85	-	-	-	-	<0.01	1.6	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.52	<0.0001	0.002
CSM_BH10S	CSM_BH10S	13/05/2019	Normal	656080	6.6	270	210	-	<0.005	<10	<20	-	-	-	4	-	5.6	-	3.3	-	45	-	130	350	-	-	-	-	<0.01	1.7	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.43	<0.0001	0.002
CSM_BH10S	CSM_BH10S	11/06/2019	Normal	660130	5.9	140	210	-	<0.005	<10	<20	-	-	-	3.7	-	6.1	-	4.8	-	42	-	37	66	-	-	-	-	0.06	2.3	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.49	<0.0001	0.001
CSM_BH10S	CSM_BH10S	30/07/2019	Normal	669059	6.7	220	200	-	0.014	<10	35	-	-	-	6.9	-	6.4	-	3.6	-	38	-	36	61	-	-	-	-	<0.01	2.3	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.41	<0.0001	0.002
CSM_BH10S	CSM_BH10S	29/08/2019	Normal	674722	6.1	240	170	-	<0.005	<10	20	-	-	-	3.9	-	5.5	-	2.9	-	39	-	19	57	-	-	-	-	<0.01	2	<0.001	<0.0002	<0.001	0.004	-	<0.001	-	0.48	<0.0001	0.002
CSM_BH10S	CSM_BH10S	25/09/2019	Normal	679636	6.6	150	140	-	<0.005	<10	25	-	-	-	3.9	-	5.4	-	2.3	-	34	-	20	56	-	-	-	-	<0.01	1.8	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.51	<0.0001	0.002
CSM_BH10S	CSM_BH10S	16/10/2019	Normal	683453	6.5	190	210	-	<0.005	<10	20	-	-	-	3.5	-	5.3	-	2.5	-	34	-	70	55	-	-	-	-	<0.01	1.6	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.53	<0.0001	0.002
QC01	CSM_BH10S	16/10/2019	Interlab_D	ES1934142	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.001
CSM_BH10S	CSM_BH10S	14/11/2019	Normal	688512	6.2	170	69	-	<0.005	<10	<20	-	-	-	3.4	-	5.1	-	2.3	-	35	-	45	56	-	-	-	-	<0.01	1.1	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.47	<0.0001	0.002
QC02	CSM_BH10S	14/11/2019	Field_D	688512	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.002
CSM_BH10S	CSM_BH10S	17/12/2019	Normal	694466	6.1	200	260	-	<0.004	<10	21	-	-	-	3.2	-	4.6	-	2.3	-	18	-	16	54	-	-	-	-	<0.01	0.89	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.45	<0.0001	0.002
CSM_BH10S	CSM_BH10S	20/01/2020	Normal	698379	6	160	77	-	<0.004	<10	<20	-	-	-	2.9	-	4.6	-	2.1	-	27	-	16	55	-	-	-	-	0.02	0.93	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.49	<0.0001	0.001
QC01	CSM_BH10S	20/01/2020	Interlab_D	ES2001825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	<0.001
CSM_BH10S	CSM_BH10S	25/02/2020	Normal	704673	6.7	200	97	-	<0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.51	<0.0001	<0.001
CSM_BH10S	CSM_BH10S	25/02/2020	Normal	706746	-	-	-	-	-	<10	22	-	-	-	<5	-	6.6	-	<5	-	34	-	24	55	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/03/2020	Normal	708508	5.7	170	53	-	0.005	<10	25	-	-	-	4.4	-	6	-	3	-	31	-	23	58	-	-	-	-	0.03	1.7	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.54	<0.0001	0.002
QC02	CSM_BH10S	17/03/2020	Field_D	708508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.002
CSM_BH10S	CSM_BH10S	15/04/2020	Normal	714027	7.4	180	44	-	<0.004	<10	67	-	-	-	18	-	7.5	-	6	-	40	-	33	47	-	-	-	-	0.02	1.8	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.46	<0.0001	<0.001
QC02	CSM_BH10S	15/04/2020	Field_D	714027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	<0.001
CSM_BH10S	CSM_BH10S	18/05/2020	Normal	720682	6.3	150	160	-	<0.004	<10	57	-	-	-	13	-	6	-	3.1	-	30	-	19	51	-	-	-	-	0.01	2.1	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.5	<0.0001	0.001
QC02	CSM_BH10S	20/05/2020	Field_D	720682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.002	<0.01	0.011	-	<0.01	-	-	<0.001	<0.01
CSM_BH10S	CSM_BH10S	19/06/2020	Normal	726825	6.7	240	150	-	<0.004	<10	130	-	-	-	30	-	7.9	-	5.2	-	33	-	23	49	-	-	-	-	0.01	3.8	<0.001	<0.0002	<0.001	0.022	-	0.001	-	0.41	<0.0001	0.008
CSM_BH10S	CSM_BH10S	19/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	15/07/2020	Normal	732590	5.9	210	360	-	0.007	<10	34	<20	34	-	12	-	14	-	9.9	-	32	-	22	56	-	-	-	-	0.06	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.43	<0.0001	0.014
CSM_BH10S	CSM_BH10S	17/08/2020	Normal	738860	6.1	180	920	-	<0.004	<10	40	-	-	-	6.5	-	5.5	-	<5	-	27	-	23	62	-	-	-	-	<0.01	2.1	<0.001	<0.0002	<0.001	0.011	-	<0.001	-	0.6	<0.0001	0.003
CSM_BH10S	CSM_BH10S	15/09/2020	Normal	744463	6.3	170	270	-	<0.004	<10	22	<20	22	32	<5	-	5.3	-	<5	-	35	-	23	62	-	-	-	-	0.08	-	<0.001	<0.0002	<0.001	0.088	-	0.003	-	0.51	<0.0001	0.01
CSM_BH10S	CSM_BH10S	27/10/2020	Normal	753369	5.1	170	7900	-	<0.004	<10	43	<20	43	120	16	-	19	-	12	-	33	-	39	100	-	-	-	-	0.02	-	<0.001	<0.0002	<0.001	0.006	-	<0.001	-	0.61	<0.0001	0.015
CSM_BH10S	CSM_BH10S	18/11/2020	Normal	758435	6.2	160	710	-	<0.004	<10	28	-	-	52	6	-	9	-	11	-	37	-	51	41	-	-	-	-	<0.01	1.9	0.001	<0.0002	0.003	0.004	-	0.004	-	0.57	<0.0001	0.002

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	Inorganics			Cyanide		Acidity & Alkalinity					Major Ions														Nutrients		Metals									
	pH (Lab)	Total Dissolved Solids	Total Suspended Solids	Cyanide (Free)	Cyanide (Total)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)	Hardness as CaCO3	Calcium	Calcium (Filtered)	Magnesium	Magnesium (Filtered)	Potassium	Potassium (Filtered)	Sodium	Sodium (Filtered)	Chloride	Sulfate	Sulfate (Filtered)	Cations Total	Anions Total	Ionic Balance	Ammonia as N	Nitrate (as N)	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Iron	Lead (Filtered)	Manganese	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)
	pH units	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	mg/L	mg/L	mg/L
EQL	0.01	5	1	0.004	0.004	1	1	1	1	1	0.5	1	0.5	1	0.5	1	0.5	1	1	2	1	0.01	0.01	0.01	0.01	0.02	0.001	0.0001	0.001	0.001	0.05	0.001	0.005	0.001	0.0001	0.001
ADWG 2011 Recreational (v3.6 updated 2021)					0.8															5000	5000					112.9	0.1	0.02		20		0.1	5	5	0.01	0.2
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)					0.004																				0.91			0.0055	0.0044	0.0013		0.0044			0.0004	0.07
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																				
2-4m																																				
4-8m																																				
>8m																																				

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_Number																																	
QC01	CSM_BH10S	23/11/2020	Interlab_D	ES2041428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	0.0004	<0.001	0.087	-	0.003	-	-	<0.0001	0.013
CSM_BH10S	CSM_BH10S	21/12/2020	Normal	765715	5.9	150	1700	-	<0.004	<10	29	-	-	-	8.1	-	8.1	-	5.3	-	35	-	25	58	-	-	-	-	<0.01	1.9	<0.001	<0.0002	<0.001	0.002	-	<0.001	0.71	-	<0.0001	0.002
CSM_BH10S	CSM_BH10S	28/01/2021	Normal	770782	6.2	210	340	-	<0.004	<10	26	<20	26	43	5.8	-	7	-	<5	-	36	-	22	73	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.58	<0.0001	0.002
CSM_BH10S	CSM_BH10S	17/02/2021	Normal	775277	5.6	110	230	-	<0.004	<10	24	<20	24	32	3.4	-	5.7	-	3.3	-	30	-	47	55	-	-	-	-	0.11	-	<0.001	<0.0002	<0.001	0.18	4	0.002	0.57	-	<0.0001	0.012
QC02	CSM_BH10S	17/02/2021	Interlab_D	ES2105795	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	0.004	-	<0.001	-	-	<0.0001	0.002
CSM_BH10S	CSM_BH10S	17/03/2021	Normal	781353	6.7	110	1500	-	<0.004	<10	1300	<20	1300	42	6.3	-	6.3	-	2.9	-	34	-	23	72	-	-	-	-	0.31	-	<0.001	0.0002	<0.001	0.13	-	0.006	-	0.5	<0.0001	0.031
CSM_BH10S	CSM_BH10S	27/04/2021	Normal	791517	5.8	150	150	-	<0.004	<10	21	<20	21	38	5	-	6.1	-	3	-	34	-	21	51	-	-	-	-	0.13	-	<0.001	<0.0002	<0.001	0.001	-	<0.001	0.56	-	<0.0001	0.002
QC01	CSM_BH10S	27/04/2021	Field_D	791517	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.002
CSM_BH10S	CSM_BH10S	26/05/2021	Normal	799115	6.3	190	140	-	<0.004	<10	24	<20	24	38	<5	-	6.3	-	<5	-	36	-	23	52	-	-	-	-	0.03	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.55	<0.0001	0.001
CSM_BH10S	CSM_BH10S	15/06/2021	Normal	803914	6.7	180	160	-	<0.004	<10	25	<20	25	47	6.8	-	7.3	-	2.7	-	34	-	24	57	-	-	-	-	0.15	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.52	<0.0001	0.002
CSM-BH10S	CSM_BH10S	12/07/2021	Normal	810513	6.7	170	160	-	<0.004	<10	<20	<20	<20	37	4.8	-	6.2	-	2.3	-	31	-	24	55	-	-	-	-	0.18	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.49	<0.0001	0.001
QC02	CSM_BH10S	12/07/2021	Interlab_D	ES2125823	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.001
CSM_BH10S	CSM_BH10S	10/08/2021	Normal	816445	6.4	170	100	-	<0.004	<20	<20	<20	<20	36	4.3	-	6.3	-	2.5	-	31	-	25	54	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.58	<0.0001	0.002
CSM_BH10S	CSM_BH10S	28/09/2021	Normal	829222	5.9	170	750	-	<0.004	<10	<20	<20	<20	31	3.4	-	5.5	-	2.2	-	33	-	23	55	-	-	-	-	0.04	-	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.6	<0.0001	0.002
CSM_BH12S	CSM_BH12S	27/04/2021	Normal	791517	6.4	170	920	-	<0.004	<10	91	<20	91	31	3.3	-	5.5	-	5.2	-	110	-	54	100	-	-	-	-	0.24	-	0.004	<0.0002	<0.001	<0.001	-	<0.001	0.65	-	<0.0001	0.009
CSM_BH12S	CSM_BH12S	26/05/2021	Normal	799115	6.9	370	100	-	<0.004	<10	100	<20	100	22	<5	-	<5	-	<5	-	110	-	67	110	-	-	-	-	0.06	-	0.003	<0.0002	<0.001	<0.001	-	<0.001	-	0.48	<0.0001	0.016
CSM_BH12S	CSM_BH12S	17/06/2021	Normal	803914	7.5	370	390	-	<0.004	<10	85	<20	85	29	2.6	-	5.4	-	2.4	-	100	-	55	110	-	-	-	-	0.09	-	0.003	<0.0002	<0.001	<0.001	-	<0.001	-	0.36	<0.0001	0.009
CSM-BH12S	CSM_BH12S	12/07/2021	Normal	810513	7.7	360	140	-	<0.004	<10	78	<20	78	27	2.5	-	5	-	2.1	-	100	-	57	120	-	-	-	-	0.06	-	0.003	<0.0002	<0.001	<0.001	-	<0.001	-	0.45	<0.0001	0.014
CSM_BH12S	CSM_BH12S	10/08/2021	Normal	816445	7.3	400	89	-	<0.004	<20	56	<20	56	33	2.8	-	6.3	-	2.2	-	120	-	65	150	-	-	-	-	0.29	-	0.003	<0.0002	<0.001	<0.001	-	<0.001	-	0.68	<0.0001	0.025
CSM_BH12S	CSM_BH12S	28/09/2021	Normal	829222	6.4	390	75	-	<0.004	<10	60	<20	60	33	2.2	-	6.8	-	1.9	-	120	-	76	170	-	-	-	-	<0.1	-	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	0.91	<0.0001	0.032
CSM_BH13	CSM_BH13	29/09/2021	Normal	829222	7.8	570	110	-	<0.004	<10	180	<20	180	210	51	-	19	-	6.4	-	130	-	230	43	-	-	-	-	<0.1	-	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.43	<0.0001	0.007
CSM_BH14S	CSM_BH14S	29/09/2021	Normal	829222	7.1	110	3.4	-	<0.004	<10	40	<20	40	48	15	-	2.6	-	1.6	-	13	-	28	13	-	-	-	-	0.07	-	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	<0.005	<0.0001	<0.001
GASW_BH10	GASW_BH10	5/06/2019	Normal	659250	7.8	560	84	-	0.005	<10	310	<20	310	-	44	-	34	-	18	-	130	-	150	42	-	-	-	-	0.02	-	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	0.049	<0.0001	0.007
GASW_BH10	GASW_BH10	30/07/2019	Normal	669059	7	610	150	-	<0.005	<10	330	-	-	-	48	-	43	-	9.7	-	130	-	160	<5	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.25	<0.0001	0.042
GASW_BH10	GASW_BH10	28/08/2019	Normal	674722	7.7	1100	260	-	<0.005	<10	440	-	-	-	41	-	40	-	29	-	150	-	170	<5	-	-	-	-	0.16	<0.02	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	0.32	<0.0001	0.043
GASW_BH10	GASW_BH10	26/09/2019	Normal	679636	7.4	920	290	-	<0.005	<10	450	-	-	-	71	-	52	-	15	-	150	-	180	<5	-	-	-	-	<0.01	<0.02	0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.48	<0.0001	0.026
GASW_BH10	GASW_BH10	17/10/2019	Normal	683453	7.4	830	280	-	<0.005	<10	370	-	-	-	67	-	47	-	9.4	-	130	-	170	<5	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.38	<0.0001	0.031
GASW_BH10	GASW_BH10	13/11/2019	Normal	688512	7.1	930	200	-	<0.005	<10	440	-	-	-	82	-	58	-	15	-	150	-	730	<5	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.49	0.0002	0.018
GASW_BH10	GASW_BH10	16/12/2019	Normal	694466	6.7	1200	64	-	<0.004	<10	520	-	-	-	88	-	67	-	14	-	140	-	110	<5	-	-	-	-	0.05	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.67	<0.0001	0.03
GASW_BH10	GASW_BH10	21/01/2020	Normal	698379	6.8	890	170	-	<0.004	<10	560	-	-	-	110	-	72	-	17	-	150	-	910	<5	-	-	-	-	0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.7	<0.0001	0.029
GASW_BH10	GASW_BH10	24/02/2020	Normal	704673	7.8	1100	85	-	<0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.46	<0.0001	0.021
GASW_BH10	GASW_BH10	24/02/2020	Normal	706746	-	-	-	-	-	<10	530	-	-	-	95	-	54	-	21	-	170	-	200	<5	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	18/03/2020	Normal	708508	6.5	1000	250	-	0.005	<10	460	-	-	-	98	-	56	-	15	-	140	-	190	<2	-	-	-	-	0.02	<0.02	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	0.39	<0.0001	0.018
GASW_BH10	GASW_BH10	14/04/2020	Normal	714027	6.4	950	240	-	<0.004	<10	490	-	-	-	110	-	66	-	17	-	180	-	360	<5	-	-	-	-	0.1	<0.02	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.36	<0.0001	0.038
GASW_BH10	GASW_BH10	19/05/2020	Normal	720682	7	760	980	-	<0.004	<10	580	-	-	-	100	-	65	-	14	-	160	-	160	<5	-	-	-	-	<0.01	<0.02	<0.01	<0.002	<0.01	<0.01	-	<0.01	-	0.5	<0.001	0.036
GASW_BH10	GASW_BH10	18/06/2020	Normal	726825	6.6	840	590	-	<0.004	<10	950	-	-	-	94	-	62	-	12	-	150	-	190	<5	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.29	<0.0001	0.026
GASW_BH10	GASW_BH10	15/07/2020	Normal	732590	6.9	840	570	-	<0.004	<10	630	<20	630	-	110	-	69	-	14	-	150	-	190	5.4	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.22	<0.0001	0.01
GASW_BH10	GASW_BH10	17/08/2020	Normal	738860	7	880	430	-	<0.004	<10	650	-	-	-	78	-	51	-	9.1	-	110	-	180	<5	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.25	0.0004	0.031
GASW_BH10	GASW_BH10	14/09/2020	Normal	744463	7.2	760	390	-	<0.004	<10	530	<20	530	420	83	-	50	-	9	-	120	-	190	<5	-	-	-	-	0.05	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.21	0.0002	0.018
GASW_BH10	GASW_BH10	27/10/2020	Normal	753369	6.9	730	530	-	<0.004	<10	580	<20	580	470	95	-	57	-	12	-	140	-	310	10	-	-	-	-	<0.01	-	0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.18	<0.0001	0.024
GASW_BH10	GASW_BH10	19/11/2020	Normal	758435	7.7	820	200	-	<0.004	<10	540	-	-	380	73	-	49	-	12	-	140	-	170	<5	-	-	-	-	<0.01	<0.02	0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.17	<0.0001	0.036
GASW_BH10	GASW_BH10	23/12/2020	Normal	765715	6.9	780	880	-	<0.004	<10	610	-	-	-	96	-	55	-	12	-	140	-	210	2.1	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	0.37	-	<0.0001	0.018
GASW_BH10	GASW_BH10	27/01/2021	Normal	770782	7.4	840	2600	-	<0.004	<10	590	<20	590	510	110	-	60	-	12	-	140	-	200	<5	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.17	<0.0001	0.015
GASW_BH10	GASW_BH10	18/02/2021	Normal	775277	6.8	650	37,000	-	<0.004	<10	520	<20	520	340	60	-	47	-	11	-	110	-	200	<5	-	-	-	-	0.12	-	0.003	<0.0002	<0.001	0.085	30	<0.001	0.58	-	<0.0001	0.034
GASW_BH10	GASW_BH10	17/03/2021	Normal	781353	7.9	620	17,000	-	<0.004	<10	2200	<20	2200	450	100	-	46	-	10	-	120	-	170	<5	-	-	-	-	0.16	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.15	<0.0001	0.007
GASW_BH10	GASW_BH10	27/04/2021	Normal	791517	6.9	760	3300	-	<0.004	<10	570	<20	570	630	160	-	56	-	13	-	130	-	160	<2	-	-	-	-	0.04	-	0.003	<0.0002	0.001	<0.001	-	<0.001	0.92	-	<0.0001	0.003
GASW_BH10	GASW_BH10	25/05/2021	Normal	799115	7.5	810	49	-	0.004	<10	600	<20	600	380	83	-	42	-	11	-	130	-	170	<5	-	-	-	-	0.03	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.11	<0.0001	0.002
GASW_BH10	GASW_BH10	15/06/2021	Normal	803914	8.1	760	8700	-	<0.004	<10	610	<20	610	450	98	-	49	-	12	-	130	-	170	<5	-	-	-	-	0.13	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.11	<0.0001	0.002
GASW-BH10	GASW_BH10	12/07/2021	Normal	810513	8.2	820	220	-	<0.004	<10	490	<20	490	430	90	-	51	-	10	-	130	-	170	<5	-	-	-	-	0.02	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.097	<0.0001	0.001
GASW_BH10	GASW_BH10	10/08/2021	Normal	816445	7.6	760	11	-	<0.004	<20	430	<20	430	400	90	-	42	-	11	-	120	-	180	<5	-	-	-	-	0.18	-	0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.096	<0.0001	<0.001
GASW_BH10	GASW_BH10	29/09/2021	Normal	829222	7.4	690	1600	-	<0.004	<10	440	<20	440	380	83	-	41	-	11	-	120	-	190	<5	-	-	-	-	0.02	-	0.002	<0.0002	<0.001	0.004	-	<0.001	-	0.097	<0.0001	<0.001
GASW_BH11	GASW_BH11	5/06/2019	Normal	659250	6.1	210	300	-	0.013	<10	71	<20	71	-	5.1	-	8	-	2.7	-	57	-	43	42	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.2	<0.0001	0.002
QC02	GASW_BH11	5/06/2019	Field_D	659250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.002
GASW_BH11	GASW_BH11	30/07/2019	Normal	669059	6.3	210	44	-	<0.005	<10	70	-	-	-	4.4	-	8.4	-	2	-	56	-	100	59	-	-	-	-	0.03	<0.02	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.2	<0.0001	0.002
GASW_BH11	GASW_BH11	28/08/2019	Normal	674722	6.6	250	22	-	<0.005	<10	55	-	-	-	5.3	-	7.1	-	1.7	-	52	-	39	48	-	-	-	-	0.01	<0.02	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.23	<0.0001	0.002
GASW_BH11	GASW_BH11	25/09/2019	Normal	679636	6.3	130	28	-	<0.005	<10	41	-	-	-	4.7	-	6.7	-	1.3	-	45	-	37	46	-	-	-	-	0.03	<0.02	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.25	<0.0001	0.002
GASW_BH11	GASW_BH11	16/10/2019	Normal	683453	6.5	200	11	-	<0.005	<10	37	-	-	-	4.5	-	6.3	-	1.4	-	46	-	74	50	-	-	-	-	0.04	<0.02	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.23	<0.0001	0.003

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	Inorganics			Cyanide		Acidity & Alkalinity					Major Ions														Nutrients		Metals									
	pH (Lab)	Total Dissolved Solids	Total Suspended Solids	Cyanide (Free)	Cyanide (Total)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)	Hardness as CaCO3	Calcium	Calcium (Filtered)	Magnesium	Magnesium (Filtered)	Potassium	Potassium (Filtered)	Sodium	Sodium (Filtered)	Chloride	Sulfate	Sulfate (Filtered)	Cations Total	Anions Total	Ionic Balance	Ammonia as N	Nitrate (as N)	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Iron	Lead (Filtered)	Manganese	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)
	pH units	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	mg/L	mg/L	mg/L
EQL	0.01	5	1	0.004	0.004	1	1	1	1	1	0.5	1	0.5	1	0.5	1	0.5	1	1	2	1	0.01	0.01	0.01	0.01	0.02	0.001	0.0001	0.001	0.001	0.05	0.001	0.005	0.001	0.0001	0.001
ADWG 2011 Recreational (v3.6 updated 2021)					0.8															5000	5000					112.9	0.1	0.02		20		0.1	5	5	0.01	0.2
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)					0.004																				0.91			0.0055	0.0044	0.0013		0.0044			0.0004	0.07
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																				
2-4m																																				
4-8m																																				
>8m																																				

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_Number																																
GASW_BH11	GASW_BH11	14/11/2019	Normal	688512	6.5	170	1600	-	<0.005	<10	53	-	-	-	5	-	7	-	1.9	-	50	-	97	51	-	-	-	-	0.02	<0.02	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.2	<0.0001	0.002
GASW_BH11	GASW_BH11	16/12/2019	Normal	694466	6.2	180	28	-	<0.004	<10	55	-	-	-	4.1	-	6	-	1.6	-	48	-	68	54	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	0.005	-	<0.001	-	0.16	<0.0001	0.003
GASW_BH11	GASW_BH11	22/01/2020	Normal	698379	6.1	180	120	-	<0.004	<10	38	-	-	-	7.7	-	4.7	-	1.6	-	38	-	81	52	-	-	-	-	0.02	<0.02	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.15	<0.0001	<0.001
GASW_BH11	GASW_BH11	24/02/2020	Normal	704673	6.8	290	200	-	<0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.08	-	0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.32	<0.0001	<0.001
GASW_BH11	GASW_BH11	24/02/2020	Normal	706746	-	-	-	-	-	<10	96	-	-	-	27	-	6.1	-	<5	-	34	-	44	48	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	17/03/2020	Normal	708508	6	190	300	-	0.005	<10	240	-	-	-	15	-	6.3	-	3.3	-	41	-	44	44	-	-	-	-	0.06	<0.02	0.002	<0.0002	<0.001	0.013	-	<0.001	-	0.16	<0.0001	0.007
GASW_BH11	GASW_BH11	16/04/2020	Normal	714027	6.3	320	8000	-	<0.004	<10	270	-	-	-	26	-	6.7	-	4.9	-	49	-	77	39	-	-	-	-	0.26	<0.02	0.002	<0.0002	<0.001	0.012	-	<0.001	-	0.31	<0.0001	0.006
GASW_BH11	GASW_BH11	20/05/2020	Normal	720682	6.8	270	1800	-	<0.004	<10	200	-	-	-	27	-	6.9	-	<5	-	47	-	35	46	-	-	-	-	0.32	<0.02	<0.01	<0.002	<0.01	0.015	-	<0.01	-	1.1	<0.001	0.017
GASW_BH11	GASW_BH11	19/06/2020	Normal	726825	6.6	220	1200	-	<0.004	<10	96	-	-	-	7.4	-	5.5	-	<5	-	44	-	36	42	-	-	-	-	0.08	0.05	<0.001	<0.0002	<0.001	0.011	-	0.001	-	0.2	<0.0001	0.007
GASW_BH11	GASW_BH11	16/07/2020	Normal	732590	6.3	650	2100	-	<0.004	<10	47	<20	47	-	18	-	13	-	6.2	-	45	-	39	51	-	-	-	-	0.02	-	0.002	<0.0002	<0.001	0.084	-	0.001	-	0.18	<0.0001	0.011
GASW_BH11	GASW_BH11	17/08/2020	Normal	738860	6.9	220	3900	-	<0.004	<10	170	-	-	-	14	-	<5	-	<5	-	27	-	27	25	-	-	-	-	0.06	0.03	<0.001	<0.0002	<0.001	0.015	-	<0.001	-	0.21	<0.0001	0.005
GASW_BH11	GASW_BH11	16/09/2020	Normal	744463	6.7	260	6100	-	<0.004	<10	120	<20	120	43	8.6	-	5.3	-	<5	-	37	-	37	45	-	-	-	-	0.12	-	<0.001	<0.0002	<0.001	0.01	-	<0.001	-	0.23	<0.0001	0.004
GASW_BH11	GASW_BH11	27/10/2020	Normal	753369	6.6	180	920	-	<0.004	<10	86	<20	86	110	22	-	12	-	5.9	-	53	-	74	73	-	-	-	-	0.13	-	<0.001	<0.0002	<0.001	0.012	-	<0.001	-	0.18	<0.0001	0.004
GASW_BH11	GASW_BH11	20/11/2020	Normal	758435	7.1	190	790	-	<0.004	<10	81	-	-	88	18	-	10	-	9.6	-	47	-	76	34	-	-	-	-	0.03	0.04	0.001	<0.0002	<0.001	0.016	-	<0.001	-	0.19	<0.0001	0.004
GASW_BH11	GASW_BH11	21/12/2020	Normal	765715	6.6	270	5100	-	<0.004	<10	96	-	-	-	29	-	12	-	6.6	-	50	-	47	52	-	-	-	-	0.1	0.11	<0.001	<0.0002	<0.001	0.004	-	<0.001	0.58	-	<0.0001	0.003
GASW_BH11	GASW_BH11	28/01/2021	Normal	770782	8	350	1600	-	<0.004	<10	150	<20	150	130	38	-	7.9	-	<5	-	44	-	34	47	-	-	-	-	0.06	-	0.005	0.0006	<0.001	0.14	-	0.006	-	0.29	<0.0001	0.031
GASW_BH11	GASW_BH11	17/02/2021	Normal	775277	6.6	200	2600	-	<0.004	<10	120	<20	120	100	29	-	7	-	8.1	-	31	-	50	26	-	-	-	-	0.37	-	<0.001	<0.0002	<0.001	0.15	20	0.001	0.39	-	<0.0001	0.017
GASW_BH11	GASW_BH11	18/03/2021	Normal	781353	7.4	210	7200	-	<0.004	<10	1800	<20	1800	73	20	-	5.8	-	2.6	-	36	-	34	31	-	-	-	-	0.35	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.17	<0.0001	0.002
GASW_BH11	GASW_BH11	27/04/2021	Normal	791517	6.3	180	260	-	<0.004	<10	57	<20	57	63	13	-	7.5	-	3.6	-	40	-	36	37	-	-	-	-	0.27	-	<0.001	<0.0002	<0.001	0.001	-	<0.001	0.27	-	<0.0001	0.002
GASW_BH11	GASW_BH11	26/05/2021	Normal	799115	6.8	210	360	-	<0.004	<10	74	<20	74	32	4.6	-	4.9	-	1.4	-	36	-	42	39	-	-	-	-	0.16	-	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.13	<0.0001	0.002
GASW_BH11	GASW_BH11	16/06/2021	Normal	803914	7.3	220	2700	-	<0.004	<10	71	<20	71	38	5.7	-	5.7	-	1.7	-	36	-	38	41	-	-	-	-	0.24	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.13	<0.0001	0.002
GASW-BH11	GASW_BH11	12/07/2021	Normal	810513	7.6	390	1000	-	<0.004	<10	82	<20	82	38	6.6	-	5.1	-	1.5	-	34	-	39	40	-	-	-	-	0.03	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.11	<0.0001	<0.001
GASW_BH11	GASW_BH11	10/08/2021	Normal	816445	7.5	280	2.2	-	<0.004	<20	150	<20	150	76	19	-	6.9	-	2.2	-	34	-	41	38	-	-	-	-	0.14	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.17	<0.0001	0.002
GASW_BH11	GASW_BH11	28/09/2021	Normal	829222	7.1	220	480	-	<0.004	<10	110	<20	110	54	13	-	4.2	-	2	-	33	-	37	45	-	-	-	-	0.19	-	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.16	<0.0001	0.002
BH23	GASW_BH23	23/08/2019	Normal	ES1926979	7.34	719	484	<0.004	0.081	<1	139	<1	139	-	-	139	-	8	-	30	-	56	19	-	389	10.8	11.4	2.77	0.86	-	0.006	<0.0001	<0.001	<0.001	-	<0.001	-	0.028	<0.0001	0.002
GW-BR1	GASW_BH23	23/08/2019	Field_D	ES1926979	7.68	678	1200	0.005	0.109	<1	129	<1	129	-	-	137	-	10	-	29	-	54	20	-	327	10.7	9.95	3.86	0.87	-	0.004	<0.0001	<0.001	<0.001	-	0.001	-	0.06	<0.0001	0.001
GASW_BH23	GASW_BH23	25/09/2019	Normal	679636	7.6	640	480	-	<0.005	<10	180	-	-	-	160	-	14	-	13	-	39	-	19	380	-	-	-	-	0.25	<0.02	0.004	<0.0002	<0.001	0.002	-	<0.001	-	0.49	<0.0001	0.004
GASW_BH23	GASW_BH23	16/10/2019	Normal	683453	7.7	710	25	-	0.006	<10	190	-	-	-	150	-	12	-	11	-	31	-	45	330	-	-	-	-	0.52	<0.02	0.004	<0.0002	<0.001	<0.001	-	<0.001	-	0.41	<0.0001	0.001
GASW_BH23	GASW_BH23	14/11/2019	Normal	688512	8.1	710	23	-	0.026	<10	210	-	-	-	170	-	14	-	19	-	48	-	33	320	-	-	-	-	0.66	<0.02	0.004	<0.0002	<0.001	<0.001	-	<0.001	-	0.33	<0.0001	<0.001
GASW_BH23	GASW_BH23	16/12/2019	Normal	694466	11	290	2.4	-	0.013	86	<20	-	-	-	37	-	<0.5	-	15	-	50	-	35	97	-	-	-	-	0.27	0.97	0.005	<0.0002	0.003	0.002	-	<0.001	-	<0.005	<0.0001	<0.001
GASW_BH23	GASW_BH23	22/01/2020	Normal	698379	8.1	580	10	-	0.012	<10	3000	-	-	-	130	-	11	-	12	-	32	-	21	270	-	-	-	-	0.72	<0.02	0.005	<0.0002	<0.001	<0.001	-	0.001	-	0.28	<0.0001	<0.001
GASW_BH23	GASW_BH23	24/02/2020	Normal	704673	8.1	420	780	-	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	0.005	<0.0002	<0.001	<0.001	-	<0.001	-	0.12	<0.0001	<0.001
GASW_BH23	GASW_BH23	24/02/2020	Normal	706746	-	-	-	-	-	<10	320	-	-	-	120	-	12	-	25	-	61	-	70	120	-	-	-	-	-	0.03	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	17/03/2020	Normal	708508	7.1	360	28	-	0.009	<10	160	-	-	-	82	-	6.8	-	8.7	-	25	-	13	120	-	-	-	-	0.31	<0.02	0.005	<0.0002	<0.001	0.001	-	<0.001	-	0.2	<0.0001	0.001
GASW_BH23	GASW_BH23	16/04/2020	Normal	714027	-	-	-	-	0.079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.98	-	0.011	<0.0002	<0.001	<0.001	-	<0.001	-	0.053	<0.0001	<0.001
GASW_BH23	GASW_BH23	20/05/2020	Normal	720682	-	-	-	-	<0.004	-	-	-	-	-	80	-	<5	-	20	-	37	-	-	-	-	-	-	-	0.5	-	0.007	<0.0002	<0.001	0.008	-	<0.001	-	-	<0.0001	0.006
GASW_BH23	GASW_BH23	17/06/2020	Normal	726825	7.6	380	1400	-	0.008	<10	410	-	-	-	82	-	5.5	-	14	-	30	-	18	54	-	-	-	-	<0.01	<0.02	0.003	<0.0002	<0.001	0.011	-	<0.001	-	0.22	<0.0001	0.004
GASW_BH23	GASW_BH23	16/07/2020	Normal	732590	7.2	860	6100	-	<0.004	<10	540	<20	540	-	330	-	24	-	25	-	33	-	20	180	-	-	-	-	0.14	-	0.002	<0.0002	<0.001	0.008	-	<0.001	-	0.15	<0.0001	0.004
GASW_BH23	GASW_BH23	17/08/2020	Normal	738860	7.4	390	1100	-	0.01	<10	340	-	-	-	80	-	6.2	-	12	-	23	-	15	79	-	-	-	-	0.07	<0.02	0.003	<0.0002	<0.001	0.005	-	<0.001	-	0.24	<0.0001	0.007
GASW_BH23	GASW_BH23	15/09/2020	Normal	744463	-	-	-	-	0.006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	-	0.002	<0.0002	<0.001	0.07	-	<0.001	-	0.2	<0.0001	0.011
GASW_BH23	GASW_BH23	26/10/2020	Normal	753369	7.2	270	51	-	<0.004	<10	110	<20	110	230	81	-	5.6	-	10	-	25	-	29	240	-	-	-	-	0.06	-	<0.001	<0.0002	<0.001	0.016	-	0.001	-	0.14	<0.0001	0.002
GASW_BH23	GASW_BH23	18/11/2020	Normal	758435	7.8	610	88	-	0.01	<10	480	-	-	380	140	-	11	-	20	-	36	-	24	69	-	-	-	-	0.06	<0.02	0.005	<0.0002	<0.001	0.004	-	<0.001	-	0.32	<0.0001	0.002
GASW_BH23	GASW_BH23	21/12/2020	Normal	765715	7.4	690	140	-	0.013	<10	400	-	-	-	180	-	10	-	22	-	37	-	26	190	-	-	-	-	0.11	<0.02	0.003	<0.0002	<0.001	0.003	-	0.003	0.48	-	<0.0001	0.001
GASW_BH23	GASW_BH23	28/01/2021	Normal	770782	8.2	550	8.4	-	<0.004	<10	230	<20	230	340	120	-	10	-	9.5	-	22	-	55	160	-	-	-	-	0.04	-	<0.001	0.0002	<0.001	0.018	-	<0.001	-	0.2	<0.0001	0.002
GASW_BH23	GASW_BH23	17/02/2021	Normal	775277	7.1	390	29	-	<0.004	<10	220	<20	220	490	190	-	7.3	-	10	-	29	-	15	170	-	-	-	-	0.4	-	0.004	<0.0002	<0.001	0.008	3.5	<0.001	0.5	-	<0.0001	0.002
GASW_BH23	GASW_BH23	18/03/2021	Normal	781353	8	320	22	-	<0.004	<10	1700	<20	1700	220	76	-	6.4	-	7.3	-	22	-	32	98	-	-	-	-	0.3	-	0.003	<0.0002	<0.001	<0.001	-	<0.001	-	0.26	<0.0001	<0.001
GASW_BH23	GASW_BH23	27/04/2021	Normal	791517	7.3	490	19	-	0.01	<10	290	<20	290	340	130	-	7.4	-	11	-	27	-	15	110	-	-	-	-	0.4	-	0.004	<0.0002	<0.001	<0.001	-	<0.001	0.31	-	<0.0001	<0.001
GASW_BH23	GASW_BH23	26/05/2021	Normal	799115	7.9	410	10	-	0.009	<10	260	<20	260	280	100	-	6.9	-	9	-	25	-	23	89	-	-	-	-	0.57	-	0.003	<0.0002	<0.001	<0.001	-	<0.001	-	0.28	<0.0001	<0.001
GASW_BH23	GASW_BH23	16/06/2021	Normal	803914	8.1	380	430	-	<0.004	<10	270	<20	270	270	93	-	8.7	-	17	-	40	-	28	33	-	-	-	-	0.61	-	0.003	<0.0002	<0.001	<0.001	-	<0.001	-	0.18	<0.0001	<0.001
GASW-BH23	GASW_BH23	12/07/2021	Normal	810513	8.2	2300	16	-	<0.004	<10	160	<20	160	220	73	-	8.3	-	5.6	-	17	-	11	96	-	-	-	-	0.32	-	0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.23	0.0002	<0.001
GASW_BH23	GASW_BH23	10/08/2021	Normal	816445	7.9	240	4600	-	<0.004	<20	150	<20	150	330	120	-	9.7	-	15	-	32	-	14	51	-	-	-	-	0.54	-	0.003	<0.0002	<0.001	<0.001	-	<0.001	-	0.38	<0.0001	<0.001
GASW_BH23	GASW_BH23	29/09/2021	Normal	829222	7.9	230	22	-	<0.004	<10	230	<20	230	330	110	-	10	-	7.4	-	22	-	13	150	-	-	-	-	0.43	-	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	0.39	0.0003	<0.001
GW-SR1	GASW_BH25A	23/08/2019	Interlab_D	673339	8	770	270	-	0.096	<10	120	-	-	-	180	-	11	-	6.5	-	31	-	15	420	-	-	-	-	0.48	0.11	0.002	<0.0002	<0.001	<0.001	-	<0.001	0.43	-	<0.0001	0.003
BH25a	GASW_BH25A	23/08/2019	Normal	ES1926979	7.28	686	245	0.015	0.163	<1	100	<1	100	-	-	169	-	9	-	6	-	28	18	-	392	10.5	10.7	0.58	0.48	-	0.002	<0.0001	<0.001	<0.001	-	<0.001	-	0.348	0.0002	0.002
GASW_BH25A	GASW_BH25A	25/09/2019	Normal	679636	7.5	460	21	-	0.023	<10	97	-	-	-	97	-	6.1	-	6.6	-	47	-	26	260	-	-	-	-	0.39	<0.02	0.006	<0.0002	<0.001	0.003	-	<0.001	-	0.14	<0.0001	<0.001
GASW_BH25a	GASW_BH25A	16/10/2019	Normal	683453	8.1	360	37	-	0.009	<10	110	-	-	-	67	-	4.4	-	5.5	-	28	-	48	140	-	-	-	-	0.42	0.03	0.005	<0.0002	<0.001	<0.001	-	<0.001	-	0.094	<0.0001	<0.001
GASW_BH25A	GASW_BH25A	14/11/2019	Normal	688512	8.3	410	53	-	0.032	<10	120	-	-	-	86	-	5.5	-	6.8	-	31	-	85	180	-	-	-	-	0.46	<0.02	0.006	<0.0002	<0.001	0.008	-	0.001	-	0.11	<0.0001	0.008

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	Inorganics			Cyanide		Acidity & Alkalinity					Major Ions														Nutrients		Metals									
	pH (Lab)	Total Dissolved Solids	Total Suspended Solids	Cyanide (Free)	Cyanide (Total)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)	Hardness as CaCO3	Calcium	Calcium (Filtered)	Magnesium	Magnesium (Filtered)	Potassium	Potassium (Filtered)	Sodium	Sodium (Filtered)	Chloride	Sulfate	Sulfate (Filtered)	Cations Total	Anions Total	Ionic Balance	Ammonia as N	Nitrate (as N)	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Iron	Lead (Filtered)	Manganese	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)
	pH units	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	mg/L	mg/L	mg/L
EQL	0.01	5	1	0.004	0.004	1	1	1	1	1	0.5	1	0.5	1	0.5	1	0.5	1	1	2	1	0.01	0.01	0.01	0.01	0.02	0.001	0.0001	0.001	0.001	0.05	0.001	0.005	0.001	0.0001	0.001
ADWG 2011 Recreational (v3.6 updated 2021)					0.8															5000	5000					112.9	0.1	0.02		20		0.1	5	5	0.01	0.2
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)					0.004																				0.91			0.0055	0.0044	0.0013		0.0044			0.0004	0.07
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																				
2-4m																																				
4-8m																																				
>8m																																				

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_Number																																
GASW_BH25A	GASW_BH25A	16/12/2019	Normal	694466	8.2	450	21	-	0.074	<10	110	-	-	-	100	-	5.6	-	7.9	-	30	-	25	230	-	-	-	-	0.74	<0.02	0.006	<0.0002	<0.001	<0.001	-	<0.001	-	0.086	<0.0001	<0.001
GASW_BH25A	GASW_BH25A	22/01/2020	Normal	698379	6.6	430	130	-	0.16	<10	180	-	-	-	84	-	5.9	-	6.1	-	20	-	15	130	-	-	-	-	0.23	<0.02	0.012	<0.0002	<0.001	<0.001	-	<0.001	-	0.091	<0.0001	<0.001
GASW_BH25A	GASW_BH25A	24/02/2020	Normal	704673	7.2	380	340	-	0.055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.17	-	0.011	<0.0002	<0.001	<0.001	-	<0.001	-	0.096	<0.0001	<0.001
GASW_BH25A	GASW_BH25A	24/02/2020	Normal	706746	-	-	-	-	-	<10	170	-	-	-	81	-	5.8	-	<5	-	20	-	63	97	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-
GASW_BH25a	GASW_BH25A	17/03/2020	Normal	708508	7.3	220	16	-	0.032	<10	99	-	-	-	41	-	3.1	-	4.2	-	20	-	11	47	-	-	-	-	0.27	0.13	0.008	<0.0002	<0.001	0.008	-	<0.001	-	0.029	<0.0001	0.008
GASW_BH25A	GASW_BH25A	16/04/2020	Normal	714027	6.3	250	120	-	0.14	<10	160	-	-	-	76	-	5.3	-	7.7	-	27	-	26	43	-	-	-	-	0.61	<0.02	0.01	<0.0002	<0.001	<0.001	-	<0.001	-	0.075	<0.0001	<0.001
GASW_BH25A	GASW_BH25A	20/05/2020	Normal	720682	7.2	180	800	-	0.025	<10	190	-	-	-	64	-	<5	-	5.2	-	23	-	13	38	-	-	-	-	0.25	<0.02	0.012	<0.0002	<0.001	0.001	-	<0.001	-	0.37	0.0003	<0.001
GASW_BH25A	GASW_BH25A	19/06/2020	Normal	726825	7.3	190	210	-	0.034	<10	190	-	-	-	53	-	<5	-	<5	-	19	-	10	46	-	-	-	-	0.01	<0.02	0.009	<0.0002	<0.001	<0.001	-	<0.001	-	0.038	0.0001	<0.001
GASW_BH25A	GASW_BH25A	16/07/2020	Normal	732590	7.6	290	56	-	0.007	<10	150	<20	150	-	81	-	6.2	-	4.2	-	20	-	17	120	-	-	-	-	0.24	-	0.004	<0.0002	<0.001	0.02	-	<0.001	-	0.11	<0.0001	0.007
GASW_BH25A	GASW_BH25A	17/08/2020	Normal	738860	7.1	290	150	-	0.05	<10	170	-	-	-	56	-	<5	-	<5	-	15	-	12	71	-	-	-	-	<0.01	<0.02	0.006	<0.0002	<0.001	0.052	-	0.002	-	0.078	0.0002	0.012
GASW_BH25A	GASW_BH25A	18/09/2020	Normal	744463	7.9	340	520	-	0.082	<10	230	<20	230	210	75	-	<5	-	<5	-	20	-	14	41	-	-	-	-	0.41	-	0.009	<0.0002	<0.001	<0.001	-	<0.001	-	0.052	0.0003	<0.001
GASW_BH25A	GASW_BH25A	27/10/2020	Normal	753369	7.3	360	13	-	0.004	<10	140	<20	140	360	130	-	11	-	4.7	-	23	-	27	380	-	-	-	-	0.14	-	0.002	<0.0002	<0.001	0.052	-	0.001	-	0.3	<0.0001	0.01
GASW_BH25A	GASW_BH25A	20/11/2020	Normal	758435	7.4	390	1900	-	0.031	<10	210	-	-	400	140	-	11	-	9.8	-	21	-	62	110	-	-	-	-	<0.01	<0.02	0.008	<0.0002	<0.001	0.007	-	<0.001	-	0.24	<0.0001	<0.001
GASW_BH25A	GASW_BH25A	21/12/2020	Normal	765715	7.5	510	39	-	0.01	<10	200	-	-	-	130	-	9.9	-	4.9	-	23	-	20	240	-	-	-	-	0.24	<0.02	0.003	<0.0002	<0.001	0.005	-	<0.001	0.28	-	<0.0001	0.011
GASW_BH25A	GASW_BH25A	28/01/2021	Normal	770782	8.2	290	57	-	<0.004	<10	120	<20	120	160	50	-	<5	-	5.4	-	29	-	67	60	-	-	-	-	<0.01	-	0.003	<0.0002	0.001	0.015	-	<0.001	-	0.006	<0.0001	0.001
GASW_BH25A	GASW_BH25A	17/02/2021	Normal	775277	7.6	180	9.8	-	<0.004	<10	120	<20	120	110	39	-	3.4	-	3.8	-	21	-	28	34	-	-	-	-	<0.01	-	0.003	<0.0002	<0.001	0.15	0.51	0.001	0.013	-	<0.0001	0.053
GASW_BH25A	GASW_BH25A	18/03/2021	Normal	781353	7.8	160	41	-	<0.004	<10	1900	<20	1900	130	47	-	3.9	-	3.6	-	18	-	26	41	-	-	-	-	0.11	-	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	0.012	<0.0001	<0.001
GASW_BH25A	GASW_BH25A	27/04/2021	Normal	791517	7.5	320	15	-	0.005	<10	210	<20	210	240	84	-	6.1	-	4.1	-	19	-	13	54	-	-	-	-	0.37	-	0.004	<0.0002	<0.001	<0.001	-	<0.001	0.16	-	<0.0001	<0.001
GASW_BH25A	GASW_BH25A	26/05/2021	Normal	799115	8.2	310	4.1	-	0.005	<10	220	<20	220	220	77	-	6.2	-	3.8	-	18	-	11	54	-	-	-	-	0.33	-	0.003	<0.0002	<0.001	<0.001	-	<0.001	-	0.13	<0.0001	<0.001
GASW_BH25A	GASW_BH25A	15/06/2021	Normal	803914	8.3	310	19	-	0.005	<10	170	<20	170	220	79	-	6.2	-	3.9	-	20	-	16	54	-	-	-	-	0.3	-	0.002	<0.0002	<0.001	<0.001	-	<0.001	-	0.1	<0.0001	<0.001
GASW-BH25A	GASW_BH25A	12/07/2021	Normal	810513	8.1	170	4.1	-	<0.004	<10	96	<20	96	98	34	-	3.4	-	2.5	-	14	-	5000	660	-	-	-	-	0.03	-	0.003	<0.0002	<0.001	0.003	-	<0.001	-	<0.005	<0.0001	<0.001
GASW_BH25A	GASW_BH25A	10/08/2021	Normal	816445	7.9	230	9.2	-	<0.004	<20	150	<20	150	170	61	-	4.7	-	3.4	-	15	-	21	35	-	-	-	-	0.35	-	0.003	<0.0002	<0.001	<0.001	-	<0.001	-	0.089	<0.0001	<0.001
GASW_BH25A	GASW_BH25A	29/09/2021	Normal	829222	7.3	140	5.6	-	<0.004	<10	71	<20	71	70	25	-	2.2	-	2.6	-	14	-	21	19	-	-	-	-	0.28	-	0.005	<0.0002	<0.001	0.004	-	<0.001	-	<0.005	<0.0001	<0.001
GASW_BH7	GASW_BH7	5/06/2019	Normal	659250	5.6	310	28	-	<0.005	<10	35	<20	35	-	27	-	5.1	-	1.2	-	61	-	38	140	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.3	<0.0001	0.002
QC01	GASW_BH7	5/06/2019	Interlab_D	ES1917381	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	0.0001	0.001	<0.001	-	<0.001	-	-	<0.0001	0.002
GASW_BH7	GASW_BH7	30/07/2019	Normal	669059	3.9	280	20	-	0.006	<10	<20	-	-	-	5.4	-	4.8	-	0.8	-	63	-	41	150	-	-	-	-	0.03	<0.02	<0.001	<0.0002	<0.001	0.007	-	0.001	-	0.12	<0.0001	0.003
GASW_BH7	GASW_BH7	28/08/2019	Normal	674722	3.5	330	14	-	<0.005	<10	<20	-	-	-	3.7	-	4.8	-	0.7	-	64	-	29	150	-	-	-	-	0.03	<0.02	<0.001	<0.0002	<0.001	0.019	-	0.002	-	0.13	<0.0001	0.006
GASW_BH7	GASW_BH7	25/09/2019	Normal	679636	3.5	260	27	-	<0.005	<10	<20	-	-	-	4.3	-	4.2	-	0.5	-	69	-	35	160	-	-	-	-	0.02	0.05	<0.001	<0.0002	<0.001	0.007	-	0.003	-	0.11	<0.0001	0.002
GASW_BH7	GASW_BH7	16/10/2019	Normal	683453	3.6	310	19	-	<0.005	<10	<20	-	-	-	2.7	-	4.3	-	0.5	-	63	-	49	160	-	-	-	-	0.03	<0.02	<0.001	<0.0002	<0.001	0.004	-	0.003	-	0.11	<0.0001	0.002
GASW_BH7	GASW_BH7	14/11/2019	Normal	688512	4	280	8.3	-	<0.005	<10	<20	-	-	-	2.7	-	4.2	-	0.6	-	65	-	28	150	-	-	-	-	0.02	0.04	<0.001	<0.0002	<0.001	0.003	-	0.002	-	0.098	<0.0001	0.002
GASW_BH7	GASW_BH7	16/12/2019	Normal	694466	3.5	260	18	-	<0.004	<10	<20	-	-	-	3.1	-	3.4	-	0.6	-	47	-	68	150	-	-	-	-	0.04	<0.02	<0.001	<0.0002	<0.001	0.008	-	0.002	-	0.081	<0.0001	0.004
GASW_BH7	GASW_BH7	22/01/2020	Normal	698379	3.7	550	33	-	<0.004	<10	<20	-	-	-	3.8	-	3.9	-	0.6	-	57	-	100	150	-	-	-	-	0.04	<0.02	<0.001	<0.0002	<0.001	0.009	-	0.003	-	0.1	<0.0001	0.001
GASW_BH7	GASW_BH7	24/02/2020	Normal	704673	3.8	340	28	-	<0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.14	<0.0001	<0.001
GASW_BH7	GASW_BH7	24/02/2020	Normal	706746	-	-	-	-	-	<10	<20	-	-	-	<5	-	5.1	-	<5	-	60	-	40	140	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	17/03/2020	Normal	708508	3.9	180	67	-	0.005	<10	<20	-	-	-	1.8	-	5.1	-	1	-	54	-	25	110	-	-	-	-	0.09	<0.02	<0.001	<0.0002	<0.001	0.012	-	0.004	-	0.13	<0.0001	0.003
SRT-BH039	SRT_BH039	7/09/2018	Normal	616629	-	-	-	-	0.007	80	<20	-	-	-	460	-	<0.5	-	160	-	140	-	28	940	-	-	-	-	0.7	1.3	<0.001	<0.0002	0.003	0.03	-	0.003	-	-	<0.0001	0.004
QA02	SRT_BH039	7/09/2018	Interlab_D	ES1826658	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	0.003	0.014	-	<0.001	-	-	<0.0001	0.002
SRT-BH039	SRT_BH039	25/10/2018	Normal	624838	-	-	-	-	<0.005	70	<20	-	-	-	460	-	<0.5	-	110	-	98	-	45	720	-	-	-	-	1	0.05	<0.001	<0.0002	0.001	0.008	-	<0.001	-	<0.005	<0.0001	0.006
QA02	SRT_BH039	26/10/2018	Interlab_D	ES1832040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	0.001	0.002	-	<0.001	-	-	<0.0001	0.002
SRT-BH047	SRT_BH047	6/09/2018	Normal	616629	-	-	-	-	<0.005	<10	140	-	-	-	64	-	8.1	-	1	-	34	-	27	7.6	-	-	-	-	<0.01	21	<0.001	<0.0002	<0.001	0.018	-	<0.001	-	-	<0.0001	0.003
SRT-BH047	SRT_BH047	25/10/2018	Normal	624838	-	-	-	-	<0.005	<10	160	-	-	-	58	-	6.1	-	0.9	-	32	-	25	14	-	-	-	-	<0.01	18	<0.001	<0.0002	<0.001	0.004	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH047	SRT_BH047	26/11/2018	Normal	629922	-	-	-	-	<0.005	<10	170	-	-	-	53	-	6.9	-	0.9	-	31	-	39	12	-	-	-	-	<0.01	17	<0.001	<0.0002	<0.001	0.022	-	0.002	-	-	<0.0001	0.005
SRT_BH047	SRT_BH047	18/12/2018	Normal	634274	-	-	-	-	<0.005	<10	63	-	-	-	35	-	8	-	1.6	-	31	-	33	16	-	-	-	-	<0.01	22	<0.001	<0.0002	<0.001	0.021	-	0.002	-	0.009	<0.0001	0.004
SRT_BH047	SRT_BH047	17/01/2019	Normal	636542	-	-	-	-	0.02	<10	190	-	-	-	61	-	6.8	-	0.9	-	29	-	23	11	-	-	-	-	<0.01	19	<0.001	<0.0002	<0.001	0.016	-	0.001	-	<0.005	<0.0001	0.005
SRT_BH047	SRT_BH047	20/02/2019	Normal	641720	-	-	-	-	<0.005	<10	100	-	-	-	26	-	6.6	-	1.3	-	53	-	26	12	-	-	-	-	<0.01	19	<0.001	<0.0002	<0.001	0.018	-	0.002	-	0.008	<0.0001	0.002
SRT_BH047	SRT_BH047	16/04/2019	Normal	651825	-	-	-	-	<0.005	<10	62	-	-	-	24	-	9.6	-	1.8	-	37	-	33	15	-	-	-	-	<0.01	25	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.023	<0.0001	0.001
SRT_BH047	SRT_BH047	14/05/2019	Normal	656080	8.1	360	40	-	<0.005	<10	120	-	-	-	51	-	9.7	-	1.2	-	34	-	43	11	-	-	-	-	<0.01	23	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH047	SRT_BH047	7/06/2019	Normal	660130	8	230	48	-	<0.005	<10	98	-	-	-	37	-	10	-	1.1	-	35	-	26	11	-	-	-	-	<0.01	23	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT-BH047	SRT_BH047	31/07/2019	Normal	669059	7.6	270	65	-	0.008	<10	88	-	-	-	43	-	11	-	1.6	-	35	-	50	13	-	-	-	-	<0.01	22	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.018	<0.0001	0.001
SRT_BH047	SRT_BH047	30/08/2019	Normal	674722	8.1	360	51	-	<0.005	<10	120	-	-	-	50	-	8.6	-	0.9	-	33	-	22	10	-	-	-	-	<0.01	22	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH047	SRT_BH047	27/09/2019	Normal	679636	7.7	270	22	-	<0.005	<10	140	-	-	-	51	-	8	-	0.8	-	31	-	25	11	-	-	-	-	<0.01	21	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH047	SRT_BH047	18/10/2019	Normal	683453	7.8	340	68	-	<0.005	<10	92	-	-	-	50	-	7.4	-	0.8	-	30	-	34	11	-	-	-	-	<0.01	15	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	<0.005	<0.0001	0.002
SRT_BH047	SRT_BH047	15/11/2019	Normal	688512	8.3	330	89	-	<0.005	<10	120	-	-	-	54	-	8.8	-	1	-	32	-	52	9.5	-	-	-	-	<0.01	21	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	<0.005	<0.0001	0.001
SRT_BH047	SRT_BH047	18/12/2019	Normal	694466	8.3	290	100	-	<0.004	<10	130	-	-	-	49	-	9.2	-	0.9	-	16	-	46	12	-	-	-	-	0.02	19	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH047	SRT_BH047	20/01/2020	Normal	698379	7.7	340	1700	-	<0.004	<10	240	-	-	-	49	-	9.7	-	0.8	-	26	-	60	11	-	-	-	-	0.03	22	<0.001	<0.0002	<0.001	0.004	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH047	SRT_BH047	26/02/2020	Normal	704673	7.7	170	<1	-	<0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.004	-	<0.001	-	0.024	<0.0001	0.002
SRT_BH047	SRT_BH047	26/02/2020	Normal	706746	-	-	-	-	-	<10	49	-	-	-	19	-	9.5	-	<5	-	26	-	83	27	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	Inorganics			Cyanide		Acidity & Alkalinity					Major Ions														Nutrients		Metals									
	pH (Lab)	Total Dissolved Solids	Total Suspended Solids	Cyanide (Free)	Cyanide (Total)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)	Hardness as CaCO3	Calcium	Calcium (Filtered)	Magnesium	Magnesium (Filtered)	Potassium	Potassium (Filtered)	Sodium	Sodium (Filtered)	Chloride	Sulfate	Sulfate (Filtered)	Cations Total	Anions Total	Ionic Balance	Ammonia as N	Nitrate (as N)	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Iron	Lead (Filtered)	Manganese	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)
	pH units	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	mg/L	mg/L	mg/L
EQL	0.01	5	1	0.004	0.004	1	1	1	1	1	0.5	1	0.5	1	0.5	1	0.5	1	1	2	1	0.01	0.01	0.01	0.01	0.02	0.001	0.0001	0.001	0.001	0.05	0.001	0.005	0.001	0.0001	0.001
ADWG 2011 Recreational (v3.6 updated 2021)					0.8															5000	5000					112.9	0.1	0.02		20		0.1	5	5	0.01	0.2
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)					0.004																				0.91			0.0055	0.0044	0.0013		0.0044			0.0004	0.07
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																				
2-4m																																				
4-8m																																				
>8m																																				

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_Number																																
SRT_BH047	SRT_BH047	16/03/2020	Normal	708508	7	230	14	-	<0.004	<10	60	-	-	-	29	-	9.6	-	1.4	-	29	-	25	15	-	-	-	-	0.11	22	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.009	<0.0001	0.002
SRT_BH047	SRT_BH047	15/04/2020	Normal	714027	6.5	320	9.2	-	<0.004	<10	130	-	-	-	46	-	11	-	1	-	38	-	64	11	-	-	-	-	0.03	20	<0.001	<0.0002	<0.001	0.011	-	<0.001	-	0.006	<0.0001	0.007
SRT_BH047	SRT_BH047	18/05/2020	Normal	720682	6.9	210	13	-	<0.004	<10	110	-	-	-	36	-	12	-	<5	-	30	-	22	13	-	-	-	-	0.02	21	<0.01	<0.002	<0.01	<0.01	-	<0.01	-	<0.05	<0.001	<0.01
SRT_BH047	SRT_BH047	17/06/2020	Normal	726825	6.9	230	9.2	-	<0.004	<10	85	-	-	-	34	-	10	-	<5	-	28	-	24	13	-	-	-	-	<0.01	20	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.009	<0.0001	0.003
SRT_BH047	SRT_BH047	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/07/2020	Normal	732590	7.5	320	6.2	-	<0.004	<10	120	<20	120	-	44	-	10	-	0.9	-	29	-	25	16	-	-	-	-	0.24	-	<0.001	<0.0002	<0.001	0.009	-	<0.001	-	<0.005	<0.0001	0.009
SRT_BH047	SRT_BH047	19/08/2020	Normal	738860	7.6	290	33	-	<0.004	<10	120	-	-	-	35	-	8	-	<5	-	22	-	22	11	-	-	-	-	<0.01	18	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	<0.005	<0.0001	0.004
SRT_BH047	SRT_BH047	15/09/2020	Normal	744463	7.9	290	49	-	<0.004	<10	95	<20	95	150	43	-	9.7	-	<5	-	27	-	22	10	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	0.008	-	<0.001	-	<0.005	<0.0001	0.002
SRT_BH047	SRT_BH047	26/10/2020	Normal	753369	7.6	200	14	-	<0.004	<10	96	<20	96	150	42	-	11	-	0.8	-	30	-	41	47	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	0.11	-	0.002	-	0.007	<0.0001	0.013
SRT_BH047	SRT_BH047	18/11/2020	Normal	758435	6.9	260	48	-	<0.004	<10	80	-	-	120	27	-	12	-	0.6	-	28	-	57	15	-	-	-	-	<0.01	19	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.53	<0.0001	0.002
SRT_BH047	SRT_BH047	22/12/2020	Normal	765715	7.3	220	65	-	<0.004	<10	82	-	-	-	31	-	10	-	1.1	-	27	-	24	14	-	-	-	-	0.01	19	<0.001	<0.0002	<0.001	0.003	-	<0.001	0.11	-	<0.0001	0.003
SRT_BH047	SRT_BH047	29/01/2021	Normal	770782	7.4	300	36	-	<0.004	<10	78	<20	78	120	32	-	11	-	<5	-	29	-	43	29	-	-	-	-	0.02	-	<0.001	<0.0002	<0.001	0.024	-	<0.001	-	0.013	<0.0001	0.005
SRT_BH047	SRT_BH047	17/02/2021	Normal	775277	6.2	110	<5	-	<0.004	<10	21	<20	21	60	11	-	7.7	-	0.8	-	24	-	37	14	-	-	-	-	0.19	-	<0.001	<0.0002	<0.001	0.15	0.06	0.002	0.028	-	<0.0001	0.014
SRT_BH047	SRT_BH047	18/03/2021	Normal	781353	6.7	190	97	-	<0.004	<10	1200	<20	1200	62	11	-	8.7	-	0.8	-	25	-	84	28	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.023	<0.0001	0.005
SRT_BH047	SRT_BH047	27/04/2021	Normal	791517	6.5	270	20	-	<0.004	<10	27	<20	27	77	16	-	9.3	-	0.9	-	24	-	19	11	-	-	-	-	0.05	-	<0.001	<0.0002	<0.001	0.009	-	0.001	0.15	-	<0.0001	0.008
SRT_BH047	SRT_BH047	27/05/2021	Normal	799115	7.1	250	13	-	<0.004	<10	48	<20	48	120	33	-	8.2	-	<5	-	26	-	21	11	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.009	<0.0001	<0.001
SRT_BH047	SRT_BH047	17/06/2021	Normal	803914	6.9	190	34	-	<0.004	<10	<20	<20	<20	88	18	-	10	-	0.9	-	26	-	21	12	-	-	-	-	0.04	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.021	<0.0001	0.004
SRT-BH047	SRT_BH047	12/07/2021	Normal	810513	6.8	180	29	-	<0.004	<10	<20	<20	<20	73	14	-	9.4	-	0.7	-	20	-	5000	790	-	-	-	-	0.21	-	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.02	<0.0001	0.004
SRT_BH047	SRT_BH047	11/08/2021	Normal	816445	7.3	230	170	-	<0.004	<20	29	<20	29	75	15	-	9.3	-	0.7	-	20	-	21	12	-	-	-	-	0.03	-	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.029	<0.0001	0.004
SRT_BH047	SRT_BH047	30/09/2021	Normal	829222	6.3	160	33	-	<0.004	<10	<20	<20	<20	49	6.6	-	8	-	0.6	-	21	-	18	13	-	-	-	-	<0.2	-	<0.001	<0.0002	<0.001	0.005	-	<0.001	-	0.025	<0.0001	0.004
QC01	SRT_BH047	30/09/2021	Field_D	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	-	<0.0001	0.004
SRT-BH048	SRT_BH048	6/09/2018	Normal	616629	-	-	-	-	<0.005	<10	130	-	-	-	19	-	6.2	-	2.7	-	56	-	34	47	-	-	-	-	<0.01	0.09	<0.001	<0.0002	<0.001	0.045	-	0.004	-	-	<0.0001	0.011
SRT-BH048	SRT_BH048	25/10/2018	Normal	624838	-	-	-	-	<0.005	<10	<20	-	-	-	3.7	-	1.8	-	1.6	-	39	-	34	48	-	-	-	-	<0.01	0.12	<0.001	<0.0002	<0.001	0.13	-	0.006	-	0.55	<0.0001	0.017
SRT_BH048	SRT_BH048	26/11/2018	Normal	629922	-	-	-	-	<0.005	<10	27	-	-	-	5.2	-	2.5	-	1.6	-	36	-	51	49	-	-	-	-	<0.01	0.1	<0.001	<0.0002	<0.001	0.045	-	0.005	-	-	<0.0001	0.011
SRT_BH050	SRT_BH050	16/03/2020	Normal	708508	5.6	270	210	-	0.006	<10	<20	-	-	-	17	-	3.1	-	6.1	-	13	-	10	48	-	-	-	-	0.08	7.1	0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.022	<0.0001	0.002
SRT_BH050	SRT_BH050	15/04/2020	Normal	714027	3.9	130	480	-	<0.004	<10	<20	-	-	-	18	-	2.5	-	7.2	-	17	-	52	45	-	-	-	-	0.04	0.26	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.024	<0.0001	0.001
SRT_BH050	SRT_BH050	17/06/2020	Normal	726825	4.2	140	370	-	<0.004	<10	<20	-	-	-	14	-	<5	-	5.1	-	13	-	11	44	-	-	-	-	0.02	7.2	<0.001	<0.0002	<0.001	0.011	-	<0.001	-	0.023	<0.0001	0.007
SRT_BH050	SRT_BH050	17/07/2020	Normal	732590	-	-	-	-	<0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	<0.001	<0.0002	<0.001	0.091	-	0.002	-	0.021	<0.0001	0.01
SRT_BH050	SRT_BH050	19/08/2020	Normal	738860	-	-	-	-	<0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.009	-	<0.001	-	0.025	<0.0001	0.002
SRT_BH050	SRT_BH050	18/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.11	-	0.018	-	0.026	<0.0001	0.01
SRT_BH050	SRT_BH050	22/12/2020	Normal	765715	-	140	11,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.15	-	0.003	-	0.022	<0.0001	0.012
SRT_BH050	SRT_BH050	17/02/2021	Normal	775277	5.2	-	-	-	<0.004	<10	<20	<20	<20	75	23	-	4.4	-	11	-	11	-	25	41	-	-	-	-	0.16	-	<0.001	<0.0002	<0.001	0.008	190	<0.001	0.067	-	<0.0001	0.003
SRT_BH050	SRT_BH050	18/03/2021	Normal	781353	5.2	-	-	-	<0.004	<10	250	<20	250	50	15	-	3.1	-	5.2	-	13	-	49	56	-	-	-	-	0.41	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.022	<0.0001	0.002
SRT-BH050	SRT_BH050	12/07/2021	Normal	810513	-	-	-	-	0.008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	<0.001	<0.0002	<0.001	0.004	-	<0.001	-	-	<0.0001	0.001
SRT-BH052	SRT_BH052	25/10/2018	Normal	624838	-	-	-	-	<0.005	<10	38	-	-	-	14	-	3.7	-	1	-	41	-	22	20	-	-	-	-	<0.01	10	<0.001	<0.0002	<0.001	0.063	-	0.005	-	0.036	<0.0001	0.008
SRT_BH052	SRT_BH052	26/11/2018	Normal	629922	-	-	-	-	<0.005	<10	73	-	-	-	18	-	3.7	-	1	-	40	-	41	27	-	-	-	-	<0.01	9.2	<0.001	<0.0002	<0.001	0.022	-	0.003	-	-	<0.0001	0.006
SRT_BH052	SRT_BH052	18/12/2018	Normal	634274	-	-	-	-	<0.005	<10	35	-	-	-	17	-	4.1	-	1.1	-	38	-	43	18	-	-	-	-	<0.01	10	<0.001	<0.0002	<0.001	0.018	-	0.001	-	0.02	<0.0001	0.004
SRT_BH052	SRT_BH052	17/01/2019	Normal	636542	-	-	-	-	0.02	<10	47	-	-	-	18	-	4.5	-	1	-	39	-	42	27	-	-	-	-	<0.01	9.1	<0.001	<0.0002	<0.001	0.32	-	0.019	-	0.029	<0.0001	0.013
SRT_BH052	SRT_BH052	20/02/2019	Normal	641720	-	-	-	-	<0.005	61	130	-	-	-	14	-	3.6	-	1.6	-	60	-	42	28	-	-	-	-	<0.01	6.2	<0.001	<0.0002	<0.001	0.006	-	<0.001	-	0.006	<0.0001	<0.001
SRT_BH052	SRT_BH052	16/04/2019	Normal	651825	-	-	-	-	<0.005	90	140	-	-	-	3	-	1.5	-	1.7	-	130	-	45	21	-	-	-	-	<0.01	5.2	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.005	<0.0001	<0.001
SRT_BH052	SRT_BH052	14/05/2019	Normal	656080	7.7	230	110	-	<0.005	<10	90	-	-	-	23	-	5.2	-	1.5	-	47	-	56	26	-	-	-	-	<0.01	8.3	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH052	SRT_BH052	7/06/2019	Normal	660130	8.1	250	550	-	<0.005	<10	140	-	-	-	37	-	6.9	-	1.3	-	48	-	39	29	-	-	-	-	<0.01	6.4	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT-BH052	SRT_BH052	31/07/2019	Normal	669059	7.6	270	100	-	0.006	<10	110	-	-	-	30	-	6.3	-	1.6	-	47	-	42	29	-	-	-	-	<0.01	6.9	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	<0.005	<0.0001	0.001
SRT_BH052	SRT_BH052	30/08/2019	Normal	674722	7.8	330	160	-	<0.005	<10	110	-	-	-	36	-	6.8	-	1.8	-	45	-	38	30	-	-	-	-	<0.01	6.7	<0.001	<0.0002	0.002	0.003	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH052	SRT_BH052	27/09/2019	Normal	679636	7.8	250	58	-	<0.005	<10	140	-	-	-	26	-	5.7	-	1.2	-	41	-	38	33	-	-	-	-	<0.01	6.8	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH052	SRT_BH052	18/10/2019	Normal	683453	7.6	280	65	-	<0.005	<10	78	-	-	-	37	-	3	-	1.3	-	40	-	39	26	-	-	-	-	<0.01	5.9	0.002	<0.0002	<0.001	0.002	-	<0.001	-	<0.005	<0.0001	0.002
SRT_BH052	SRT_BH052	15/11/2019	Normal	688512	7.6	240	64	-	<0.005	<10	78	-	-	-	23	-	4.5	-	1.5	-	43	-	49	31	-	-	-	-	<0.01	6.9	<0.001	<0.0002	<0.001	0.018	-	0.002	-	<0.005	<0.0001	0.006
SRT_BH052	SRT_BH052	18/12/2019	Normal	694466	8.3	280	85	-	<0.004	<10	140	-	-	-	30	-	4.8	-	1.7	-	27	-	83	36	-	-	-	-	0.01	4.4	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH052	SRT_BH052	20/01/2020	Normal	698379	6.9	270	54	-	<0.004	<10	81	-	-	-	49	-	5.1	-	1.5	-	37	-	78	35	-	-	-	-	0.02	5.6	0.003	<0.0002	<0.001	0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH052	SRT_BH052	26/02/2020	Normal	704673	7.5	170	110	-	<0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	0.004	-	<0.001	-	0.014	<0.0001	<0.001
SRT_BH052	SRT_BH052	26/02/2020	Normal	706746	-	-	-	-	-	<10	28	-	-	-	9.3	-	<5	-	<5	-	37	-	96	17	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	16/03/2020	Normal	708508	6.2	100	210	-	0.005	<10	28	-	-	-	8.7	-	4.1	-	2	-	38	-	35	15	-	-	-	-	0.07	11	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	0.012	<0.0001	0.002
SRT_BH052	SRT_BH052	15/04/2020	Normal	714027	7.8	210	120	-	<0.004	<10	61	-	-	-	13	-	3.3	-	0.9	-	49	-	52	15	-	-	-	-	0.03	<0.1	<0.001	<0.0002	<0.001	0.012	-	<0.001	-	0.008	<0.0001	0.003
SRT_BH052	SRT_BH052	18/05/2020	Normal	720682	6.5	260	210	-	<0.004	<10	75	-	-	-	29	-	<5	-	<5	-	50	-	40	30	-	-	-	-	<0.01	8.4	<0.01	<0.002	<0.01	<0.01	-	<0.01	-	0.14	<0.001	<0.01
SRT_BH052	SRT_BH052	17/06/2020	Normal	726825	7.8	220	2000	-	<0.004	<10	260	-	-	-	25	-	5.7	-	<5	-	45	-	41	29	-	-	-	-	<0.01	8.7	<0.001	<0.0002	<0.001	0.017	-	0.001	-	0.008	<0.0001	0.015
SRT_BH052	SRT_BH052	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/07/2020	Normal	732590	6.7	270	110	-	<0.004	<10	74	<20	74	-	19	-	4.9	-	2.3	-	50	-	45	34	-	-	-	-	0.16	-	<0.001	<0.0002	0.001	0.002	-	<0.001	-	<0.005	<0.0001	<0.001

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	Inorganics			Cyanide		Acidity & Alkalinity					Major Ions														Nutrients		Metals									
	pH (Lab)	Total Dissolved Solids	Total Suspended Solids	Cyanide (Free)	Cyanide (Total)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)	Hardness as CaCO3	Calcium	Calcium (Filtered)	Magnesium	Magnesium (Filtered)	Potassium	Potassium (Filtered)	Sodium	Sodium (Filtered)	Chloride	Sulfate	Sulfate (Filtered)	Cations Total	Anions Total	Ionic Balance	Ammonia as N	Nitrate (as N)	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Iron	Lead (Filtered)	Manganese	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)
	pH units	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	mg/L	mg/L	mg/L
EQL	0.01	5	1	0.004	0.004	1	1	1	1	1	0.5	1	0.5	1	0.5	1	0.5	1	1	2	1	0.01	0.01	0.01	0.01	0.02	0.001	0.0001	0.001	0.001	0.05	0.001	0.005	0.001	0.0001	0.001
ADWG 2011 Recreational (v3.6 updated 2021)					0.8															5000	5000					112.9	0.1	0.02		20		0.1	5	5	0.01	0.2
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)					0.004																				0.91			0.0055	0.0044	0.0013		0.0044			0.0004	0.07
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																				
2-4m																																				
4-8m																																				
>8m																																				

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_Number																																
SRT_BH052	SRT_BH052	19/08/2020	Normal	738860	6.4	200	99	-	<0.004	<10	37	-	-	-	9.7	-	<5	-	<5	-	32	-	38	18	-	-	-	-	<0.01	10	<0.001	<0.0002	<0.001	0.12	-	0.002	-	0.012	<0.0001	0.011
SRT_BH052	SRT_BH052	15/09/2020	Normal	744463	7.6	270	1100	-	<0.004	<10	86	<20	86	74	24	-	<5	-	<5	-	44	-	45	35	-	-	-	-	0.01	-	<0.001	<0.0002	<0.001	0.007	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH052	SRT_BH052	26/10/2020	Normal	753369	6.9	190	310	-	<0.004	<10	71	<20	71	90	26	-	6	-	3.2	-	56	-	69	56	-	-	-	-	0.04	-	<0.001	<0.0002	<0.001	0.069	-	0.002	-	0.005	<0.0001	0.01
SRT_BH052	SRT_BH052	18/11/2020	Normal	758435	6.7	210	260	-	<0.004	<10	56	-	-	65	18	-	5.1	-	<5	-	48	-	80	30	-	-	-	-	<0.01	8	0.001	<0.0002	<0.001	0.005	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH052	SRT_BH052	22/12/2020	Normal	765715	6.9	250	89	-	<0.004	<10	75	-	-	-	21	-	4.8	-	2.1	-	49	-	50	34	-	-	-	-	<0.01	7	<0.001	<0.0002	<0.001	<0.001	-	<0.001	0.052	-	<0.0001	<0.001
SRT_BH052	SRT_BH052	29/01/2021	Normal	770782	7.6	250	830	-	<0.004	<10	110	<20	110	81	24	-	<5	-	<5	-	50	-	46	55	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH052	SRT_BH052	17/02/2021	Normal	775277	6.3	130	150	-	<0.004	<10	37	<20	37	35	7.9	-	3.7	-	1.8	-	39	-	49	26	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	0.016	1.6	<0.001	0.051	-	<0.0001	0.002
SRT_BH052	SRT_BH052	18/03/2021	Normal	781353	7.1	180	370	-	<0.004	<10	1400	<20	1400	52	13	-	4.5	-	1.4	-	43	-	42	33	-	-	-	-	0.12	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH052	SRT_BH052	27/04/2021	Normal	791517	6.7	230	730	-	<0.004	<10	93	<20	93	140	45	-	7.3	-	2.5	-	44	-	39	24	-	-	-	-	0.11	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	0.43	-	<0.0001	<0.001
SRT_BH052	SRT_BH052	27/05/2021	Normal	799115	7	230	52	-	<0.004	<10	47	<20	47	31	12	-	<5	-	<5	-	49	-	45	34	-	-	-	-	0.15	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH052	SRT_BH052	17/06/2021	Normal	803914	7.1	230	110	-	<0.004	<10	47	<20	47	62	16	-	5.3	-	1.6	-	47	-	48	39	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT-BH052	SRT_BH052	12/07/2021	Normal	810513	7.5	300	130	-	<0.004	<10	53	<20	53	62	17	-	5	-	1.7	-	46	-	47	36	-	-	-	-	0.03	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH052	SRT_BH052	11/08/2021	Normal	816445	7.4	560	650	-	<0.004	<20	84	<20	84	58	17	-	4.2	-	1.6	-	50	-	48	36	-	-	-	-	0.26	-	<0.001	<0.0002	<0.001	0.006	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH052	SRT_BH052	30/09/2021	Normal	829222	6.8	230	25	-	<0.004	<10	57	<20	57	48	13	-	3.6	-	1.5	-	47	-	47	40	-	-	-	-	0.3	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT-BH053	SRT_BH053	6/09/2018	Normal	616629	-	-	-	-	<0.005	<10	72	-	-	-	6.3	-	6.1	-	2.6	-	37	-	32	28	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	0.23	-	0.014	-	-	<0.0001	0.029
SRT-BH053	SRT_BH053	25/10/2018	Normal	624838	-	-	-	-	<0.005	<10	52	-	-	-	5.1	-	4.9	-	2.5	-	33	-	26	27	-	-	-	-	<0.01	0.39	<0.001	<0.0002	<0.001	0.004	-	<0.001	-	1	<0.0001	0.046
SRT-BH059	SRT_BH059	25/10/2018	Normal	624838	-	-	-	-	<0.005	<10	180	-	-	-	63	-	7.9	-	6.6	-	12	-	13	17	-	-	-	-	<0.01	3.5	<0.001	<0.0002	0.001	0.018	-	0.002	-	<0.005	<0.0001	0.004
SRT_BH059	SRT_BH059	26/11/2018	Normal	629922	-	-	-	-	<0.005	<10	210	-	-	-	58	-	7.4	-	5.5	-	9	-	34	13	-	-	-	-	<0.01	2.3	<0.001	<0.0002	0.001	0.042	-	0.003	-	-	<0.0001	0.008
SRT_BH059	SRT_BH059	17/12/2018	Normal	634274	-	-	-	-	<0.005	<10	170	-	-	-	70	-	5.7	-	7.6	-	11	-	10	24	-	-	-	-	<0.01	7.9	<0.001	<0.0002	<0.001	0.056	-	0.003	-	<0.005	<0.0001	0.007
SRT_BH059	SRT_BH059	18/01/2019	Normal	636542	-	-	-	-	0.017	<10	170	-	-	-	64	-	6.1	-	5.9	-	9.5	-	8.1	13	-	-	-	-	<0.01	2.8	<0.001	<0.0002	<0.001	0.04	-	0.002	-	<0.005	<0.0001	0.007
SRT_BH059	SRT_BH059	20/02/2019	Normal	641720	-	-	-	-	<0.005	<10	170	-	-	-	69	-	7.7	-	6.7	-	14	-	11	12	-	-	-	-	<0.01	2.5	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH059	SRT_BH059	17/04/2019	Normal	651825	-	-	-	-	<0.005	<10	200	-	-	-	49	-	6	-	5.8	-	8.2	-	9.7	15	-	-	-	-	<0.01	2.5	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH059	SRT_BH059	15/05/2019	Normal	656080	8.1	270	21	-	<0.005	<10	210	-	-	-	65	-	6.9	-	7.1	-	11	-	22	27	-	-	-	-	<0.01	3.2	<0.001	<0.0002	<0.001	0.006	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH059	SRT_BH059	7/06/2019	Normal	660130	7.7	230	8.9	-	<0.005	<10	210	-	-	-	72	-	7.4	-	9	-	13	-	18	18	-	-	-	-	<0.01	5.2	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT-BH059	SRT_BH059	31/07/2019	Normal	669059	7.8	270	8.3	-	<0.005	<10	200	-	-	-	62	-	9.4	-	6.6	-	13	-	26	17	-	-	-	-	<0.01	3.1	<0.001	<0.0002	0.001	<0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH059	SRT_BH059	30/08/2019	Normal	674722	7.9	290	13	-	<0.005	<10	170	-	-	-	60	-	6.4	-	6.7	-	11	-	8	15	-	-	-	-	<0.01	3.5	<0.001	<0.0002	0.001	0.028	-	0.001	-	<0.005	<0.0001	0.012
SRT_BH059	SRT_BH059	27/09/2019	Normal	679636	8	200	120	-	<0.005	<10	190	-	-	-	60	-	6.6	-	5.7	-	11	-	10	13	-	-	-	-	<0.01	3.2	<0.001	<0.0002	<0.001	0.007	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH059	SRT_BH059	18/10/2019	Normal	683453	8.1	250	4.9	-	<0.005	<10	170	-	-	-	59	-	6	-	5.9	-	10	-	22	11	-	-	-	-	<0.01	2.4	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH059	SRT_BH059	15/11/2019	Normal	688512	8	270	3.6	-	<0.005	<10	180	-	-	-	61	-	8.2	-	6.1	-	11	-	43	14	-	-	-	-	<0.01	2.1	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH059	SRT_BH059	18/12/2019	Normal	694466	7.9	260	15	-	<0.004	<10	210	-	-	-	56	-	8	-	6.6	-	15	-	12	13	-	-	-	-	0.02	1.9	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH059	SRT_BH059	20/01/2020	Normal	698379	6.4	220	7.5	-	<0.004	<10	180	-	-	-	63	-	6.3	-	7.6	-	7.8	-	59	20	-	-	-	-	<0.01	6.1	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH059	SRT_BH059	26/02/2020	Normal	704673	8.2	170	1.8	-	<0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	<0.001	<0.0002	<0.001	0.027	-	<0.001	-	<0.005	<0.0001	0.005
SRT_BH059	SRT_BH059	26/02/2020	Normal	706746	-	-	-	-	-	<10	170	-	-	-	57	-	5.4	-	7.4	-	10	-	22	27	-	-	-	-	-	4.4	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	16/03/2020	Normal	708508	7	180	20	-	0.005	<10	150	-	-	-	52	-	5.2	-	7.3	-	9.7	-	9.5	12	-	-	-	-	0.02	2.3	0.001	<0.0002	<0.001	0.009	-	<0.001	-	<0.005	<0.0001	0.006
SRT_BH059	SRT_BH059	15/04/2020	Normal	714027	6.7	210	31	-	<0.004	<10	180	-	-	-	69	-	6.5	-	8.5	-	12	-	57	5.9	-	-	-	-	0.05	1.4	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH059	SRT_BH059	18/05/2020	Normal	720682	7.2	140	34	-	<0.004	<10	320	-	-	-	59	-	9.8	-	7.3	-	15	-	7	14	-	-	-	-	<0.01	1.9	<0.01	<0.002	<0.01	0.012	-	<0.01	-	0.54	<0.001	<0.01
SRT_BH059	SRT_BH059	17/06/2020	Normal	726825	7.6	270	210	-	0.004	<10	290	-	-	-	55	-	9.4	-	7	-	16	-	8.7	16	-	-	-	-	<0.01	1.8	<0.001	<0.0002	0.001	0.014	-	<0.001	-	<0.005	<0.0001	0.006
SRT_BH059	SRT_BH059	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	17/07/2020	Normal	732590	7.3	330	41	-	<0.004	-	-	-	-	-	57	-	10	-	7.5	-	19	-	11	23	-	-	-	-	<0.01	-	<0.001	<0.0002	0.002	0.007	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH059	SRT_BH059	18/08/2020	Normal	738860	7.3	240	350	-	<0.004	<10	210	-	-	-	44	-	8.1	-	5.6	-	13	-	9.2	22	-	-	-	-	<0.01	1.4	<0.001	<0.0002	0.002	0.01	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH059	SRT_BH059	15/09/2020	Normal	744463	7.8	250	970	-	<0.004	<10	180	<20	180	160	50	-	8.7	-	5.7	-	17	-	7.5	21	-	-	-	-	0.01	-	<0.001	<0.0002	<0.001	0.13	-	0.002	-	0.008	<0.0001	0.011
SRT_BH059	SRT_BH059	26/10/2020	Normal	753369	7.6	230	690	-	<0.004	<10	200	<20	200	390	120	-	20	-	7.9	-	19	-	14	44	-	-	-	-	0.04	-	<0.001	<0.0002	0.002	0.009	-	<0.001	-	<0.005	<0.0001	<0.001
SRT_BH059	SRT_BH059	18/11/2020	Normal	758435	7.9	240	220	-	<0.004	<10	150	-	-	160	51	-	8	-	6.7	-	18	-	44	27	-	-	-	-	<0.01	1.8	0.001	<0.0002	0.002	0.014	-	<0.001	-	<0.005	<0.0001	0.006
SRT_BH060	SRT_BH060	16/03/2020	Normal	708508	7.4	270	370	-	0.007	<10	32	-	-	-	41	-	2.7	-	5.9	-	12	-	31	30	-	-	-	-	0.05	4.1	0.001	<0.0002	<0.001	0.024	-	<0.001	-	0.01	<0.0001	0.008
SRT_BH060	SRT_BH060	15/04/2020	Normal	714027	8	280	34,000	-	<0.004	-	-	-	-	-	38	-	2.3	-	9.6	-	18	-	73	39	-	-	-	-	0.04	7	<0.001	<0.0002	<0.001	0.008	-	<0.001	-	0.009	<0.0001	0.006
SRT-BH063	SRT_BH063	6/09/2018	Normal	616629	-	-	-	-	<0.005	<10	330	-	-	-	66	-	38	-	5.8	-	82	-	72	45	-	-	-	-	<0.01	0.15	<0.001	<0.0002	<0.001	0.014	-	<0.001	-	-	<0.0001	0.02
SRT-BH063	SRT_BH063	25/10/2018	Normal	624838	-	-	-	-	<0.005	<10	270	-	-	-	50	-	30	-	5.5	-	68	-	53	53	-	-	-	-	<0.01	0.09	<0.001	<0.0002	<0.001	0.12	-	0.005	-	0.049	<0.0001	0.083
SRT_BH063	SRT_BH063	26/11/2018	Normal	629922	-	-	-	-	<0.005	<10	320	-	-	-	48	-	31	-	5	-	63	-	68	52	-	-	-	-	<0.01	0.1	<0.001	<0.0002	<0.001	0.027	-	0.003	-	-	<0.0001	0.014
QA02	SRT_BH063	27/11/2018	Interlab_D	ES1835581	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	0.002	-	<0.001	-	-	<0.0001	0.008
SRT_BH063	SRT_BH063	17/12/2018	Normal	634274	-	-	-	-	<0.005	<10	290	-	-	-	58	-	33	-	6.4	-	75	-	76	56	-	-	-	-	<0.01	0.24	<0.001	<0.0002	<0.001	0.003	-	0.005	-	<0.005	<0.0001	0.005
QA01	SRT_BH063	17/12/2018	Field_D	634274	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.002	-	0.003	-	-	<0.0001	0.004
SRT_BH063	SRT_BH063	17/01/2019	Normal	636542	-	-	-	-	0.018	<10	290	-	-	-	57	-	32	-	5.4	-	70	-	68	52	-	-	-	-	<0.01	0.13	<0.001	<0.0002	<0.001	0.047	-	0.003	-	0.011	<0.0001	0.013
QA01	SRT_BH063	17/01/2019	Field_D	636542	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.004	-	<0.001	-	-	<0.0001	0.004
SRT_BH063	SRT_BH063	21/02/2019	Normal	641720	-	-	-	-	<0.005	<10	250	-	-	-	51	-	33	-	5.8	-	73	-	71	61	-	-	-	-	<0.01	0.13	<0.001	<0.0002	<0.001	0.029	-	0.002	-	0.009	<0.0001	0.01
QA02	SRT_BH063	21/02/2019	Interlab_D	ES1905610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001	<0.0001	0.001	0.004	-	<0.001	-	-	<0.0001	0.007
SRT_BH063	SRT_BH063	18/04/2019	Normal	651825	-	-	-	-	<0.005	<10	310	-	-	-	54	-	36	-	6.1	-	70	-	74	58	-	-	-	-	<0.01	0.1	<0.001	<0.0002	<0.001	0.055	-	0.003	-	0.006	<0.0001	0.018
SRT_BH063	SRT_BH063	15/05/2019	Normal	656080	8.2	460	20	-	<0.005	<10	340	-	-	-	50	-	33	-	5.7	-	62	-	89	49	-	-	-	-	<0.01	<0.02	<0.001	<0.0002	<0.001	0.005	-	<0.001	-	<0.005	<0.0001	0.005

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	Inorganics			Cyanide		Acidity & Alkalinity					Major Ions														Nutrients		Metals									
	pH (Lab)	Total Dissolved Solids	Total Suspended Solids	Cyanide (Free)	Cyanide (Total)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)	Hardness as CaCO3	Calcium	Calcium (Filtered)	Magnesium	Magnesium (Filtered)	Potassium	Potassium (Filtered)	Sodium	Sodium (Filtered)	Chloride	Sulfate	Sulfate (Filtered)	Cations Total	Anions Total	Ionic Balance	Ammonia as N	Nitrate (as N)	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Iron	Lead (Filtered)	Manganese	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)
	pH units	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	mg/L	mg/L	mg/L
EQL	0.01	5	1	0.004	0.004	1	1	1	1	1	0.5	1	0.5	1	0.5	1	0.5	1	1	2	1	0.01	0.01	0.01	0.01	0.02	0.001	0.0001	0.001	0.001	0.05	0.001	0.005	0.001	0.0001	0.001
ADWG 2011 Recreational (v3.6 updated 2021)					0.8															5000	5000					112.9	0.1	0.02		20		0.1	5	5	0.01	0.2
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)					0.004																				0.91			0.0055	0.0044	0.0013		0.0044			0.0004	0.07
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																				
2-4m																																				
4-8m																																				
>8m																																				

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_Number																																	
SRT_BH063	SRT_BH063	7/06/2019	Normal	660130	7.4	360	41	-	<0.005	<10	310	-	-	-	55	-	30	-	6.8	-	71	-	77	48	-	-	-	-	<0.01	0.4	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	<0.005	<0.0001	0.006
SRT-BH063	SRT_BH063	29/07/2019	Normal	669059	7	460	33	-	<0.005	<10	300	-	-	-	54	-	35	-	5.7	-	68	-	66	51	-	-	-	-	<0.01	0.07	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	<0.005	<0.0001	0.009
SRT_BH063	SRT_BH063	28/08/2019	Normal	674722	7.8	470	56	-	<0.005	<10	310	-	-	-	55	-	35	-	5.8	-	68	-	66	50	-	-	-	-	<0.01	0.34	<0.001	<0.0002	<0.001	0.01	-	<0.001	-	0.017	<0.0001	0.007
SRT-BH064	SRT_BH064	6/09/2018	Normal	616629	-	-	-	-	0.028	34	46	-	-	-	5.7	-	0.7	-	18	-	63	-	23	58	-	-	-	-	<0.01	2.3	0.005	<0.0002	<0.001	0.024	-	0.002	-	-	<0.0001	0.006
SRT-BH082	SRT_BH082	25/10/2018	Normal	624838	-	-	-	-	<0.005	<10	<20	-	-	-	2.9	-	4	-	1.3	-	27	-	16	36	-	-	-	-	<0.01	0.34	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	0.054	<0.0001	0.001
QA01	SRT_BH082	25/10/2018	Field_D	624838	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.001
SRT_BH082	SRT_BH082	26/11/2018	Normal	629922	-	-	-	-	<0.005	<10	<20	-	-	-	2.3	-	3.6	-	1.1	-	25	-	38	31	-	-	-	-	<0.01	0.36	<0.001	<0.0002	<0.001	0.007	-	0.002	-	-	<0.0001	0.002
QA01	SRT_BH082	26/11/2018	Field_D	629922	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.073	-	0.013	-	-	<0.0001	0.01
SRT-CBH001	SRT_CBH001	6/09/2018	Normal	616629	-	-	-	-	<0.005	<10	22	-	-	-	8.7	-	6.8	-	1.8	-	24	-	17	34	-	-	-	-	<0.01	9.2	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	-	<0.0001	0.004
QA01	SRT_CBH001	6/09/2018	Field_D	616629	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.041	-	0.003	-	-	<0.0001	0.012
SRT-CBH001	SRT_CBH001	25/10/2018	Normal	624838	-	-	-	-	<0.005	<10	<20	-	-	-	5.9	-	4.4	-	1.6	-	24	-	17	32	-	-	-	-	<0.01	7.1	<0.001	<0.0002	<0.001	0.13	-	0.004	-	0.62	<0.0001	0.014
SRT_CBH001	SRT_CBH001	26/11/2018	Normal	629922	-	-	-	-	<0.005	<10	<20	-	-	-	6.6	-	4.9	-	1.6	-	21	-	35	32	-	-	-	-	<0.01	7.8	<0.001	<0.0002	<0.001	0.042	-	0.003	-	-	<0.0001	0.012
SRT-CBH007	SRT_CBH007	6/09/2018	Normal	616629	-	-	-	-	0.012	<10	<20	-	-	-	1.4	-	3	-	1.7	-	25	-	9.7	46	-	-	-	-	<0.01	1.9	<0.001	<0.0002	<0.001	0.36	-	0.023	-	-	<0.0001	0.02
SRT-CBH015	SRT_CBH015	7/09/2018	Normal	616629	-	-	-	-	<0.005	<10	32	-	-	-	4	-	5.7	-	3.8	-	27	-	11	79	-	-	-	-	<0.01	4.3	<0.001	<0.0002	<0.001	0.038	-	0.004	-	-	<0.0001	0.013
SRT-CBH015	SRT_CBH015	25/10/2018	Normal	624838	-	-	-	-	<0.005	<10	49	-	-	-	3.1	-	4.8	-	3.2	-	35	-	9.8	49	-	-	-	-	<0.01	2.7	<0.001	<0.0002	<0.001	0.034	-	0.004	-	5.2	<0.0001	0.016
SRT_CBH015	SRT_CBH015	26/11/2018	Normal	629922	-	-	-	-	<0.005	<10	30	-	-	-	2.9	-	5.3	-	3.8	-	24	-	11	45	-	-	-	-	<0.01	3.5	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.009
SRT_CBH015	SRT_CBH015	17/12/2018	Normal	634274	-	-	-	-	<0.005	<10	33	-	-	-	3.4	-	5	-	3.6	-	28	-	12	52	-	-	-	-	<0.01	3.7	<0.001	<0.0002	<0.001	0.019	-	0.002	-	5.4	<0.0001	0.011
QA02	SRT_CBH015	17/12/2018	Interlab_D	ES1838345	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	0.0001	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.01
SRT_CBH015	SRT_CBH015	18/01/2019	Normal	636542	-	-	-	-	0.019	<10	30	-	-	-	3.2	-	5.4	-	3.4	-	24	-	12	47	-	-	-	-	<0.01	3.1	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	6	<0.0001	0.009
QA02	SRT_CBH015	18/01/2019	Interlab_D	ES1901871	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	0.0002	<0.001	0.037	-	0.004	-	-	<0.0001	0.012
SRT_CBH015	SRT_CBH015	20/02/2019	Normal	641720	-	-	-	-	<0.005	<10	30	-	-	-	2.5	-	4.4	-	3.1	-	23	-	13	49	-	-	-	-	<0.01	3	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	6.6	<0.0001	0.01
SRT_CBH015	SRT_CBH015	17/04/2019	Normal	651825	-	-	-	-	<0.005	<10	39	-	-	-	4	-	5.8	-	3.9	-	30	-	16	52	-	-	-	-	<0.01	3.5	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	5.8	<0.0001	0.01
SRT_CBH015	SRT_CBH015	15/05/2019	Normal	656080	6.5	140	1.7	-	<0.005	<10	34	-	-	-	2.7	-	5.3	-	3.5	-	29	-	13	48	-	-	-	-	0.03	3	<0.001	<0.0002	<0.001	0.007	-	<0.001	-	5.1	<0.0001	0.009
SRT_CBH015	SRT_CBH015	7/06/2019	Normal	660130	6.1	96	1.6	-	<0.005	<10	26	-	-	-	2.2	-	4.8	-	3.3	-	27	-	29	47	-	-	-	-	0.03	3.3	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	7.5	<0.0001	0.01
SRT-CBH015	SRT_CBH015	31/07/2019	Normal	669059	6	130	5.1	-	<0.005	<10	22	-	-	-	2.6	-	5.7	-	3.8	-	22	-	37	42	-	-	-	-	<0.01	3.2	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	6.1	<0.0001	0.009
QC02	SRT_CBH015	31/07/2019	Field_D	669059	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	-	<0.0001	0.009
SRT_CBH015	SRT_CBH015	30/08/2019	Normal	674722	6.3	180	10	-	<0.005	<10	25	-	-	-	2.7	-	5.7	-	4	-	23	-	9.5	49	-	-	-	-	<0.01	2.3	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	6.5	<0.0001	0.009
QC02	SRT_CBH015	30/08/2019	Field_D	674722	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	-	<0.0001	0.009
SRT_CBH015	SRT_CBH015	27/09/2019	Normal	679636	6.3	120	5.1	-	<0.005	<10	28	-	-	-	2.7	-	5.1	-	3.2	-	24	-	10	47	-	-	-	-	<0.01	2.7	<0.001	<0.0002	<0.001	0.005	-	<0.001	-	6.8	<0.0001	0.01
SRT_CBH015	SRT_CBH015	18/10/2019	Normal	683453	6.3	150	10	-	<0.005	<10	23	-	-	-	2.8	-	5.3	-	3.5	-	19	-	15	39	-	-	-	-	<0.01	3	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	6.8	<0.0001	0.012
SRT_CBH015	SRT_CBH015	15/11/2019	Normal	688512	6.3	140	2.9	-	<0.005	<10	22	-	-	-	3.1	-	5.6	-	3.5	-	19	-	64	41	-	-	-	-	0.02	2.8	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	6.3	<0.0001	0.01
SRT_CBH015	SRT_CBH015	18/12/2019	Normal	694466	6.1	120	39	-	<0.004	<10	25	-	-	-	3	-	5.3	-	3.4	-	18	-	14	45	-	-	-	-	0.06	2.4	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	5.5	<0.0001	0.011
SRT-CBH017	SRT_CBH017	7/09/2018	Normal	616629	-	-	-	-	<0.005	<10	78	-	-	-	16	-	8.1	-	3.5	-	19	-	9.7	21	-	-	-	-	<0.01	0.2	<0.001	<0.0002	<0.001	0.038	-	0.004	-	-	<0.0001	0.006
SRT-CBH017	SRT_CBH017	25/10/2018	Normal	624838	-	-	-	-	<0.005	<10	65	-	-	-	13	-	6	-	2.9	-	14	-	8.8	19	-	-	-	-	<0.01	0.62	<0.001	<0.0002	<0.001	0.081	-	0.004	-	0.85	<0.0001	0.01
SRT_CBH017	SRT_CBH017	26/11/2018	Normal	629922	-	-	-	-	<0.005	<10	84	-	-	-	15	-	6.7	-	2.7	-	13	-	16	18	-	-	-	-	<0.01	0.38	<0.001	<0.0002	<0.001	0.12	-	0.006	-	-	<0.0001	0.016
SRT_CBH017	SRT_CBH017	17/12/2018	Normal	634274	-	-	-	-	<0.005	<10	42	-	-	-	19	-	9	-	3.2	-	17	-	11	17	-	-	-	-	<0.01	2.5	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	1.8	<0.0001	0.008
SRT_CBH017	SRT_CBH017	18/01/2019	Normal	636542	-	-	-	-	0.017	<10	44	-	-	-	13	-	6.7	-	2.7	-	12	-	7.9	12	-	-	-	-	<0.01	1.9	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	1.8	<0.0001	0.005
SRT_CBH017	SRT_CBH017	20/02/2019	Normal	641720	-	-	-	-	<0.005	<10	32	-	-	-	8.7	-	5	-	2.7	-	9.6	-	15	16	-	-	-	-	<0.01	3.1	<0.001	<0.0002	<0.001	0.032	-	0.002	-	1	<0.0001	0.01
QA01	SRT_CBH017	20/02/2019	Field_D	641720	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	0.002	<0.001	-	<0.001	-	-	<0.0001	0.01
SRT_CBH017	SRT_CBH017	17/04/2019	Normal	651825	-	-	-	-	<0.005	<10	44	-	-	-	9.6	-	4.9	-	3.2	-	9.2	-	8.8	15	-	-	-	-	<0.01	3.1	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.65	<0.0001	0.004
SRT_CBH017	SRT_CBH017	15/05/2019	Normal	656080	6.7	88	16	-	<0.005	<10	30	-	-	-	10	-	6.8	-	3	-	11	-	19	17	-	-	-	-	<0.01	4.4	<0.001	<0.0002	<0.001	0.003	-	<0.001	-	0.7	<0.0001	0.004
SRT_CBH017	SRT_CBH017	7/06/2019	Normal	660130	6.8	81	8.8	-	<0.005	<10	52	-	-	-	7.1	-	6.5	-	3.1	-	15	-	12	19	-	-	-	-	0.03	1.9	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	5.1	<0.0001	0.006
SRT-CBH017	SRT_CBH017	31/07/2019	Normal	669059	6.8	130	79	-	<0.005	<10	59	-	-	-	11	-	9.8	-	3.4	-	20	-	50	23	-	-	-	-	<0.01	0.48	<0.001	<0.0002	<0.001	0.002	-	<0.001	-	2.1	<0.0001	0.005
SRT_CBH017	SRT_CBH017	30/08/2019	Normal	674722	7	180	3.8	-	<0.005	<10	67	-	-	-	12	-	9.6	-	3.4	-	19	-	13	26	-	-	-	-	<0.01	0.32	<0.001	<0.0002	<0.001	0.005	-	<0.001	-	0.38	<0.0001	0.004
SRT_CBH017	SRT_CBH017	27/09/2019	Normal	679636	7.1	120	2	-	<0.005	<10	66	-	-	-	12	-	9.6	-	3.1	-	20	-	16	30	-	-	-	-	<0.01	0.38	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	0.45	<0.0001	0.002
QC02	SRT_CBH017	27/09/2019	Field_D	679636	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.001	-	<0.001	-	-	<0.0001	0.002
SRT_CBH017	SRT_CBH017	18/10/2019	Normal	683453	7.1	150	2.3	-	<0.005	<10	63	-	-	-	11	-	9.1	-	3.2	-	21	-	15	32	-	-	-	-	<0.01	0.33	<0.001	<0.0002	<0.001	0.017	-	0.001	-	0.6	<0.0001	0.016
SRT_CBH017	SRT_CBH017	15/11/2019	Normal	688512	7.2	150	5.1	-	<0.005	<10	77	-	-	-	14	-	11	-	3.6	-	24	-	50	30	-	-	-	-	<0.01	0.19	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	1.3	<0.0001	0.005
SRT_CBH017	SRT_CBH017	18/12/2019	Normal	694466	7	150	9.6	-	<0.004	<10	78	-	-	-	13	-	10	-	3.5	-	21	-	13	31	-	-	-	-	0.02	0.31	<0.001	<0.0002	<0.001	<0.001	-	<0.001	-	2.3	<0.0001	0.006
SRT_CBH017	SRT_CBH017	20/01/2020	Normal	698379	6.2	200	49	-	<0.004	<10	110	-	-	-	12	-	10	-	2.8	-	20	-	85	34	-	-	-	-	0.01	0.03	<0.001	<0.0002	<0.001	0.014	-	<0.001	-	3.6	<0.0001	0.011

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

		Iron speciation	BTEXN							TRH - NEPM 2013							I - NEPM 2013 - SG Clea				TRH - NEPM 1999					H - NEPM 1999 - SG Clea								
	Zinc (Filtered)	Ferrous Iron	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX (Sum of Total) - Lab Calc	Naphthalene (BTEXN suite)	F1 (C6-C10 minus BTEX)	C6-C10 Fraction	F2 (>C10-C16 minus Naphthalene)	>C10-C16 Fraction	F3 (>C16-C34 Fraction)	F4 (>C34-C40 Fraction)	>C10-C40 (Sum of Total)	>C10-C16 SG Cleanup	>C16-C34 SG Cleanup	>C34-C40 SG Cleanup	>C10-C40 (sum) SG Cleanup	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 (Sum of Total)	C10-C14 SG Cleanup	C15-C28 SG Cleanup	C29-C36 SG Cleanup	C10-C36 (sum) SG Cleanup	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene
	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.005	0.05	1	1	1	1	2	2	1	5	20	20	50	50	100	100	100	50	100	100	100	20	50	100	50	50	50	100	100	100	0.01	0.01	0.01	0.01	0.01
ADWG 2011 Recreational (v3.6 updated 2021)			10	8000	3000			6000																										0.1
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)	0.008		700	180	80					70																								0.2
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																		
2-4m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
4-8m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
>8m			**5000**	**NL**	**NL**			**NL**		**NL**	**7000**		**NL**																					
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																														
CSM_BH02	CSM_BH02	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	16/04/2019	Normal	651825	0.006	1.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
CSM_BH02	CSM_BH02	14/05/2019	Normal	656080	0.01	1.4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH02	CSM_BH02	6/06/2019	Normal	660130	0.016	0.9	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	60	60	200	100	360	<50	<100	<100	-	<20	60	200	200	460	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH02	CSM_BH02	30/07/2019	Normal	669059	0.007	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH02	CSM_BH02	29/08/2019	Normal	674722	0.007	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH02	CSM_BH02	26/09/2019	Normal	679636	0.011	1.2	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH02	CSM_BH02	17/10/2019	Normal	683453	0.048	1.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH02	CSM_BH02	13/11/2019	Normal	688512	0.01	1.8	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH02	CSM_BH02	17/12/2019	Normal	694466	0.012	0.68	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	21/01/2020	Normal	698379	0.01	1.3	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	25/02/2020	Normal	704673	0.008	0.1	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	260	260	300	<100	560	<50	<100	<100	-	<20	260	300	<100	560	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/03/2020	Normal	708508	0.041	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	14/04/2020	Normal	714027	0.015	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	19/05/2020	Normal	720682	0.035	1.4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	18/06/2020	Normal	726825	0.008	3.9	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH02	18/06/2020	Field_D	726825	0.032	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	18/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	15/07/2020	Normal	732590	0.016	3.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	18/08/2020	Normal	738860	0.046	0.09	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	14/09/2020	Normal	744463	0.014	2.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH02	14/09/2020	Field_D	744463	0.014	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	27/10/2020	Normal	753369	0.024	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	80	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	19/11/2020	Normal	758435	0.022	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	23/12/2020	Normal	765715	0.015	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	27/01/2021	Normal	770782	0.015	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH02	27/01/2021	Field_D	770782	0.011	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	18/02/2021	Normal	775277	0.012	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	300	300	100	500	900	300	100	500	-	<20	490	<100	200	690	490	<100	200	690	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	17/03/2021	Normal	781353	0.017	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	27/04/2021	Normal	791517	0.044	0.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	25/05/2021	Normal	799115	0.02	0.33	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	15/06/2021	Normal	803914	0.02	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM-BH02	CSM_BH02	12/07/2021	Normal	810513	0.015	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	9/08/2021	Normal	816445	0.021	0.13	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH02	CSM_BH02	28/09/2021	Normal	829222	0.01	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	16/04/2019	Normal	651825	<0.005	11	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
CSM_BH04	CSM_BH04	13/05/2019	Normal	656080	0.29	0.12	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH04	CSM_BH04	11/06/2019	Normal	660130	0.051	7.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	200	<100	200	<50	<100	<100	-	<20	<50	100	100	200	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH04	CSM_BH04	30/07/2019	Normal	669059	0.025	1	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH04	CSM_BH04	29/08/2019	Normal	674722	0.1	2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH04	CSM_BH04	26/09/2019	Normal	679636	<0.005	0.1	<1	2	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH04	CSM_BH04	17/10/2019	Normal	683453	<0.005	0.08	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QC02	CSM_BH04	17/10/2019	Field_D	683453	<0.005	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	100	<100	<100	100	-	-	-	-	<1	<1	<1	<1	<1
CSM_BH04	CSM_BH04	13/11/2019	Normal	688512	<0.005	2.8	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QC01	CSM_BH04	13/11/2019	Interlab_D	ES1937682	<0.005	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<1	<1	<1	<1	<0.5
CSM_BH04	CSM_BH04	17/12/2019	Normal	694466	0.014	9.1	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	21/01/2020	Normal	698379	0.041	8.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH04	21/01/2020	Field_D	698379	0.041	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	200	<100	200	-	-	-	-	<20	<50	100	<100	100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	25/02/2020	Normal	704673	0.021	9.4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	25/02/2020	Field_D	704673	0.021	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	300	<100	300	-	-	-	-	<20	<50	200	<100	200	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	18/03/2020	Normal	708508	0.026	17	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	14/04/2020	Normal	714027	0.018	7.8	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	20/05/2020	Normal	720682	<0.05	8.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	18/06/2020	Normal	726825	0.085	5.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	18/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	15/07/2020	Normal	732590	0.018	1.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	60	60	100	<100	160	50	<100	<100	-	<20	90	100	<100	190	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01

		Iron speciation	BTEXN							TRH - NEPM 2013							H - NEPM 2013 - SG Clea				TRH - NEPM 1999					H - NEPM 1999 - SG Clea								
	Zinc (Filtered)	Ferrous Iron	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX (Sum of Total) - Lab Calc	Naphthalene (BTEXN suite)	F1 (C6-C10 minus BTEX)	C6-C10 Fraction	F2 (>C10-C16 minus Naphthalene)	>C10-C16 Fraction	F3 (>C16-C34 Fraction)	F4 (>C34-C40 Fraction)	>C10-C40 (Sum of Total)	>C10-C16 SG Cleanup	>C16-C34 SG Cleanup	>C34-C40 SG Cleanup	>C10-C40 (sum) SG Cleanup	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 (Sum of Total)	C10-C14 SG Cleanup	C15-C28 SG Cleanup	C29-C36 SG Cleanup	C10-C36 (sum) SG Cleanup	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene
	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.005	0.05	1	1	1	1	2	2	1	5	20	20	50	50	100	100	100	50	100	100	100	20	50	100	50	50	50	100	100	100	0.01	0.01	0.01	0.01	0.01
ADWG 2011 Recreational (v3.6 updated 2021)			10	8000	3000			6000																										0.1
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)	0.008		700	180	80					70																								0.2
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																		
2-4m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
4-8m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
>8m			**5000**	**NL**	**NL**			**NL**		**NL**	**7000**		**NL**																					
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																														
CSM_BH04	CSM_BH04	17/08/2020	Normal	738860	0.039	3	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH04	17/08/2020	Interlab_D	ES2028968	0.035	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH04	CSM_BH04	14/09/2020	Normal	744463	0.11	5.8	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	27/10/2020	Normal	753369	0.093	5.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	0.07	0.11
CSM_BH04	CSM_BH04	19/11/2020	Normal	758435	0.097	7.4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH04	19/11/2020	Field_D	758435	0.053	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	23/12/2020	Normal	765715	0.07	8.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	27/01/2021	Normal	770782	0.034	4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH04	27/01/2021	Interlab_D	ES2102832	0.028	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH04	CSM_BH04	17/02/2021	Normal	775277	0.016	3.1	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	70	70	200	200	470	<50	<100	<100	-	<20	90	<100	200	290	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH04	17/02/2021	Field_D	775277	0.013	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	17/03/2021	Normal	781353	0.027	3.1	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH04	17/03/2021	Interlab_D	ES2109792	0.023	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH04	CSM_BH04	27/04/2021	Normal	791517	0.084	3.9	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	25/05/2021	Normal	799115	0.064	5.3	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH04	25/05/2021	Interlab_D	ES2119803	0.059	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH04	CSM_BH04	15/06/2021	Normal	803914	0.054	6.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	50	50	100	<100	150	<50	<100	<100	100	<20	60	100	<100	160	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH04	15/06/2021	Field_D	803914	0.057	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM-BH04	CSM_BH04	12/07/2021	Normal	810513	0.031	10	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH04	12/07/2021	Field_D	810513	0.03	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	9/08/2021	Normal	816445	0.036	3.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH04	9/08/2021	Field_D	816445	0.041	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH04	CSM_BH04	28/09/2021	Normal	829222	0.017	3.9	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH05	CSM_BH05	17/04/2019	Normal	651825	0.011	1.1	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	900	200	1100	<50	<100	<100	-	<20	<50	500	400	900	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH05	CSM_BH05	13/05/2019	Normal	656080	0.027	0.99	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH05	CSM_BH05	11/06/2019	Normal	660130	0.023	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
CSM_BH05	CSM_BH05	29/07/2019	Normal	669059	0.024	1	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH06	CSM_BH06	18/04/2019	Normal	651825	0.032	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	300	<100	300	<50	<100	<100	-	<20	<50	300	<100	300	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH06	CSM_BH06	14/05/2019	Normal	656080	0.054	2.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QC02	CSM_BH06	14/05/2019	Field_D	656080	0.053	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
CSM_BH06	CSM_BH06	6/06/2019	Normal	660130	0.05	2.9	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
QC04	CSM_BH06	8/06/2019	Field_D	660130	0.052	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	1	<1	<1
CSM_BH06	CSM_BH06	30/07/2019	Normal	669059	0.035	0.56	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH06	CSM_BH06	28/08/2019	Normal	674722	0.086	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH06	CSM_BH06	26/09/2019	Normal	679636	0.094	0.59	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH06	CSM_BH06	17/10/2019	Normal	683453	0.14	2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH06	CSM_BH06	13/11/2019	Normal	688512	0.024	2.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH06	CSM_BH06	17/12/2019	Normal	694466	0.054	2.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH06	17/12/2019	Field_D	694466	0.056	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	300	<100	300	-	-	-	-	<20	<50	300	<100	300	-	-	-	-	<1	<1	<1	<1	<1
CSM_BH06	CSM_BH06	25/02/2020	Normal	704673	0.067	6.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	16/03/2020	Normal	708508	0.041	5.3	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH06	16/03/2020	Interlab_D	ES2009232	0.038	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH06	CSM_BH06	14/04/2020	Normal	714027	0.054	5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH06	14/04/2020	Interlab_D	ES2012716	0.098	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH06	CSM_BH06	19/05/2020	Normal	720682	0.011	6.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	18/06/2020	Normal	726825	0.036	8	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	18/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	15/07/2020	Normal	732590	0.17	4.9	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	18/08/2020	Normal	738860	0.056	7.3	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	14/09/2020	Normal	744463	0.043	8.8	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	27/10/2020	Normal	753369	0.085	6.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	19/11/2020	Normal	758435	0.078	9.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	100	<100	100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	22/12/2020	Normal	765715	0.041	11	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	27/01/2021	Normal	770782	0.053	6.3	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	18/02/2021	Normal	775277	0.038	3.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	130	130	<100	<100	130	130	<100	<100	-	<20	280	<100	<100	280	280	<100	<100	280	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	17/03/2021	Normal	781353	0.093	0.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

		Iron speciation	BTEXN							TRH - NEPM 2013							I - NEPM 2013 - SG Clea				TRH - NEPM 1999					H - NEPM 1999 - SG Clea								
	Zinc (Filtered)	Ferrous Iron	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX (Sum of Total) - Lab Calc	Naphthalene (BTEXN suite)	F1 (C6-C10 minus BTEX)	C6-C10 Fraction	F2 (>C10-C16 minus Naphthalene)	>C10-C16 Fraction	F3 (>C16-C34 Fraction)	F4 (>C34-C40 Fraction)	>C10-C40 (Sum of Total)	>C10-C16 SG Cleanup	>C16-C34 SG Cleanup	>C34-C40 SG Cleanup	>C10-C40 (sum) SG Cleanup	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 (Sum of Total)	C10-C14 SG Cleanup	C15-C28 SG Cleanup	C29-C36 SG Cleanup	C10-C36 (sum) SG Cleanup	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene
	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.005	0.05	1	1	1	1	2	2	1	5	20	20	50	50	100	100	100	50	100	100	100	20	50	100	50	50	50	100	100	100	0.01	0.01	0.01	0.01	0.01
ADWG 2011 Recreational (v3.6 updated 2021)			10	8000	3000			6000																										0.1
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)	0.008		700	180	80					70																								0.2
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																		
2-4m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
4-8m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
>8m			**5000**	**NL**	**NL**			**NL**		**NL**	**7000**		**NL**																					

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N																																
CSM_BH06	CSM_BH06	27/04/2021	Normal	791517	0.053	0.9	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	25/05/2021	Normal	799115	0.066	2.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH06	25/05/2021	Field_D	799115	0.069	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	100	<100	100	-	-	-	-	<20	<50	100	<100	100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	16/06/2021	Normal	803914	0.063	1.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM-BH06	CSM_BH06	12/07/2021	Normal	810513	0.042	2.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	9/08/2021	Normal	816445	0.13	1.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH06	CSM_BH06	29/09/2021	Normal	829222	0.067	2.4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH08	CSM_BH08	18/04/2019	Normal	651825	0.02	6.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
QC02	CSM_BH08	18/04/2019	Field_D	651825	0.015	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
CSM_BH08	CSM_BH08	15/05/2019	Normal	656080	0.015	5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH08	CSM_BH08	6/06/2019	Normal	660130	0.041	3.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
QC03	CSM_BH08	6/06/2019	Interlab_D	ES1917968	0.034	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<1	<1	<1	<1	<0.5
CSM_BH08	CSM_BH08	30/07/2019	Normal	669059	0.011	4.4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH08	CSM_BH08	29/08/2019	Normal	674722	0.16	6.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH08	CSM_BH08	26/09/2019	Normal	679636	0.014	6.2	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH08	CSM_BH08	18/10/2019	Normal	683453	0.013	6.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH08	CSM_BH08	13/11/2019	Normal	688512	<0.005	5.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH08	CSM_BH08	16/12/2019	Normal	694466	0.032	5.4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	0.02	<0.01	<0.01	<0.01	<0.01
CSM_BH08	CSM_BH08	21/01/2020	Normal	698379	0.022	5.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH08	CSM_BH08	25/02/2020	Normal	704673	0.015	4.8	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH08	CSM_BH08	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	18/03/2020	Normal	708508	0.028	3.4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH08	CSM_BH08	14/04/2020	Normal	714027	0.019	4.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH08	CSM_BH08	18/05/2020	Normal	720682	0.015	4.9	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH08	18/05/2020	Interlab_D	ES2017182	0.023	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH08	CSM_BH08	17/06/2020	Normal	726825	0.02	4.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH08	CSM_BH08	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	17/06/2020	Interlab_D	ES2021404	0.016	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH08	CSM_BH08	15/07/2020	Normal	732590	0.034	3.8	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH08	15/07/2020	Interlab_D	ES2024606	<0.005	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH08	CSM_BH08	19/08/2020	Normal	738860	0.015	4.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	50	50	<100	<100	<100	<50	<100	<100	-	<20	50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH08	CSM_BH08	14/09/2020	Normal	744463	0.012	5.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH08	14/09/2020	Interlab_D	ES2032425	<0.005	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH08	CSM_BH08	27/10/2020	Normal	753369	0.21	3.4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	0.09	0.17
QC01	CSM_BH08	27/10/2020	Field_D	753369	0.24	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	0.04	0.16	0.17
QC02	CSM_BH08	27/10/2020	Interlab_D	ES2037870	0.312	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	0.2	0.33
CSM_BH08	CSM_BH08	19/11/2020	Normal	758435	0.054	4.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH08	CSM_BH08	21/12/2020	Normal	765715	0.045	3.8	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
BD01	CSM_BH08	21/12/2020	Field_D	765715	0.045	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
SD01	CSM_BH08	21/12/2020	Interlab_D	ES2100056	0.048	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	28/01/2021	Normal	770782	0.18	4.3	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH08	CSM_BH08	19/02/2021	Normal	775277	<0.005	4.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	100	100	<50	<100	100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH08	CSM_BH08	17/03/2021	Normal	781353	0.024	4.8	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH08	17/03/2021	Field_D	781353	0.024	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH08	CSM_BH08	27/04/2021	Normal	791517	0.16	4.4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	0.03	0.03	0.14	0.15
QC02	CSM_BH08	27/04/2021	Interlab_D	ES2115835	0.191	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	0.2	0.33
CSM_BH08	CSM_BH08	27/05/2021	Normal	799115	0.023	1.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	0.1	0.08
CSM_BH08	CSM_BH08	15/06/2021	Normal	803914	0.031	6.3	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH08	15/06/2021	Interlab_D	ES2122606	0.039	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM-BH08	CSM_BH08	12/07/2021	Normal	810513	0.024	5.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	0.09	0.03	0.18	0.39
CSM_BH08	CSM_BH08	10/08/2021	Normal	816445	0.032	6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH08	10/08/2021	Interlab_D	ES2129447	0.029	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	0.3	0.42
CSM_BH08	CSM_BH08	28/09/2021	Normal	829222	0.025	5.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH08	28/09/2021	Interlab_D	EM2119579	0.008	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	0.2	0.39
CSM_BH09S	CSM_BH09S	17/04/2019	Normal	651825	0.042	9.4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
QC01	CSM_BH09S	17/04/2019	Interlab_D	ES1912362	0.042	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<1	<1	<1	<1	<0.5
CSM_BH09S	CSM_BH09S	13/05/2019	Normal	656080	0.019	7.1	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1

		Iron speciation	BTEXN							TRH - NEPM 2013								I - NEPM 2013 - SG Clea				TRH - NEPM 1999					H - NEPM 1999 - SG Clea								
	Zinc (Filtered)	Ferrous Iron	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX (Sum of Total) - Lab Calc	Naphthalene (BTEXN suite)	F1 (C6-C10 minus BTEX)	C6-C10 Fraction	F2 (>C10-C16 minus Naphthalene)	>C10-C16 Fraction	F3 (>C16-C34 Fraction)	F4 (>C34-C40 Fraction)	>C10-C40 (Sum of Total)	>C10-C16 SG Cleanup	>C16-C34 SG Cleanup	>C34-C40 SG Cleanup	>C10-C40 (sum) SG Cleanup	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 (Sum of Total)	C10-C14 SG Cleanup	C15-C28 SG Cleanup	C29-C36 SG Cleanup	C10-C36 (sum) SG Cleanup	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene
	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.005	0.05	1	1	1	1	2	2	1	5	20	20	50	50	100	100	100	50	100	100	100	20	50	100	50	50	50	100	100	100	0.01	0.01	0.01	0.01	0.01
ADWG 2011 Recreational (v3.6 updated 2021)			10	8000	3000			6000																											0.1
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)	0.008		700	180	80					70																									0.2
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																			
2-4m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																						
4-8m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																						
>8m			**5000**	**NL**	**NL**			**NL**		**NL**	**7000**		**NL**																						

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N																																
QC01	CSM_BH09S	13/05/2019	Interlab_D	ES1914810	0.018	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<1	<1	<1	<1	<0.5
CSM_BH09S	CSM_BH09S	11/06/2019	Normal	660130	0.054	3.4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
CSM_BH09S	CSM_BH09S	29/07/2019	Normal	669059	0.036	7.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QC01	CSM_BH09S	29/07/2019	Interlab_D	ES1924197	0.04	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<1	<1	<1	<1	<0.5
CSM_BH09S	CSM_BH09S	28/08/2019	Normal	674722	0.045	4.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QC01	CSM_BH09S	28/08/2019	Interlab_D	EM1914568	0.041	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<1	<1	<1	<1	<0.5
CSM_BH09S	CSM_BH09S	25/09/2019	Normal	679636	0.056	4.7	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QC01	CSM_BH09S	25/09/2019	Interlab_D	ES1931406	0.048	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<1	<1	<1	<1	<0.5
CSM_BH09S	CSM_BH09S	16/10/2019	Normal	683453	0.04	4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH09S	CSM_BH09S	14/11/2019	Normal	688512	0.041	6.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH09S	CSM_BH09S	16/12/2019	Normal	694466	0.031	6.4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH09S	16/12/2019	Interlab_D	ES1941823	0.037	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH09S	CSM_BH09S	21/01/2020	Normal	698379	0.023	7.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH09S	CSM_BH09S	24/02/2020	Normal	704673	0.014	7.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH09S	CSM_BH09S	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH09S	24/02/2020	Interlab_D	ES2006512	0.011	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH09S	CSM_BH09S	17/03/2020	Normal	708508	0.047	5.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH09S	CSM_BH09S	16/04/2020	Normal	714027	0.028	9.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH09S	CSM_BH09S	20/05/2020	Normal	720682	0.01	8.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH09S	CSM_BH09S	19/06/2020	Normal	726825	0.058	8.1	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH09s	CSM_BH09S	19/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/07/2020	Normal	732590	0.025	6.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH09S	16/07/2020	Field_D	732590	0.025	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH09S	CSM_BH09S	18/08/2020	Normal	738860	0.051	6.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH09S	18/08/2020	Field_D	738860	0.051	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH09S	CSM_BH09S	16/09/2020	Normal	744463	0.031	7.3	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH09S	CSM_BH09S	28/10/2020	Normal	753369	0.1	5.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH09S	CSM_BH09S	20/11/2020	Normal	758435	0.049	5.3	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	100	<100	100	<50	<100	<100	-	<20	70	200	<100	270	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH09S	CSM_BH09S	21/12/2020	Normal	765715	0.15	5.3	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	16/04/2019	Normal	651825	0.006	<0.5	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
CSM_BH10S	CSM_BH10S	13/05/2019	Normal	656080	0.011	0.13	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH10S	CSM_BH10S	11/06/2019	Normal	660130	0.006	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
CSM_BH10S	CSM_BH10S	30/07/2019	Normal	669059	0.011	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH10S	CSM_BH10S	29/08/2019	Normal	674722	0.014	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH10S	CSM_BH10S	25/09/2019	Normal	679636	0.009	<0.05	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
CSM_BH10S	CSM_BH10S	16/10/2019	Normal	683453	<0.005	0.11	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QC01	CSM_BH10S	16/10/2019	Interlab_D	ES1934142	<0.005	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<1	<1	<1	<1	<0.5
CSM_BH10S	CSM_BH10S	14/11/2019	Normal	688512	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	400	400	<100	<100	400	<50	<100	<100	-	<20	350	<100	<100	350	<50	<100	<100	<100	<1	<1	<1	<1	<1
QC02	CSM_BH10S	14/11/2019	Field_D	688512	<0.005	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
CSM_BH10S	CSM_BH10S	17/12/2019	Normal	694466	0.006	0.16	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	20/01/2020	Normal	698379	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH10S	20/01/2020	Interlab_D	ES2001825	<0.005	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH10S	CSM_BH10S	25/02/2020	Normal	704673	<0.005	0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/03/2020	Normal	708508	<0.005	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH10S	17/03/2020	Field_D	708508	<0.005	-	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	15/04/2020	Normal	714027	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH10S	15/04/2020	Field_D	714027	<0.005	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	18/05/2020	Normal	720682	<0.005	0.12	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH10S	20/05/2020	Field_D	720682	<0.05	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	19/06/2020	Normal	726825	0.059	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	19/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	15/07/2020	Normal	732590	0.006	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	100	<100	100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	17/08/2020	Normal	738860	0.009	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	15/09/2020	Normal	744463	0.086	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	27/10/2020	Normal	753369	0.14	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	200	<100	200	<50	<100	<100	-	<20	<50	200	<100	200	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	18/11/2020	Normal	758435	0.006	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

		Iron speciation	BTEXN							TRH - NEPM 2013							TRH - NEPM 2013 - SG Clea				TRH - NEPM 1999					TRH - NEPM 1999 - SG Clea								
	Zinc (Filtered)	Ferrous Iron	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX (Sum of Total) - Lab Calc	Naphthalene (BTEXN suite)	F1 (C6-C10 minus BTEX)	C6-C10 Fraction	F2 (>C10-C16 minus Naphthalene)	>C10-C16 Fraction	F3 (>C16-C34 Fraction)	F4 (>C34-C40 Fraction)	>C10-C40 (Sum of Total)	>C10-C16 SG Cleanup	>C16-C34 SG Cleanup	>C34-C40 SG Cleanup	>C10-C40 (sum) SG Cleanup	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 (Sum of Total)	C10-C14 SG Cleanup	C15-C28 SG Cleanup	C29-C36 SG Cleanup	C10-C36 (sum) SG Cleanup	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene
	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.005	0.05	1	1	1	1	2	2	1	5	20	20	50	50	100	100	100	50	100	100	100	20	50	100	50	50	50	100	100	100	0.01	0.01	0.01	0.01	0.01
ADWG 2011 Recreational (v3.6 updated 2021)			10	8000	3000			6000																										0.1
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)	0.008		700	180	80					70																								0.2
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																		
2-4m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
4-8m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
>8m			**5000**	**NL**	**NL**			**NL**		**NL**	**7000**		**NL**																					

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N																																
QC01	CSM_BH10S	23/11/2020	Interlab_D	ES2041428	0.153	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH10S	CSM_BH10S	21/12/2020	Normal	765715	<0.005	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	28/01/2021	Normal	770782	0.12	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	17/02/2021	Normal	775277	0.075	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	150	150	200	200	550	80	<100	<100	-	<20	190	100	200	490	100	<100	<100	100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH10S	17/02/2021	Interlab_D	ES2105795	<0.005	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH10S	CSM_BH10S	17/03/2021	Normal	781353	0.23	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	27/04/2021	Normal	791517	<0.005	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	CSM_BH10S	27/04/2021	Field_D	791517	<0.005	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	26/05/2021	Normal	799115	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	110	110	700	<100	810	<50	100	<100	-	<20	100	700	<100	800	<50	100	<100	100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	15/06/2021	Normal	803914	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM-BH10S	CSM_BH10S	12/07/2021	Normal	810513	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC02	CSM_BH10S	12/07/2021	Interlab_D	ES2125823	<0.005	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05
CSM_BH10S	CSM_BH10S	10/08/2021	Normal	816445	0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH10S	CSM_BH10S	28/09/2021	Normal	829222	0.018	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH12S	CSM_BH12S	27/04/2021	Normal	791517	0.033	3.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH12S	CSM_BH12S	26/05/2021	Normal	799115	0.052	5.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	60	60	600	<100	660	<50	<100	<100	-	<20	60	500	<100	560	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH12S	CSM_BH12S	17/06/2021	Normal	803914	0.025	7.9	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM-BH12S	CSM_BH12S	12/07/2021	Normal	810513	0.054	6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH12S	CSM_BH12S	10/08/2021	Normal	816445	0.099	7.4	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH12S	CSM_BH12S	28/09/2021	Normal	829222	0.13	7.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH13	CSM_BH13	29/09/2021	Normal	829222	0.007	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
CSM_BH14S	CSM_BH14S	29/09/2021	Normal	829222	0.016	<0.05	<1	<1	<1	<1	<2	<3	-	<10	40	40	<50	<50	<100	<100	<100	<50	<100	<100	<100	40	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	5/06/2019	Normal	659250	<0.005	<0.5	2	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH10	GASW_BH10	30/07/2019	Normal	669059	<0.005	3.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	50	50	<100	<100	<100	<50	<100	<100	-	<20	50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH10	GASW_BH10	28/08/2019	Normal	674722	0.029	4.2	<4	<4	<4	<4	<8	<12	-	<40	<80	<80	310	310	100	<100	410	<50	<100	<100	-	<80	260	100	<100	360	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH10	GASW_BH10	26/09/2019	Normal	679636	0.015	11	<1	2	<1	<1	<2	<3	-	<10	<20	<20	300	300	<100	<100	300	<50	<100	<100	-	<20	270	200	<100	470	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH10	GASW_BH10	17/10/2019	Normal	683453	0.01	9	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH10	GASW_BH10	13/11/2019	Normal	688512	<0.005	11	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH10	GASW_BH10	16/12/2019	Normal	694466	0.026	18	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	50	50	<100	<100	<100	<50	<100	<100	-	<20	60	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	21/01/2020	Normal	698379	0.013	19	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	24/02/2020	Normal	704673	0.015	15	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	18/03/2020	Normal	708508	0.015	8.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	100	100	<100	<100	100	<50	200	<100	-	<20	100	<100	<100	100	<50	100	<100	100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	14/04/2020	Normal	714027	0.049	7.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	19/05/2020	Normal	720682	<0.05	12	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	18/06/2020	Normal	726825	0.03	13	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	15/07/2020	Normal	732590	0.006	8.3	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	100	<100	100	<50	<100	<100	-	<20	<50	200	<100	200	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	17/08/2020	Normal	738860	0.02	7.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	14/09/2020	Normal	744463	0.008	3.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	27/10/2020	Normal	753369	0.016	4.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	19/11/2020	Normal	758435	0.035	6.9	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	50	50	200	<100	250	<50	<100	<100	-	<20	70	200	<100	270	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	23/12/2020	Normal	765715	0.01	6.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	50	50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	27/01/2021	Normal	770782	0.024	1.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	90	90	200	<100	290	<50	<100	<100	-	<20	70	200	<100	270	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	18/02/2021	Normal	775277	0.057	4.9	<1	<1	<1	<1	<2	<3	-	<10	70	70	210	210	<100	<100	210	210	<100	<100	-	60	310	100	<100	410	310	100	<100	410	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	17/03/2021	Normal	781353	0.023	0.63	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	27/04/2021	Normal	791517	0.009	5.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	120	120	400	<100	520	<50	<100	<100	-	<20	90	400	<100	490	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	25/05/2021	Normal	799115	0.014	0.59	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	160	160	600	<100	760	<50	200	<100	-	<20	130	600	<100	730	<50	100	<100	100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	15/06/2021	Normal	803914	0.061	5	<1	<1	<1	<1	<2	<3	-	<10	30	30	70	70	1000	300	1370	<50	200	<100	200	30	90	500	700	1290	<50	100	<100	100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW-BH10	GASW_BH10	12/07/2021	Normal	810513	0.009	5.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	100	100	200	<100	300	<50	100	<100	100	<20	90	200	<100	290	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	10/08/2021	Normal	816445	0.011	5.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	110	110	300	<100	410	<50	<100	<100	<100	<20	100	200	<100	300	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH10	GASW_BH10	29/09/2021	Normal	829222	0.009	3.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	5/06/2019	Normal	659250	0.022	2.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	160	160	<100	<100	160	<50	<100	<100	-	<20	110	100	<100	210	<50	<100	<100	<100	<1	<1	<1	<1	<1
QC02	GASW_BH11	5/06/2019	Field_D	659250	0.022	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	220	220	<100	<100	220	-	-	-	-	<20	120	200	<100	320	-	-	-	-	<1	<1	<1	<1	<1
GASW_BH11	GASW_BH11	30/07/2019	Normal	669059	0.007	3.1	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	100	100	<100	<100	100	<50	<100	<100	-	<20	60	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH11	GASW_BH11	28/08/2019	Normal	674722	0.016	1.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	270	270	<100	<100	270	140	<100	<100	-	<20	270	<100	<100	270	180	<100	<100	180	<1	<1	<1	<1	<1
GASW_BH11	GASW_BH11	25/09/2019	Normal	679636	0.016	1.1	<1	1	<1	<1	<2	<3	-	<10	<20	<20	640	640	200	<100	840	<50	<100	<100	-	<20	360	500	<100	860	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH11	GASW_BH11	16/10/2019	Normal	683453	0.011	1.2	20	2	<1	<1	<2	<3	-	<10	<20	40	210	210	<100	<100	210	<50	<100	<100	-	30	120	<100	<100	120	<50	<100	<100	<100	<1	<1	<1	<1	<1

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

		Iron speciation	BTEXN							TRH - NEPM 2013							H - NEPM 2013 - SG Clea				TRH - NEPM 1999					H - NEPM 1999 - SG Clea								
	Zinc (Filtered)	Ferrous Iron	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX (Sum of Total) - Lab Calc	Naphthalene (BTEXN suite)	F1 (C6-C10 minus BTEX)	C6-C10 Fraction	F2 (>C10-C16 minus Naphthalene)	>C10-C16 Fraction	F3 (>C16-C34 Fraction)	F4 (>C34-C40 Fraction)	>C10-C40 (Sum of Total)	>C10-C16 SG Cleanup	>C16-C34 SG Cleanup	>C34-C40 SG Cleanup	>C10-C40 (sum) SG Cleanup	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 (Sum of Total)	C10-C14 SG Cleanup	C15-C28 SG Cleanup	C29-C36 SG Cleanup	C10-C36 (sum) SG Cleanup	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene
	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.005	0.05	1	1	1	1	2	2	1	5	20	20	50	50	100	100	100	50	100	100	100	20	50	100	50	50	50	100	100	100	0.01	0.01	0.01	0.01	0.01
ADWG 2011 Recreational (v3.6 updated 2021)			10	8000	3000			6000																										0.1
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)	0.008		700	180	80					70																								0.2
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																		
2-4m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
4-8m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
>8m			**5000**	**NL**	**NL**			**NL**		**NL**	**7000**		**NL**																					
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																															
GASW_BH11	GASW_BH11	14/11/2019	Normal	688512	0.012	1.9	8	<1	<1	<1	<2	<3	-	<10	<20	<20	210	210	<100	<100	210	<50	<100	<100	-	<20	180	<100	<100	180	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH11	GASW_BH11	16/12/2019	Normal	694466	0.024	3.8	10	<1	<1	<1	<2	<3	-	<10	<20	<20	170	170	<100	<100	170	<50	<100	<100	-	<20	110	<100	<100	110	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	22/01/2020	Normal	698379	0.021	1.6	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	220	220	<100	<100	220	<50	<100	<100	-	<20	100	100	<100	200	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	24/02/2020	Normal	704673	0.036	1.8	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	480	480	<100	<100	480	<50	<100	<100	-	<20	230	200	<100	430	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	17/03/2020	Normal	708508	0.062	2.1	2	<1	<1	<1	<2	<3	-	<10	<20	<20	510	510	<100	<100	510	<50	200	<100	-	<20	360	400	<100	760	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	16/04/2020	Normal	714027	0.086	1.7	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	360	360	100	<100	460	<50	<100	<100	-	<20	180	300	<100	480	<50	<100	<100	<100	0.06	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	20/05/2020	Normal	720682	0.12	2.1	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	580	580	300	<100	880	230	100	<100	-	<20	350	500	<100	850	120	200	<100	320	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	19/06/2020	Normal	726825	0.11	0.59	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	340	340	<100	<100	340	70	<100	<100	-	<20	170	300	<100	470	50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	16/07/2020	Normal	732590	0.09	1.9	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	340	340	200	<100	540	<50	<100	<100	-	<20	280	500	<100	780	<50	<100	<100	<100	<0.01	<0.01	0.03	<0.01	<0.01
GASW_BH11	GASW_BH11	17/08/2020	Normal	738860	0.059	0.61	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	16/09/2020	Normal	744463	0.064	0.47	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	350	350	100	<100	450	<50	<100	<100	-	<20	130	300	<100	430	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	27/10/2020	Normal	753369	0.06	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	360	360	100	<100	460	<50	<100	<100	-	<20	220	300	<100	520	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	20/11/2020	Normal	758435	0.053	1.3	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	220	220	300	<100	520	<50	<100	<100	-	<20	130	400	<100	530	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	21/12/2020	Normal	765715	0.04	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	180	180	200	<100	380	<50	<100	<100	-	<20	70	200	<100	270	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	28/01/2021	Normal	770782	0.3	4.1	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	250	250	200	<100	450	<50	<100	<100	-	<20	170	300	<100	470	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	17/02/2021	Normal	775277	0.17	<0.5	<1	2	<1	<1	<2	<3	-	<10	<20	<20	110	110	300	200	610	<50	<100	<100	-	<20	160	200	200	560	70	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	18/03/2021	Normal	781353	0.069	0.54	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	27/04/2021	Normal	791517	0.051	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	170	170	100	<100	270	<50	<100	<100	-	<20	90	200	<100	290	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	26/05/2021	Normal	799115	0.044	0.33	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	300	300	600	<100	900	90	100	<100	-	<20	180	700	<100	880	70	200	<100	270	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	16/06/2021	Normal	803914	0.034	0.22	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	210	210	200	<100	410	<50	<100	<100	<100	<20	170	200	<100	370	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW-BH11	GASW_BH11	12/07/2021	Normal	810513	0.019	0.19	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	290	290	300	<100	590	140	200	<100	300	<20	160	400	<100	560	<50	200	<100	200	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	10/08/2021	Normal	816445	0.1	0.07	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	160	160	300	<100	460	<50	<100	<100	<100	<20	120	300	<100	420	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH11	GASW_BH11	28/09/2021	Normal	829222	0.088	1.2	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	200	<100	200	<50	<100	<100	<100	<20	<50	100	<100	100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
BH23	GASW_BH23	23/08/2019	Normal	ES1926979	<0.005	<0.05	1490	264	21	21	41	62	1840	26	<200	1970	330	360	190	<100	550	-	-	-	-	2010	320	230	<50	550	-	-	-	-	<1	<1	<1	<1	<0.5
GW-BR1	GASW_BH23	23/08/2019	Field_D	ES1926979	<0.005	<0.05	1900	319	25	24	48	72	2320	15	<200	2440	300	310	270	<100	580	-	-	-	-	2500	270	280	50	600	-	-	-	-	<1	<1	<1	<1	<0.5
GASW_BH23	GASW_BH23	25/09/2019	Normal	679636	0.55	10	1900	230	30	25	44	68	-	<10	2800	5000	400	400	300	<100	700	240	200	<100	-	5300	300	300	<100	600	180	200	<100	380	<1	<1	<1	<1	<1
GASW_BH23	GASW_BH23	16/10/2019	Normal	683453	0.007	9.8	2400	290	40	29	44	73	-	<200	4000	6800	<50	<50	<100	<100	<100	<50	<100	<100	-	6800	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH23	GASW_BH23	14/11/2019	Normal	688512	<0.005	7.8	3200	260	<50	<50	<100	<150	-	<500	3200	6700	<500	320	<100	<100	320	<50	<100	<100	-	5600	310	<100	<100	310	<50	<100	<100	<100	1	<1	<1	<1	<1
GASW_BH23	GASW_BH23	16/12/2019	Normal	694466	0.005	0.16	560	53	<8	<8	<16	<24	-	<80	260	870	<50	<50	<100	<100	<100	<50	<100	<100	-	870	<50	<100	<100	<100	<50	<100	<100	<100	0.25	0.03	0.11	<0.01	<0.01
GASW_BH23	GASW_BH23	22/01/2020	Normal	698379	0.14	3	1500	53	<50	<50	<100	<150	-	<500	-	1500	<500	110	<100	<100	110	50	<100	<100	-	1500	200	<100	<100	200	90	<100	<100	<100	0.15	0.01	0.05	<0.01	<0.01
GASW_BH23	GASW_BH23	24/02/2020	Normal	704673	<0.005	4.6	**5500**	340	<100	<100	<200	<300	-	<1000	3200	9000	<1000	880	200	<100	1080	70	<100	<100	-	8400	810	400	<100	1210	100	<100	<100	100	1.3	0.1	0.48	0.06	<0.01
GASW_BH23	GASW_BH23	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	17/03/2020	Normal	708508	0.037	1.3	640	45	<10	<10	<20	<30	-	<100	420	1100	150	150	<100	<100	150	<50	<100	<100	-	1300	140	<100	<100	140	<50	<100	<100	<100	0.26	<0.01	<0.01	<0.01	<0.01
GASW_BH23	GASW_BH23	16/04/2020	Normal	714027	<0.005	0.23	1400	360	64	68	140	210	-	<500	670	2700	<500	120	1200	<100	1320	<50	700	<100	-	2500	70	1000	300	1370	<50	500	200	700	0.82	0.07	0.3	0.1	0.09
GASW_BH23	GASW_BH23	20/05/2020	Normal	720682	0.041	-	470	17	8	7	10	17	-	<40	240	750	370	370	300	<100	670	<50	<100	<100	-	750	310	400	<100	710	<50	<100	<100	<100	0.21	0.04	0.3	0.15	0.17
GASW_BH23	GASW_BH23	17/06/2020	Normal	726825	0.042	2.1	220	8	2	2	5	7	-	<20	260	500	70	70	100	<100	170	<50	<100	<100	-	500	50	100	<100	150	<50	<100	<100	<100	0.13	0.02	0.11	0.09	0.06
GASW_BH23	GASW_BH23	16/07/2020	Normal	732590	0.029	<0.5	84	2	1	1	<2	<3	-	<10	30	120	<50	<50	100	<100	100	<50	<100	<100	-	110	<50	300	<100	300	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH23	GASW_BH23	17/08/2020	Normal	738860	0.009	4.6	130	7	4	2	4	7	-	<10	90	240	<50	<50	<100	<100	<100	<50	<100	<100	-	240	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH23	GASW_BH23	15/09/2020	Normal	744463	0.064	2.3	440	7	6	<5	<10	<15	-	<50	220	670	240	240	300	<100	540	110	200	<100	-	670	220	300	<100	520	130	200	100	430	0.28	0.15	0.5	0.47	0.72
GASW_BH23	GASW_BH23	26/10/2020	Normal	753369	0.19	0.8	9	<1	<1	<1	<2	<3	-	<10	<20	<20	120	120	<100	<100	120	<50	<100	<100	-	<20	90	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH23	GASW_BH23	18/11/2020	Normal	758435	<0.005	9.1	**5500**	31	49	13	24	37	-	<10	3300	8900	170	170	300	<100	470	<50	<100	<100	-	8300	180	400	<100	580	<50	<100	<100	<100	1.2	0.1	0.3	<0.01	<0.01
GASW_BH23	GASW_BH23	21/12/2020	Normal	765715	0.01	4.5	850	<10	16	<10	<20	<30	-	<100	30	900	160	160	200	<100	360	<50	<100	<100	-	900	80	200	<100	280	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH23	GASW_BH23	28/01/2021	Normal	770782	0.22	0.57	65	<1	<1	<1	<2	<3	-	<10	40	100	110	110	200	<100	310	<50	<100	<100	-	100	80	200	<100	280	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH23	GASW_BH23	17/02/2021	Normal	775277	0.12	4.9	45	2	<1	<1	<2	<3	-	<10	<20	60	<50	<50	<100	<100	<100	<50	<100	<100	-	50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH23	GASW_BH23	18/03/2021	Normal	781353	0.052	5.4	60	1	1	<1	<2	<3	-	<10	50	110	<50	<50	<100	<100	<100	<50	<100	<100	-	110	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH23	GASW_BH23	27/04/2021	Normal	791517	0.008	4.1	330	7	14	<5	<10	<15	-	<50	120	470	230	230	100	<100	330	130	<100	<100	-	470	170	300	<100	470	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH23	GASW_BH23	26/05/2021	Normal	799115	0.016	6.1	120	2	6	<1	<2	<3	-	<10	50	180	260	260	800	<100	1060	100	100	<100	-	180	190	800	<100	990	70	200	<100	270	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH23	GASW_BH23	16/06/2021	Normal	803914	<0.005	6.5	580	19	17	<10	<20	<30	-	<100	180	800	150	150	100	<100	250	<50	<100	<100	<100	800	140	200	<100	340	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW-BH23	GASW_BH23	12/07/2021	Normal	810513	0.032	5.9	31	<1	1	<1	<2	<3	-	<10	30	60	120	120	300	<100	420	<50	<100	<100	<100	50	100	200	100	400	<50	<100	<100	<100	0.04	<0.01	<0.01	<0.01	<0.01
GASW_BH23	GASW_BH23	10/08/2021	Normal	816445	<0.005	6.3	850	<25	<25	<25	<50	<75	-	<250	350	1200	<250	200	200	<100	400	<50	<100	<100	<100	1200	170	200	<100	370	<50	<100	<100	<100	0.22	<0.01	<0.01	<0.01	<0.01
GASW_BH23	GASW_BH23	29/09/2021	Normal	829222	0.031	14	21	<1	<1	<1	<2	<3	-	<10	<20	40	<50	<50	<100	<100	<100	<50	<100	<100	<100	40	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GW-SR1	GASW_BH25A	23/08/2019	Interlab_D	673339	<0.005	0.47	**15,000**	7100	460	<400	930	930	-	<4000	500	24,000	<4000	920	500	<100	1420	-	-	-	-	23,000	760	800	<100	1560	-	-	-	-	<1	<1	<1	<1	<1
BH25a	GASW_BH25A	23/08/2019	Normal	ES1926979	<0.005	0.46	**15,300**	5660	280	283	612	895	22,100	89	2360	24,500	430	520	490	<100	1010	-	-	-	-	25,300	480	570	<50	1050	-	-	-	-	1.2	<1	1.5	<1	<0.5
GASW_BH25A	GASW_BH25A	25/09/2019	Normal	679636	<0.005	0.31	3600	1200	53	77	140	220	-	<40	4900	10,000	260	260	200	<100	460	<50	<100	<100	-	12,000	220	300	<100	520	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH25a	GASW_BH25A	16/10/2019	Normal	683453	<0.005	0.15	2700	990	40	50	95	140	-	<200	5000	8900	<200	90	<100	<100	<100	<50	<100	<100	-	8900	80	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH25A	GASW_BH25A	14/11/2019	Normal	688512	0.026	0.35	2200	870	<50	<50	<100	<150	-	<500	3000	6100	<500	310	<100	<100	310	140	<100	<100	-	5100	250	<100	<100	250	150	<100	<100	150	<1	<1	<1	<1	<1

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

		Iron speciation	BTEXN							TRH - NEPM 2013							I - NEPM 2013 - SG Clea				TRH - NEPM 1999					H - NEPM 1999 - SG Clea								
	Zinc (Filtered)	Ferrous Iron	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX (Sum of Total) - Lab Calc	Naphthalene (BTEXN suite)	F1 (C6-C10 minus BTEX)	C6-C10 Fraction	F2 (>C10-C16 minus Naphthalene)	>C10-C16 Fraction	F3 (>C16-C34 Fraction)	F4 (>C34-C40 Fraction)	>C10-C40 (Sum of Total)	>C10-C16 SG Cleanup	>C16-C34 SG Cleanup	>C34-C40 SG Cleanup	>C10-C40 (sum) SG Cleanup	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 (Sum of Total)	C10-C14 SG Cleanup	C15-C28 SG Cleanup	C29-C36 SG Cleanup	C10-C36 (sum) SG Cleanup	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene
	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.005	0.05	1	1	1	1	2	2	1	5	20	20	50	50	100	100	100	50	100	100	100	20	50	100	50	50	50	100	100	100	0.01	0.01	0.01	0.01	0.01
ADWG 2011 Recreational (v3.6 updated 2021)			10	8000	3000			6000																										0.1
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)	0.008		700	180	80					70																								0.2
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																		
2-4m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
4-8m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
>8m			**5000**	**NL**	**NL**			**NL**		**NL**	**7000**		**NL**																					
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																														
GASW_BH25A	GASW_BH25A	16/12/2019	Normal	694466	<0.005	0.26	**9700**	3500	110	120	250	370	-	<500	**6300**	20,000	<500	280	300	<100	580	<50	<100	<100	-	20,000	250	300	<100	550	<50	<100	<100	<100	0.62	0.36	0.83	0.35	0.36
GASW_BH25A	GASW_BH25A	22/01/2020	Normal	698379	<0.005	0.95	**30,000**	11,000	<400	<400	<800	<1200	-	<4000	**11,000**	52,000	<4000	520	<100	<100	520	150	<100	<100	-	52,000	530	200	<100	730	220	<100	<100	220	1.1	0.5	0.87	0.19	0.07
GASW_BH25A	GASW_BH25A	24/02/2020	Normal	704673	<0.005	8.3	**16,000**	7200	460	420	1100	1600	-	<1000	1800	27,000	<1000	430	<100	<100	430	140	<100	<100	-	27,000	450	200	<100	650	190	<100	<100	190	0.7	0.28	0.94	0.24	0.32
GASW_BH25A	GASW_BH25A	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25a	GASW_BH25A	17/03/2020	Normal	708508	0.047	<0.5	**9800**	4900	300	340	700	1000	-	<2000	**7000**	23,000	<2000	240	<100	<100	240	70	<100	<100	-	22,000	270	100	<100	370	100	<100	<100	100	0.33	0.15	<0.01	0.09	0.08
GASW_BH25A	GASW_BH25A	16/04/2020	Normal	714027	<0.005	0.55	**29,000**	12,000	1200	1200	2500	3800	-	<4000	100	46,000	<4000	2300	23,000	1300	26,600	470	200	<100	-	46,000	2500	20,000	6400	28,900	1600	300	<100	1900	0.93	0.56	0.73	0.16	0.21
GASW_BH25A	GASW_BH25A	20/05/2020	Normal	720682	<0.005	0.72	**26,000**	12,000	560	720	1300	2000	-	<2000	**20,000**	61,000	<2000	1100	800	<100	1900	330	200	<100	-	61,000	1200	1000	<100	2200	470	200	<100	670	1.2	0.48	1.5	0.46	0.52
GASW_BH25A	GASW_BH25A	19/06/2020	Normal	726825	<0.005	0.36	**9400**	6500	270	400	790	1200	-	<1000	**18,000**	35,000	<1000	800	600	<100	1400	340	200	<100	-	35,000	840	800	<100	1640	420	200	<100	620	0.6	0.38	0.56	0.22	0.21
GASW_BH25A	GASW_BH25A	16/07/2020	Normal	732590	0.041	0.9	**5000**	2000	120	160	270	430	-	<1000	350	7900	<1000	360	300	<100	660	110	<100	<100	-	7800	480	400	<100	880	<50	<100	<100	<100	0.08	0.02	0.1	0.09	<0.01
GASW_BH25A	GASW_BH25A	17/08/2020	Normal	738860	0.094	0.48	**7100**	4500	220	300	590	890	-	<1000	4300	17,000	<1000	220	100	<100	320	<50	<100	<100	-	17,000	250	100	<100	350	<50	<100	<100	<100	0.3	0.31	0.44	<0.01	<0.01
GASW_BH25A	GASW_BH25A	16/09/2020	Normal	744463	<0.005	0.2	**23,000**	11,000	510	700	1400	2100	-	<4000	**16,000**	53,000	<4000	1800	900	<100	2700	500	<100	<100	-	53,000	1800	1200	<100	3000	630	<100	<100	630	0.79	0.27	0.58	0.17	0.23
GASW_BH25A	GASW_BH25A	27/10/2020	Normal	753369	0.097	2	1200	360	21	29	80	110	-	<200	210	1900	470	470	<100	<100	470	<50	<100	<100	-	1800	430	300	<100	730	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH25A	GASW_BH25A	20/11/2020	Normal	758435	<0.005	3.4	3200	2100	170	200	410	610	-	<500	1000	7100	960	600	<100	<100	1560	570	100	<100	-	6300	1000	700	<100	1700	670	200	<100	870	0.11	0.07	<0.01	<0.01	<0.01
GASW_BH25A	GASW_BH25A	21/12/2020	Normal	765715	0.072	3.2	1300	600	62	71	110	180	-	<200	460	2600	330	330	300	<100	630	<50	<100	<100	-	2400	210	300	<100	510	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH25A	GASW_BH25A	28/01/2021	Normal	770782	0.017	<0.05	10	7	1	1	<2	3	-	<10	20	40	110	110	200	<100	310	<50	<100	<100	-	30	100	200	<100	300	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH25A	GASW_BH25A	17/02/2021	Normal	775277	0.067	<0.5	20	11	1	3	4	7	-	<10	30	70	80	80	200	200	480	<50	<100	<100	-	60	100	<100	100	200	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH25A	GASW_BH25A	18/03/2021	Normal	781353	0.017	<0.05	3	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH25A	GASW_BH25A	27/04/2021	Normal	791517	<0.005	1.4	1400	460	49	58	73	130	-	<100	1400	3400	340	340	200	<100	540	<50	<100	<100	-	3300	280	400	<100	680	100	<100	<100	100	0.08	0.03	0.02	<0.01	<0.01
GASW_BH25A	GASW_BH25A	26/05/2021	Normal	799115	<0.005	1	500	200	28	27	30	57	-	<100	220	1000	370	370	900	<100	1270	240	300	<100	-	1000	320	900	100	1320	240	400	<100	640	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH25A	GASW_BH25A	15/06/2021	Normal	803914	<0.005	1.1	1000	560	120	130	140	260	-	<250	450	2400	250	250	300	<100	550	<50	<100	<100	<100	2400	200	300	<100	500	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW-BH25A	GASW_BH25A	12/07/2021	Normal	810513	<0.005	<0.05	2	<1	<1	<1	<2	<3	-	<10	<20	<20	60	60	100	<100	160	<50	<100	<100	<100	<20	50	100	<100	150	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH25A	GASW_BH25A	10/08/2021	Normal	816445	<0.005	0.81	**8900**	4100	350	350	590	940	-	<1000	**6700**	21,000	<1000	250	200	<100	450	<50	<100	<100	<100	21,000	240	300	<100	540	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH25A	GASW_BH25A	29/09/2021	Normal	829222	<0.005	<0.05	77	34	7	8	10	18	-	<10	100	240	<50	<50	<100	<100	<100	<50	<100	<100	<100	240	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH7	GASW_BH7	5/06/2019	Normal	659250	0.039	5.4	1	<1	<1	<1	<2	<3	-	<10	<20	<20	630	630	400	<100	1030	<50	<100	<100	-	<20	400	700	<100	1100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QC01	GASW_BH7	5/06/2019	Interlab_D	ES1917381	0.04	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	380	380	210	<100	590	-	-	-	-	<20	200	390	<50	590	-	-	-	-	<1	<1	<1	<1	<0.5
GASW_BH7	GASW_BH7	30/07/2019	Normal	669059	0.059	17	9	<1	<1	<1	<2	<3	-	<10	20	30	140	140	<100	<100	140	<50	<100	<100	-	30	80	200	<100	280	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH7	GASW_BH7	28/08/2019	Normal	674722	0.078	19	27	<1	<1	<1	<2	<3	-	<10	20	50	450	450	200	<100	650	<50	<100	<100	-	50	290	400	<100	690	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH7	GASW_BH7	25/09/2019	Normal	679636	0.064	12	70	6	<1	1	<2	<3	-	<10	30	110	840	840	400	<100	1240	240	<100	<100	-	100	420	700	<100	1120	150	100	<100	250	<1	<1	<1	<1	<1
GASW_BH7	GASW_BH7	16/10/2019	Normal	683453	0.033	14	91	8	<1	1	<2	<3	-	<10	80	180	810	810	400	<100	1210	190	<100	<100	-	150	470	800	<100	1270	130	<100	<100	130	<1	<1	<1	<1	<1
GASW_BH7	GASW_BH7	14/11/2019	Normal	688512	0.036	16	130	8	1	2	3	4	-	<10	120	260	300	300	<100	<100	300	<50	<100	<100	-	210	250	<100	<100	250	<50	<100	<100	<100	<1	<1	<1	<1	<1
GASW_BH7	GASW_BH7	16/12/2019	Normal	694466	0.063	14	120	3	1	2	3	5	-	<10	20	150	180	180	<100	<100	180	<50	<100	<100	-	140	110	<100	<100	110	<50	<100	<100	<100	0.07	<0.01	<0.01	<0.01	<0.01
GASW_BH7	GASW_BH7	22/01/2020	Normal	698379	0.041	12	42	<1	<1	1	<2	<3	-	<10	50	90	220	220	<100	<100	220	<50	<100	<100	-	80	50	100	<100	150	<50	<100	<100	<100	0.06	<0.01	<0.01	<0.01	<0.01
GASW_BH7	GASW_BH7	24/02/2020	Normal	704673	0.018	18	62	1	<1	<1	<2	<3	-	<10	30	90	300	300	<100	<100	300	<50	<100	<100	-	90	120	200	<100	320	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
GASW_BH7	GASW_BH7	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	17/03/2020	Normal	708508	0.018	1.3	3	<1	<1	<1	<2	<3	-	<10	<20	<20	440	440	100	<100	540	<50	100	<100	-	<20	310	600	<100	910	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT-BH039	SRT_BH039	7/09/2018	Normal	616629	0.047	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	200	<100	200	<50	<100	<100	-	<20	<50	200	<100	200	<50	<100	<100	<100	<1	<1	<1	<1	<1
QA02	SRT_BH039	7/09/2018	Interlab_D	ES1826658	0.013	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	230	<100	230	-	-	-	-	<20	<50	240	<50	240	-	-	-	-	<1	<1	<1	<1	<0.5
SRT-BH039	SRT_BH039	25/10/2018	Normal	624838	0.027	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QA02	SRT_BH039	26/10/2018	Interlab_D	ES1832040	<0.005	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	220	<100	220	-	-	-	-	<20	<50	210	<50	210	-	-	-	-	<1	<1	<1	<1	<0.5
SRT-BH047	SRT_BH047	6/09/2018	Normal	616629	0.021	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT-BH047	SRT_BH047	25/10/2018	Normal	624838	0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	26/11/2018	Normal	629922	0.039	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	18/12/2018	Normal	634274	0.031	0.06	<1	2	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	17/01/2019	Normal	636542	0.053	0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	20/02/2019	Normal	641720	0.013	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	430	430	1400	300	2130	<50	<100	<100	-	<20	140	1100	700	1940	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	16/04/2019	Normal	651825	0.013	<0.5	<1	7	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	14/05/2019	Normal	656080	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	7/06/2019	Normal	660130	<0.005	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT-BH047	SRT_BH047	31/07/2019	Normal	669059	0.009	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	30/08/2019	Normal	674722	0.008	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	100	<100	100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	27/09/2019	Normal	679636	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	18/10/2019	Normal	683453	<0.005	0.06	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	15/11/2019	Normal	688512	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	18/12/2019	Normal	694466	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	20/01/2020	Normal	698379	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	26/02/2020	Normal	704673	0.022	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	26/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

		Iron speciation	BTEXN							TRH - NEPM 2013							H - NEPM 2013 - SG Clea				TRH - NEPM 1999					H - NEPM 1999 - SG Clea								
	Zinc (Filtered)	Ferrous Iron	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX (Sum of Total) - Lab Calc	Naphthalene (BTEXN suite)	F1 (C6-C10 minus BTEX)	C6-C10 Fraction	F2 (>C10-C16 minus Naphthalene)	>C10-C16 Fraction	F3 (>C16-C34 Fraction)	F4 (>C34-C40 Fraction)	>C10-C40 (Sum of Total)	>C10-C16 SG Cleanup	>C16-C34 SG Cleanup	>C34-C40 SG Cleanup	>C10-C40 (sum) SG Cleanup	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 (Sum of Total)	C10-C14 SG Cleanup	C15-C28 SG Cleanup	C29-C36 SG Cleanup	C10-C36 (sum) SG Cleanup	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene
	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.005	0.05	1	1	1	1	2	2	1	5	20	20	50	50	100	100	100	50	100	100	100	20	50	100	50	50	50	100	100	100	0.01	0.01	0.01	0.01	0.01
ADWG 2011 Recreational (v3.6 updated 2021)			10	8000	3000			6000																										0.1
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)	0.008		700	180	80					70																								0.2
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																		
2-4m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
4-8m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
>8m			**5000**	**NL**	**NL**			**NL**		**NL**	**7000**		**NL**																					

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N																																
SRT_BH047	SRT_BH047	16/03/2020	Normal	708508	0.011	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	15/04/2020	Normal	714027	0.036	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	18/05/2020	Normal	720682	<0.05	0.16	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	17/06/2020	Normal	726825	0.015	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/07/2020	Normal	732590	0.049	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	19/08/2020	Normal	738860	0.02	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	15/09/2020	Normal	744463	0.02	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	26/10/2020	Normal	753369	0.12	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	18/11/2020	Normal	758435	<0.005	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	22/12/2020	Normal	765715	0.019	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	29/01/2021	Normal	770782	0.11	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	17/02/2021	Normal	775277	0.1	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	18/03/2021	Normal	781353	0.044	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	27/04/2021	Normal	791517	0.053	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	27/05/2021	Normal	799115	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	500	<100	500	<50	100	<100	-	<20	<50	500	<100	500	<50	100	<100	100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	17/06/2021	Normal	803914	0.024	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT-BH047	SRT_BH047	12/07/2021	Normal	810513	0.027	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	11/08/2021	Normal	816445	0.013	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH047	SRT_BH047	30/09/2021	Normal	829222	0.035	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
QC01	SRT_BH047	30/09/2021	Field_D	829222	0.033	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
SRT-BH048	SRT_BH048	6/09/2018	Normal	616629	0.066	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT-BH048	SRT_BH048	25/10/2018	Normal	624838	0.18	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH048	SRT_BH048	26/11/2018	Normal	629922	0.086	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH050	SRT_BH050	16/03/2020	Normal	708508	0.01	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH050	SRT_BH050	15/04/2020	Normal	714027	0.012	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH050	SRT_BH050	17/06/2020	Normal	726825	0.052	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	230	230	100	<100	330	200	100	<100	-	<20	300	100	<100	400	270	<100	<100	270	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH050	SRT_BH050	17/07/2020	Normal	732590	0.078	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH050	SRT_BH050	19/08/2020	Normal	738860	0.013	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH050	SRT_BH050	18/11/2020	Normal	758435	0.15	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH050	SRT_BH050	22/12/2020	Normal	765715	0.13	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	200	100	300	<50	100	100	-	<20	<50	<100	200	200	<50	<100	200	200	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH050	SRT_BH050	17/02/2021	Normal	775277	0.008	<0.5	<1	3	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH050	SRT_BH050	18/03/2021	Normal	781353	0.01	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
SRT-BH050	SRT_BH050	12/07/2021	Normal	810513	0.009	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
SRT-BH052	SRT_BH052	25/10/2018	Normal	624838	0.086	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	26/11/2018	Normal	629922	0.085	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	18/12/2018	Normal	634274	0.023	<0.05	<1	2	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	17/01/2019	Normal	636542	0.44	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	20/02/2019	Normal	641720	0.006	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	16/04/2019	Normal	651825	<0.005	<0.5	<1	14	<1	<1	<2	<3	-	<10	<20	30	<50	<50	200	<100	200	<50	<100	<100	-	30	<50	200	<100	200	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	14/05/2019	Normal	656080	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	7/06/2019	Normal	660130	<0.005	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT-BH052	SRT_BH052	31/07/2019	Normal	669059	0.015	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	30/08/2019	Normal	674722	0.01	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	100	<100	100	<50	<100	<100	-	<20	<50	100	<100	100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	27/09/2019	Normal	679636	0.007	<0.05	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	18/10/2019	Normal	683453	<0.005	0.07	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	15/11/2019	Normal	688512	0.035	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	18/12/2019	Normal	694466	<0.005	0.06	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	20/01/2020	Normal	698379	<0.005	0.16	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	26/02/2020	Normal	704673	0.007	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	26/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	16/03/2020	Normal	708508	0.005	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	15/04/2020	Normal	714027	0.037	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	18/05/2020	Normal	720682	<0.05	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	17/06/2020	Normal	726825	0.084	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/07/2020	Normal	732590	<0.005	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

		Iron speciation	BTEXN							TRH - NEPM 2013							H - NEPM 2013 - SG Clea				TRH - NEPM 1999					H - NEPM 1999 - SG Clea								
	Zinc (Filtered)	Ferrous Iron	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX (Sum of Total) - Lab Calc	Naphthalene (BTEXN suite)	F1 (C6-C10 minus BTEX)	C6-C10 Fraction	F2 (>C10-C16 minus Naphthalene)	>C10-C16 Fraction	F3 (>C16-C34 Fraction)	F4 (>C34-C40 Fraction)	>C10-C40 (Sum of Total)	>C10-C16 SG Cleanup	>C16-C34 SG Cleanup	>C34-C40 SG Cleanup	>C10-C40 (sum) SG Cleanup	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 (Sum of Total)	C10-C14 SG Cleanup	C15-C28 SG Cleanup	C29-C36 SG Cleanup	C10-C36 (sum) SG Cleanup	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene
	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.005	0.05	1	1	1	1	2	2	1	5	20	20	50	50	100	100	100	50	100	100	100	20	50	100	50	50	50	100	100	100	0.01	0.01	0.01	0.01	0.01
ADWG 2011 Recreational (v3.6 updated 2021)			10	8000	3000			6000																										0.1
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)	0.008		700	180	80					70																								0.2
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																		
2-4m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
4-8m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																					
>8m			**5000**	**NL**	**NL**			**NL**		**NL**	**7000**		**NL**																					

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N																																
SRT_BH052	SRT_BH052	19/08/2020	Normal	738860	0.1	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	15/09/2020	Normal	744463	0.008	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	26/10/2020	Normal	753369	0.093	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	18/11/2020	Normal	758435	0.018	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	22/12/2020	Normal	765715	<0.005	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	29/01/2021	Normal	770782	0.027	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	17/02/2021	Normal	775277	<0.005	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	70	70	200	200	470	<50	<100	<100	-	<20	100	100	200	400	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	18/03/2021	Normal	781353	0.006	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	27/04/2021	Normal	791517	<0.005	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	27/05/2021	Normal	799115	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	110	110	500	<100	610	70	<100	<100	-	<20	120	500	<100	620	80	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH052	SRT_BH052	17/06/2021	Normal	803914	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT-BH052	SRT_BH052	12/07/2021	Normal	810513	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH059	SRT_BH059	26/11/2018	Normal	629922	0.077	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	3100	3100	2900	800	6800	<50	100	<100	-	<20	2900	2600	900	6400	<50	100	<100	100	<1	<1	<1	<1	<1
SRT_BH059	SRT_BH059	17/12/2018	Normal	634274	0.053	0.8	<1	2	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH059	SRT_BH059	18/01/2019	Normal	636542	0.054	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH059	SRT_BH059	20/02/2019	Normal	641720	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH059	SRT_BH059	17/04/2019	Normal	651825	<0.005	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT_BH059	SRT_BH059	15/05/2019	Normal	656080	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH059	SRT_BH059	7/06/2019	Normal	660130	<0.005	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT-BH059	SRT_BH059	31/07/2019	Normal	669059	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH059	SRT_BH059	30/08/2019	Normal	674722	0.12	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH059	SRT_BH059	27/09/2019	Normal	679636	0.008	<0.05	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	120	<100	<100	-	<20	<50	<100	<100	<100	100	<100	<100	100	<1	<1	<1	<1	<1
SRT_BH059	SRT_BH059	18/10/2019	Normal	683453	<0.005	0.06	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH059	SRT_BH059	15/11/2019	Normal	688512	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH059	SRT_BH059	18/12/2019	Normal	694466	0.005	0.08	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH059	SRT_BH059	20/01/2020	Normal	698379	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH059	SRT_BH059	26/02/2020	Normal	704673	0.054	0.09	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH059	SRT_BH059	26/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	16/03/2020	Normal	708508	0.042	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH059	SRT_BH059	15/04/2020	Normal	714027	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH059	SRT_BH059	18/05/2020	Normal	720682	<0.05	0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH059	SRT_BH059	17/06/2020	Normal	726825	0.057	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH059	SRT_BH059	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	17/07/2020	Normal	732590	<0.005	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH059	SRT_BH059	18/08/2020	Normal	738860	<0.005	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH059	SRT_BH059	15/09/2020	Normal	744463	0.13	0.06	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	0.03	0.04	<0.01
SRT_BH059	SRT_BH059	26/10/2020	Normal	753369	0.006	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	100	<100	100	<50	<100	<100	-	<20	<50	200	<100	200	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH059	SRT_BH059	18/11/2020	Normal	758435	0.011	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	200	<100	200	<50	<100	<100	-	<20	50	200	<100	250	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH060	SRT_BH060	16/03/2020	Normal	708508	0.055	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_BH060	SRT_BH060	15/04/2020	Normal	714027	0.025	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	0.02	<0.01	<0.01
SRT-BH063	SRT_BH063	6/09/2018	Normal	616629	0.22	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT-BH063	SRT_BH063	25/10/2018	Normal	624838	0.21	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH063	SRT_BH063	26/11/2018	Normal	629922	0.067	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	730	730	1100	200	2030	<50	<100	<100	-	<20	620	1000	300	1920	<50	<100	<100	<100	<1	<1	<1	<1	<1
QA02	SRT_BH063	27/11/2018	Interlab_D	ES1835581	0.016	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<1	<1	<1	<1	<0.5
SRT_BH063	SRT_BH063	17/12/2018	Normal	634274	0.019	0.39	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QA01	SRT_BH063	17/12/2018	Field_D	634274	0.015	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT_BH063	SRT_BH063	17/01/2019	Normal	636542	0.11	0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QA01	SRT_BH063	17/01/2019	Field_D	636542	0.023	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT_BH063	SRT_BH063	21/02/2019	Normal	641720	0.034	0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QA02	SRT_BH063	21/02/2019	Interlab_D	ES1905610	0.005	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<1	<1	<1	<1	<0.5
SRT_BH063	SRT_BH063	18/04/2019	Normal	651825	0.085	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	200	<100	200	<50	200	<100	-	<20	<50	200	<100	200	<50	100	<100	100	<1	<1	<1	<1	<1
SRT_BH063	SRT_BH063	15/05/2019	Normal	656080	0.014	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1

		Iron speciation	BTEXN								TRH - NEPM 2013							I - NEPM 2013 - SG Clea				TRH - NEPM 1999					H - NEPM 1999 - SG Clea								
	Zinc (Filtered)	Ferrous Iron	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX (Sum of Total) - Lab Calc	Naphthalene (BTEXN suite)	F1 (C6-C10 minus BTEX)	C6-C10 Fraction	F2 (>C10-C16 minus Naphthalene)	>C10-C16 Fraction	F3 (>C16-C34 Fraction)	F4 (>C34-C40 Fraction)	>C10-C40 (Sum of Total)	>C10-C16 SG Cleanup	>C16-C34 SG Cleanup	>C34-C40 SG Cleanup	>C10-C40 (sum) SG Cleanup	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 (Sum of Total)	C10-C14 SG Cleanup	C15-C28 SG Cleanup	C29-C36 SG Cleanup	C10-C36 (sum) SG Cleanup	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene
	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.005	0.05	1	1	1	1	2	2	1	5	20	20	50	50	100	100	100	50	100	100	100	20	50	100	50	50	50	100	100	100	0.01	0.01	0.01	0.01	0.01
ADWG 2011 Recreational (v3.6 updated 2021)			10	8000	3000			6000																											0.1
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)	0.008		700	180	80					70																									0.2
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																			
2-4m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																						
4-8m			**5000**	**NL**	**NL**			**NL**		**NL**	**6000**		**NL**																						
>8m			**5000**	**NL**	**NL**			**NL**		**NL**	**7000**		**NL**																						

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N																																
SRT_BH063	SRT_BH063	7/06/2019	Normal	660130	0.036	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT-BH063	SRT_BH063	29/07/2019	Normal	669059	0.018	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_BH063	SRT_BH063	28/08/2019	Normal	674722	0.032	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT-BH064	SRT_BH064	6/09/2018	Normal	616629	0.032	-	3	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT-BH082	SRT_BH082	25/10/2018	Normal	624838	0.009	0.16	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QA01	SRT_BH082	25/10/2018	Field_D	624838	0.009	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT_BH082	SRT_BH082	26/11/2018	Normal	629922	0.021	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QA01	SRT_BH082	26/11/2018	Field_D	629922	0.17	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT-CBH001	SRT_CBH001	6/09/2018	Normal	616629	0.012	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QA01	SRT_CBH001	6/09/2018	Field_D	616629	0.058	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT-CBH001	SRT_CBH001	25/10/2018	Normal	624838	0.22	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH001	SRT_CBH001	26/11/2018	Normal	629922	0.094	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	510	510	1000	300	1810	<50	<100	<100	-	<20	140	800	400	1340	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT-CBH007	SRT_CBH007	6/09/2018	Normal	616629	0.48	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT-CBH015	SRT_CBH015	7/09/2018	Normal	616629	0.072	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT-CBH015	SRT_CBH015	25/10/2018	Normal	624838	0.073	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH015	SRT_CBH015	26/11/2018	Normal	629922	0.02	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH015	SRT_CBH015	17/12/2018	Normal	634274	0.04	<0.05	<1	2	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QA02	SRT_CBH015	17/12/2018	Interlab_D	ES1838345	0.024	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<1	<1	<1	<1	<0.5
SRT_CBH015	SRT_CBH015	18/01/2019	Normal	636542	0.022	0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QA02	SRT_CBH015	18/01/2019	Interlab_D	ES1901871	0.077	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<1	<1	<1	<1	<0.5
SRT_CBH015	SRT_CBH015	20/02/2019	Normal	641720	0.023	0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH015	SRT_CBH015	17/04/2019	Normal	651825	0.024	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT_CBH015	SRT_CBH015	15/05/2019	Normal	656080	0.024	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH015	SRT_CBH015	7/06/2019	Normal	660130	0.027	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT-CBH015	SRT_CBH015	31/07/2019	Normal	669059	0.021	<0.05	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QC02	SRT_CBH015	31/07/2019	Field_D	669059	0.022	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT_CBH015	SRT_CBH015	30/08/2019	Normal	674722	0.025	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	300	<100	300	<50	200	<100	-	<20	<50	300	<100	300	<50	100	<100	100	<1	<1	<1	<1	<1
QC02	SRT_CBH015	30/08/2019	Field_D	674722	0.026	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT_CBH015	SRT_CBH015	27/09/2019	Normal	679636	0.034	<0.05	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH015	SRT_CBH015	18/10/2019	Normal	683453	0.023	0.07	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH015	SRT_CBH015	15/11/2019	Normal	688512	0.022	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	540	540	<100	<100	540	<50	<100	<100	-	<20	490	<100	<100	490	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH015	SRT_CBH015	18/12/2019	Normal	694466	0.024	0.17	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT-CBH017	SRT_CBH017	7/09/2018	Normal	616629	0.069	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT-CBH017	SRT_CBH017	25/10/2018	Normal	624838	0.12	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH017	SRT_CBH017	26/11/2018	Normal	629922	0.21	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH017	SRT_CBH017	17/12/2018	Normal	634274	0.017	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH017	SRT_CBH017	18/01/2019	Normal	636542	0.01	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH017	SRT_CBH017	20/02/2019	Normal	641720	0.033	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QA01	SRT_CBH017	20/02/2019	Field_D	641720	0.023	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT_CBH017	SRT_CBH017	17/04/2019	Normal	651825	0.008	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT_CBH017	SRT_CBH017	15/05/2019	Normal	656080	0.008	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH017	SRT_CBH017	7/06/2019	Normal	660130	0.017	<0.5	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT-CBH017	SRT_CBH017	31/07/2019	Normal	669059	0.015	<0.05	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH017	SRT_CBH017	30/08/2019	Normal	674722	0.014	<0.05	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	200	<100	200	<50	100	<100	-	<20	<50	200	<100	200	<50	100	<100	100	<1	<1	<1	<1	<1
SRT_CBH017	SRT_CBH017	27/09/2019	Normal	679636	0.006	0.05	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
QC02	SRT_CBH017	27/09/2019	Field_D	679636	0.006	-	<1	1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1
SRT_CBH017	SRT_CBH017	18/10/2019	Normal	683453	0.069	0.09	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH017	SRT_CBH017	15/11/2019	Normal	688512	0.008	0.07	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<1	<1	<1	<1	<1
SRT_CBH017	SRT_CBH017	18/12/2019	Normal	694466	0.01	0.17	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01
SRT_CBH017	SRT_CBH017	20/01/2020	Normal	698379	0.074	0.64	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<20	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

					PAHs - standard 16													PAHs - extended					Phenols - Halogenated										Phenols - Non-Halogenated										
					Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene-PAH	Phenanthrene	Pyrene	Sum of standard 16 PAHs	PAHs (Sum of total) - Lab calc	Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Benzo(e)pyrene	Perylene	2-Chlorophenol	2,4-Dichlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	Pentachlorophenol	tetrachlorophenols	Phenols (halogenated)	Phenols(halogenated) - Lab Calc	Phenol	2-Nitrophenol	2-Methylphenol (o-Cresol)	3,4-Methylphenol (m,p-cresol)	2,4-Dimethylphenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-Nitrophenol	Cresol Total	Phenols (Total Non Halogenated)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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					0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	0.5	0.1	0.1	0.1	0.1	0.1	0.6	0.6	1	1	0.6	1	2	30	10	10	0.6	1	0.6	2	1	6	30	100	30	2	100
ADWG 2011 Recreational (v3.6 updated 2021)																								3000	2000		200			100															
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)										1.4			70	2																22				400										
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																											
2-4m													**NL**																															
4-8m													**NL**																															
>8m													**NL**																															
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																								
CSM_BH02	CSM_BH02	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	14/05/2019	Normal	656080	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	6/06/2019	Normal	660130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	30/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	29/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	26/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	17/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	13/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	17/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	21/01/2020	Normal	698379	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	25/02/2020	Normal	704673	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	14/04/2020	Normal	714027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	19/05/2020	Normal	720682	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	18/06/2020	Normal	726825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH02	18/06/2020	Field_D	726825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	15/07/2020	Normal	732590	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	18/08/2020	Normal	738860	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	14/09/2020	Normal	744463	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH02	14/09/2020	Field_D	744463	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	27/10/2020	Normal	753369	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	19/11/2020	Normal	758435	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	23/12/2020	Normal	765715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	27/01/2021	Normal	770782	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH02	27/01/2021	Field_D	770782	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/02/2021	Normal	775277	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	17/03/2021	Normal	781353	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	27/04/2021	Normal	791517	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	-	0.02	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	25/05/2021	Normal	799115	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH02	CSM_BH02	15/06/2021	Normal	803914	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
CSM-BH02	CSM_BH02	12/07/2021	Normal	810513	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
CSM_BH02	CSM_BH02	9/08/2021	Normal	816445	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	<2	<2	<6	<30	<100	<30	<10	<100
CSM_BH02	CSM_BH02	28/09/2021	Normal	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100
CSM_BH04	CSM_BH04	16/04/2019	Normal	651825	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	13/05/2019	Normal	656080	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	11/06/2019	Normal	660130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	30/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	29/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	26/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	17/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH04	17/10/2019	Field_D	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	13/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH04	13/11/2019	Interlab_D	ES1937682	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	17/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	21/01/2020	Normal	698379	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	<0.01	<0.01	-	0.06	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH04	21/01/2020	Field_D	698379	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1	0.17	0.08	-	1.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	25/02/2020	Normal	704673	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	25/02/2020	Field_D	704673	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	18/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	14/04/2020	Normal	714027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	20/05/2020	Normal	720682	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	18/06/2020	Normal	726825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	18/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	15/07/2020	Normal	732590	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	PAHs - standard 16														PAHs - extended					Phenols - Halogenated										Phenols - Non-Halogenated										
	Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene-PAH	Phenanthrene	Pyrene	Sum of standard 16 PAHs	PAHs (Sum of total) - Lab calc	Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Benzo(e)pyrene	Perylene	2-Chlorophenol	2,4-Dichlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	Pentachlorophenol	tetrachlorophenols	Phenols (halogenated)	Phenols(halogenated) - Lab Calc	Phenol	2-Nitrophenol	2-Methylphenol (o-Cresol)	3,4-Methylphenol (m,p-cresol)	2,4-Dimethylphenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-Nitrophenol	Cresol Total	Phenols (Total Non Halogenated)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	0.5	0.1	0.1	0.1	0.1	0.1	0.6	0.6	1	1	0.6	1	2	30	10	10	0.6	1	0.6	2	1	6	30	100	30	2	100
ADWG 2011 Recreational (v3.6 updated 2021)																				3000	2000		200			100															
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)						1.4			70	2																22				400										
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																							
2-4m									**NL**																														
4-8m									**NL**																														
>8m									**NL**																														

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N																																						
CSM_BH04	CSM_BH04	17/08/2020	Normal	738860	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH04	17/08/2020	Interlab_D	ES2028968	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	14/09/2020	Normal	744463	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	27/10/2020	Normal	753369	0.07	0.06	<0.01	0.08	<0.01	0.07	<0.01	<0.01	0.05	0.06	0.15	-	0.72	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	19/11/2020	Normal	758435	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH04	19/11/2020	Field_D	758435	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	23/12/2020	Normal	765715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	27/01/2021	Normal	770782	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH04	27/01/2021	Interlab_D	ES2102832	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	17/02/2021	Normal	775277	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH04	17/02/2021	Field_D	775277	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	17/03/2021	Normal	781353	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH04	17/03/2021	Interlab_D	ES2109792	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	27/04/2021	Normal	791517	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	-	0.03	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH04	CSM_BH04	25/05/2021	Normal	799115	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH04	25/05/2021	Interlab_D	ES2119803	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	15/06/2021	Normal	803914	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
QC01	CSM_BH04	15/06/2021	Field_D	803914	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM-BH04	CSM_BH04	12/07/2021	Normal	810513	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
QC01	CSM_BH04	12/07/2021	Field_D	810513	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	9/08/2021	Normal	816445	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	<2	<2	<6	<30	<100	<30	<10	<100
QC01	CSM_BH04	9/08/2021	Field_D	816445	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	28/09/2021	Normal	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100
CSM_BH05	CSM_BH05	17/04/2019	Normal	651825	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH05	CSM_BH05	13/05/2019	Normal	656080	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH05	CSM_BH05	11/06/2019	Normal	660130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH05	CSM_BH05	29/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	18/04/2019	Normal	651825	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	14/05/2019	Normal	656080	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH06	14/05/2019	Field_D	656080	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	6/06/2019	Normal	660130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC04	CSM_BH06	8/06/2019	Field_D	660130	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	30/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	28/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	26/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	17/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	13/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	17/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH06	17/12/2019	Field_D	694466	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	25/02/2020	Normal	704673	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	16/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH06	16/03/2020	Interlab_D	ES2009232	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	14/04/2020	Normal	714027	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	<0.01	<0.01	<0.01	<0.01	0.1	-	0.17	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH06	14/04/2020	Interlab_D	ES2012716	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	19/05/2020	Normal	720682	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	18/06/2020	Normal	726825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	18/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	15/07/2020	Normal	732590	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	18/08/2020	Normal	738860	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	14/09/2020	Normal	744463	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	27/10/2020	Normal	753369	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	19/11/2020	Normal	758435	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	22/12/2020	Normal	765715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	27/01/2021	Normal	770782	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	18/02/2021	Normal	775277	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.02	<0.01	-	0.05	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	17/03/2021	Normal	781353	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

					PAHs - standard 16													PAHs - extended					Phenols - Halogenated										Phenols - Non-Halogenated										
					Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene-PAH	Phenanthrene	Pyrene	Sum of standard 16 PAHs	PAHs (Sum of total) - Lab calc	Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Benzo(e)pyrene	Perylene	2-Chlorophenol	2,4-Dichlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	Pentachlorophenol	tetrachlorophenols	Phenols (halogenated)	Phenols(halogenated) - Lab Calc	Phenol	2-Nitrophenol	2-Methylphenol (o-Cresol)	3,4-Methylphenol (m,p-cresol)	2,4-Dimethylphenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-Nitrophenol	Cresol Total	Phenols (Total Non Halogenated)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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					0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	0.5	0.1	0.1	0.1	0.1	0.1	0.6	0.6	1	1	0.6	1	2	30	10	10	0.6	1	0.6	2	1	6	30	100	30	2	100
ADWG 2011 Recreational (v3.6 updated 2021)																								3000	2000		200			100															
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)										1.4			70	2																22				400										
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																											
2-4m													**NL**																															
4-8m													**NL**																															
>8m													**NL**																															
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																								
CSM_BH06	CSM_BH06	27/04/2021	Normal	791517	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	-	0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH06	CSM_BH06	25/05/2021	Normal	799115	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH06	25/05/2021	Field_D	799115	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	16/06/2021	Normal	803914	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
CSM-BH06	CSM_BH06	12/07/2021	Normal	810513	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
CSM_BH06	CSM_BH06	9/08/2021	Normal	816445	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	<2	<2	<6	<30	<100	<30	<10	<100
CSM_BH06	CSM_BH06	29/09/2021	Normal	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100
CSM_BH08	CSM_BH08	18/04/2019	Normal	651825	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH08	18/04/2019	Field_D	651825	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	15/05/2019	Normal	656080	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	6/06/2019	Normal	660130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC03	CSM_BH08	6/06/2019	Interlab_D	ES1917968	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	30/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	29/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	26/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	18/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	13/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	16/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.06	<0.01	0.03	-	0.14	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	21/01/2020	Normal	698379	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	25/02/2020	Normal	704673	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	18/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	14/04/2020	Normal	714027	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	0.03	-	0.06	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	18/05/2020	Normal	720682	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	-	0.05	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH08	18/05/2020	Interlab_D	ES2017182	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	17/06/2020	Normal	726825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	<0.01	<0.01	-	0.09	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	17/06/2020	Interlab_D	ES2021404	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	15/07/2020	Normal	732590	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH08	15/07/2020	Interlab_D	ES2024606	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	19/08/2020	Normal	738860	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	14/09/2020	Normal	744463	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH08	14/09/2020	Interlab_D	ES2032425	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	27/10/2020	Normal	753369	0.15	0.14	<0.01	0.15	<0.01	0.17	<0.01	<0.01	<0.01	0.04	0.17	-	1.08	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH08	27/10/2020	Field_D	753369	0.15	0.15	0.18	0.18	0.03	0.15	<0.01	0.11	0.03	0.08	0.16	-	1.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH08	27/10/2020	Interlab_D	ES2037870	0.4	0.1	0.3	0.2	<0.1	0.3	<0.1	0.2	<0.1	<0.1	0.3	-	2.3	0.4	<0.1	<0.1	<0.1	0.2	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	19/11/2020	Normal	758435	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	21/12/2020	Normal	765715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
BD01	CSM_BH08	21/12/2020	Field_D	765715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD01	CSM_BH08	21/12/2020	Interlab_D	ES2100056	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	28/01/2021	Normal	770782	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	19/02/2021	Normal	775277	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	17/03/2021	Normal	781353	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH08	17/03/2021	Field_D	781353	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	27/04/2021	Normal	791517	0.15	0.14	0.11	0.19	<0.01	0.26	<0.01	0.06	0.02	0.04	0.28	-	1.6	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH08	27/04/2021	Interlab_D	ES2115835	0.3	0.1	0.2	0.2	<0.1	0.3	<0.1	0.2	<0.1	<0.1	0.4	-	2.2	0.4	<0.1	<0.1	<0.1	0.3	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	27/05/2021	Normal	799115	0.07	0.07	0.04	0.08	0.01	0.11	<0.01	0.01	<0.01	<0.01	0.14	-	0.71	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH08	CSM_BH08	15/06/2021	Normal	803914	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
QC02	CSM_BH08	15/06/2021	Interlab_D	ES2122606	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM-BH08	CSM_BH06	12/07/2021	Normal	810513	0.28	0.26	0.18	0.22	0.04	0.27	<0.01	0.22	0.03	0.04	0.37	-	6.25	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
CSM_BH08	CSM_BH08	10/08/2021	Normal	816445	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	<2	<2	<6	<30	<100	<30	<10	<100
QC02	CSM_BH08	10/08/2021	Interlab_D	ES2129447	0.4	0.2	0.3	0.3	<0.1	0.3	<0.1	0.2	<0.1	<0.1	0.4	-	2.8	0.5	<0.1	<0.1	<0.1	0.3	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	28/09/2021	Normal	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100
QC02	CSM_BH08	28/09/2021	Interlab_D	EM2119579	0.4	0.1	0.3	0.2	<0.1	0.2	<0.1	0.2	<0.1	<0.1	0.3	-	2.3	0.5	<0.1	<0.1	<0.1	0.3	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	17/04/2019	Normal	651825	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH09S	17/04/2019	Interlab_D	ES1912362	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	13/05/2019	Normal	656080	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

					PAHs - standard 16													PAHs - extended					Phenols - Halogenated										Phenols - Non-Halogenated										
					Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene-PAH	Phenanthrene	Pyrene	Sum of standard 16 PAHs	PAHs (Sum of total) - Lab calc	Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Benzo(e)pyrene	Perylene	2-Chlorophenol	2,4-Dichlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	Pentachlorophenol	tetrachlorophenols	Phenols (halogenated)	Phenols(halogenated) - Lab Calc	Phenol	2-Nitrophenol	2-Methylphenol (o-Cresol)	3,4-Methylphenol (m,p-cresol)	2,4-Dimethylphenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-Nitrophenol	Cresol Total	Phenols (Total Non Halogenated)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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					0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	0.5	0.1	0.1	0.1	0.1	0.1	0.6	0.6	1	1	0.6	1	2	30	10	10	0.6	1	0.6	2	1	6	30	100	30	2	100
ADWG 2011 Recreational (v3.6 updated 2021)																								3000	2000		200			100															
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)										1.4			70	2																22				400										
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																											
2-4m													**NL**																															
4-8m													**NL**																															
>8m													**NL**																															
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																								
QC01	CSM_BH09S	13/05/2019	Interlab_D	ES1914810	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	11/06/2019	Normal	660130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH09S	CSM_BH09S	29/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH09S	29/07/2019	Interlab_D	ES1924197	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	28/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	140	<10	<3	<6	<3	<30	<30	<100	<30	-	140
QC01	CSM_BH09S	28/08/2019	Interlab_D	EM1914568	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	25/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH09S	25/09/2019	Interlab_D	ES1931406	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH09S	CSM_BH09S	14/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH09S	CSM_BH09S	16/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH09S	16/12/2019	Interlab_D	ES1941823	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	17/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH09S	CSM_BH09S	16/04/2020	Normal	714027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH09S	CSM_BH09S	20/05/2020	Normal	720682	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH09S	CSM_BH09S	19/06/2020	Normal	726825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH09s	CSM_BH09S	19/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/07/2020	Normal	732590	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH09S	16/07/2020	Field_D	732590	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	18/08/2020	Normal	738860	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH09S	18/08/2020	Field_D	738860	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/09/2020	Normal	744463	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH09S	CSM_BH09S	28/10/2020	Normal	753369	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH09S	CSM_BH09S	20/11/2020	Normal	758435	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH09S	CSM_BH09S	21/12/2020	Normal	765715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	16/04/2019	Normal	651825	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	13/05/2019	Normal	656080	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	11/06/2019	Normal	660130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	30/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	29/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	25/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	16/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH10S	16/10/2019	Interlab_D	ES1934142	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	14/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH10S	14/11/2019	Field_D	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	20/01/2020	Normal	698379	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH10S	20/01/2020	Interlab_D	ES2001825	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	25/02/2020	Normal	704673	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH10S	17/03/2020	Field_D	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	15/04/2020	Normal	714027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH10S	15/04/2020	Field_D	714027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	18/05/2020	Normal	720682	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	-	0.1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH10S	20/05/2020	Field_D	720682	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	19/06/2020	Normal	726825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	19/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	15/07/2020	Normal	732590	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	17/08/2020	Normal	738860	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	15/09/2020	Normal	744463	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	27/10/2020	Normal	753369	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	18/11/2020	Normal	758435	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	PAHs - standard 16														PAHs - extended					Phenols - Halogenated									Phenols - Non-Halogenated										
	Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene-PAH	Phenanthrene	Pyrene	Sum of standard 16 PAHs	PAHs (Sum of total) - Lab calc	Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Benzo(e)pyrene	Perylene	2-Chlorophenol	2,4-Dichlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	Pentachlorophenol	tetrachlorophenols	Phenols (halogenated)	Phenols(halogenated) - Lab Calc	Phenol	2-Nitrophenol	2-Methylphenol (o-Cresol)	3,4-Methylphenol (m,p-cresol)	2,4-Dimethylphenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-Nitrophenol	Cresol Total	Phenols (Total Non Halogenated)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	0.5	0.1	0.1	0.1	0.1	0.1	0.6	0.6	1	1	0.6	1	2	30	10	10	0.6	1	0.6	2	1	6	30	100	30	2	100
ADWG 2011 Recreational (v3.6 updated 2021)																				3000	2000		200			100														
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)						1.4			70	2																22				400										
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																							
2-4m									**NL**																														
4-8m									**NL**																														
>8m									**NL**																														

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N																																					
QC01	CSM_BH10S	23/11/2020	Interlab_D	ES2041428	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	21/12/2020	Normal	765715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	28/01/2021	Normal	770782	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	17/02/2021	Normal	775277	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	-	0.02	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	CSM_BH10S	17/02/2021	Interlab_D	ES2105795	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/03/2021	Normal	781353	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	27/04/2021	Normal	791517	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	-	0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	CSM_BH10S	27/04/2021	Field_D	791517	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	26/05/2021	Normal	799115	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH10S	CSM_BH10S	15/06/2021	Normal	803914	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
CSM-BH10S	CSM_BH10S	12/07/2021	Normal	810513	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
QC02	CSM_BH10S	12/07/2021	Interlab_D	ES2125823	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	10/08/2021	Normal	816445	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	<2	<2	<6	<30	<100	<30	<10	<100
CSM_BH10S	CSM_BH10S	28/09/2021	Normal	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100
CSM_BH12S	CSM_BH12S	27/04/2021	Normal	791517	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	-	0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH12S	CSM_BH12S	26/05/2021	Normal	799115	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
CSM_BH12S	CSM_BH12S	17/06/2021	Normal	803914	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
CSM-BH12S	CSM_BH12S	12/07/2021	Normal	810513	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
CSM_BH12S	CSM_BH12S	10/08/2021	Normal	816445	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	<2	<2	<6	<30	<100	<30	<10	<100
CSM_BH12S	CSM_BH12S	28/09/2021	Normal	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100
CSM_BH13	CSM_BH13	29/09/2021	Normal	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100
CSM_BH14S	CSM_BH14S	29/09/2021	Normal	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100
GASW_BH10	GASW_BH10	5/06/2019	Normal	659250	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	30/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	28/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	26/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	17/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	13/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	16/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	-	0.04	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	21/01/2020	Normal	698379	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	-	0.05	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	11	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	24/02/2020	Normal	704673	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	<0.01	<0.01	-	0.09	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	15	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	18/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	33	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	14/04/2020	Normal	714027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	60	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	19/05/2020	Normal	720682	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	45	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	18/06/2020	Normal	726825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.01	0.02	-	0.07	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	33	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	15/07/2020	Normal	732590	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	68	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	17/08/2020	Normal	738860	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	14/09/2020	Normal	744463	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	26	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	27/10/2020	Normal	753369	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	53	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	19/11/2020	Normal	758435	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	23/12/2020	Normal	765715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	120	<3	<30	<30	<100	<30	-	120
GASW_BH10	GASW_BH10	27/01/2021	Normal	770782	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	18/02/2021	Normal	775277	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	-	0.02	-	-	-	-	-	-	<5	<5	<10	<10	<5	<10	<10	<30	<10	-	<5	<10	<5	<10	<5	<50	<50	<100	<50	-	<100
GASW_BH10	GASW_BH10	17/03/2021	Normal	781353	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	27/04/2021	Normal	791517	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	29	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	25/05/2021	Normal	799115	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	15	<3	<30	<30	<100	<30	-	<100
GASW_BH10	GASW_BH10	15/06/2021	Normal	803914	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
GASW-BH10	GASW_BH10	12/07/2021	Normal	810513	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	-	0.03	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
GASW_BH10	GASW_BH10	10/08/2021	Normal	816445	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	4	<2	<6	<30	<100	<30	<10	<100
GASW_BH10	GASW_BH10	29/09/2021	Normal	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	-	0.02	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100
GASW_BH11	GASW_BH11	5/06/2019	Normal	659250	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	GASW_BH11	5/06/2019	Field_D	659250	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	30/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	28/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	25/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	16/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

					PAHs - standard 16													PAHs - extended					Phenols - Halogenated										Phenols - Non-Halogenated										
					Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene-PAH	Phenanthrene	Pyrene	Sum of standard 16 PAHs	PAHs (Sum of total) - Lab calc	Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Benzo(e)pyrene	Perylene	2-Chlorophenol	2,4-Dichlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	Pentachlorophenol	tetrachlorophenols	Phenols (halogenated)	Phenols(halogenated) - Lab Calc	Phenol	2-Nitrophenol	2-Methylphenol (o-Cresol)	3,4-Methylphenol (m,p-cresol)	2,4-Dimethylphenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-Nitrophenol	Cresol Total	Phenols (Total Non Halogenated)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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					0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	0.5	0.1	0.1	0.1	0.1	0.1	0.6	0.6	1	1	0.6	1	2	30	10	10	0.6	1	0.6	2	1	6	30	100	30	2	100
ADWG 2011 Recreational (v3.6 updated 2021)																								3000	2000		200			100															
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)										1.4			70	2																22				400										
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																												
2-4m													**NL**																																
4-8m													**NL**																																
>8m													**NL**																																
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																									
GASW_BH11	GASW_BH11	14/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	16/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	-	0.02	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	22/01/2020	Normal	698379	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	-	0.04	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	24/02/2020	Normal	704673	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	17/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	16/04/2020	Normal	714027	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	<0.01	<0.01	<0.01	0.04	0.04	-	0.2	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	20/05/2020	Normal	720682	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	19/06/2020	Normal	726825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	16/07/2020	Normal	732590	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.02	<0.01	0.08	0.07	0.04	-	0.28	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	17/08/2020	Normal	738860	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	58	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	16/09/2020	Normal	744463	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	27/10/2020	Normal	753369	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	20/11/2020	Normal	758435	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	21/12/2020	Normal	765715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	28/01/2021	Normal	770782	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	17/02/2021	Normal	775277	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	-	0.02	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	18/03/2021	Normal	781353	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	27/04/2021	Normal	791517	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	26/05/2021	Normal	799115	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH11	GASW_BH11	16/06/2021	Normal	803914	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
GASW-BH11	GASW_BH11	12/07/2021	Normal	810513	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
GASW_BH11	GASW_BH11	10/08/2021	Normal	816445	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	<2	<2	<6	<30	<100	<30	<10	<100
GASW_BH11	GASW_BH11	28/09/2021	Normal	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100
BH23	GASW_BH23	23/08/2019	Normal	ES1926979	<1	<1	<1	<1	<1	<1	1.3	<1	4	1.7	<1	7	-	<0.5	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<2	-	-	-	16.4	<1	8	4.7	2	-	-	-	-	-	-
GW-BR1	GASW_BH23	23/08/2019	Field_D	ES1926979	<1	<1	<1	<1	<1	<1	<1	<1	2.9	1.6	<1	4.5	-	<0.5	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<2	-	-	-	10.2	<1	6.2	4.3	1.6	-	-	-	-	-	-
GASW_BH23	GASW_BH23	25/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	-	2	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	17	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	16/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	4	<1	<1	-	4	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	22	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	14/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	2	<1	7	1	<1	-	11	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	67	<10	6	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	16/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	0.29	0.3	<0.01	0.28	0.1	0.38	-	1.74	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	22/01/2020	Normal	698379	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.18	<0.01	0.49	0.08	0.09	-	1.13	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	37	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	24/02/2020	Normal	704673	<0.01	<0.01	<0.01	0.05	<0.01	0.39	1.4	<0.01	9.1	1.6	0.4	-	14.88	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	21	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	17/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	0.12	0.16	<0.01	0.43	0.07	0.17	-	1.21	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	6	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	16/04/2020	Normal	714027	0.06	0.05	0.04	0.14	<0.01	0.54	1	0.04	1.7	0.78	0.67	-	6.4	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	15	<10	5	<6	7	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	20/05/2020	Normal	720682	0.16	0.13	<0.01	0.15	<0.01	0.6	0.42	<0.01	0.61	1	0.78	-	4.72	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	17/06/2020	Normal	726825	0.05	0.05	0.04	0.08	<0.01	0.25	0.19	0.03	0.25	0.21	0.31	-	1.87	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	16/07/2020	Normal	732590	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01	<0.01	<0.01	0.1	-	0.15	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	17/08/2020	Normal	738860	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	15/09/2020	Normal	744463	0.49	0.53	0.47	0.42	0.14	1.2	0.87	0.36	1.7	0.81	1.9	-	11.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	20	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	26/10/2020	Normal	753369	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	18/11/2020	Normal	758435	<0.01	<0.01	<0.01	<0.01	<0.01	0.4	1.3	<0.01	3.5	0.7	0.41	-	7.91	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	21/12/2020	Normal	765715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	28/01/2021	Normal	770782	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	17/02/2021	Normal	775277	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	0.09	<0.01	<0.01	-	0.13	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	18/03/2021	Normal	781353	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	27/04/2021	Normal	791517	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	26/05/2021	Normal	799115	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	<0.01	<0.01	<0.01	<0.01	0.08	-	0.15	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH23	GASW_BH23	16/06/2021	Normal	803914	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
GASW-BH23	GASW_BH23	12/07/2021	Normal	810513	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.06	<0.01	0.03	-	0.16	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
GASW_BH23	GASW_BH23	10/08/2021	Normal	816445	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	0.15	<0.01	0.12	0.06	0.11	-	0.76	-	-	-	-	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	<2	<2	<6	<30	<100	<30	<10	<100
GASW_BH23	GASW_BH23	29/09/2021	Normal	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100
GW-SR1	GASW_BH25A	23/08/2019	Interlab_D	673339	<1	<1	<1	<1	<1	<1	<1	<1	7	1	<1	-	8	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	6	<10	5	7	<3	<30	<30	<100	<30	-	<100
BH25a	GASW_BH25A	23/08/2019	Normal	ES1926979	<1	<1	<1	<1	<1	2.4	2.1	<1	9.6	3.7	2.8	23.3	-	<0.5	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<2	-	-	-	7.7	<1	4.2	12	2.3	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	25/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	-	1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH25a	GASW_BH25A	16/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	-	2	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	11	<10	5	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	14/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	1	<1	3	<1	<1	-	4	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	53	<10	42	7	4	<30	<30	<100	<30	-	106

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

					PAHs - standard 16													PAHs - extended					Phenols - Halogenated										Phenols - Non-Halogenated										
					Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene-PAH	Phenanthrene	Pyrene	Sum of standard 16 PAHs	PAHs (Sum of total) - Lab calc	Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Benzo(e)pyrene	Perylene	2-Chlorophenol	2,4-Dichlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	Pentachlorophenol	tetrachlorophenols	Phenols (halogenated)	Phenols(halogenated) - Lab Calc	Phenol	2-Nitrophenol	2-Methylphenol (o-Cresol)	3,4-Methylphenol (m,p-cresol)	2,4-Dimethylphenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-Nitrophenol	Cresol Total	Phenols (Total Non Halogenated)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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					0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	0.5	0.1	0.1	0.1	0.1	0.1	0.6	0.6	1	1	0.6	1	2	30	10	10	0.6	1	0.6	2	1	6	30	100	30	2	100
ADWG 2011 Recreational (v3.6 updated 2021)																								3000	2000		200				100														
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)										1.4			70	2																22				400										
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																											
2-4m													**NL**																															
4-8m													**NL**																															
>8m													**NL**																															
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																								
GASW_BH25A	GASW_BH25A	16/12/2019	Normal	694466	0.21	0.27	0.2	0.35	0.05	1.5	1.1	0.15	4.9	1.6	2	-	14.85	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	88	<10	46	55	6	<30	<30	<100	<30	-	195
GASW_BH25A	GASW_BH25A	22/01/2020	Normal	698379	0.06	0.06	0.02	0.18	<0.01	0.79	1.9	0.02	20	2.6	0.98	-	29.34	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	11	<10	7	11	8	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	24/02/2020	Normal	704673	0.15	0.14	0.12	0.32	0.02	1.2	1.6	0.09	13	1.8	1.5	-	22.42	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	31	<10	7	10	<3	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25a	GASW_BH25A	17/03/2020	Normal	708508	0.07	0.06	0.03	0.1	<0.01	0.51	0.68	0.02	6.4	0.75	0.62	-	9.89	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	89	<10	21	26	<3	<30	<30	<100	<30	-	136
GASW_BH25A	GASW_BH25A	16/04/2020	Normal	714027	0.14	0.14	0.09	0.28	0.03	0.91	2	0.07	26	3.6	1.5	-	37.35	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	35	<10	10	7	5	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	20/05/2020	Normal	720682	0.37	0.26	0.05	0.52	<0.01	1.7	2	0.05	28	4.6	2.4	-	44.11	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	37	<10	16	14	6	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	19/06/2020	Normal	726825	0.14	0.15	0.11	0.22	0.05	0.86	1.4	0.11	17	2.1	1.1	-	25.21	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	36	<10	27	19	16	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	16/07/2020	Normal	732590	<0.01	<0.01	<0.01	0.08	<0.01	0.39	0.11	<0.01	0.17	0.28	0.45	-	1.77	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	11	<10	7	6	3	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	17/08/2020	Normal	738860	<0.01	<0.01	<0.01	<0.01	<0.01	0.41	0.95	<0.01	15	1.3	0.6	-	19.31	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	35	<10	25	16	25	<30	<30	<100	<30	-	101
GASW_BH25A	GASW_BH25A	16/09/2020	Normal	744463	0.13	0.14	0.12	0.12	0.03	1.1	1.8	0.08	21	2.2	1.5	-	30.26	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	38	<10	26	14	6	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	27/10/2020	Normal	753369	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	14	<10	3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	20/11/2020	Normal	758435	<0.01	<0.01	<0.01	<0.01	<0.01	0.12	0.14	<0.01	0.3	<0.01	0.18	-	0.92	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	46	<10	45	36	34	<30	<30	<100	<30	-	161
GASW_BH25A	GASW_BH25A	21/12/2020	Normal	765715	<0.01	<0.01	<0.01	<0.01	<0.01	0.12	<0.01	<0.01	0.19	<0.01	0.13	-	0.44	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	9	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	28/01/2021	Normal	770782	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	17/02/2021	Normal	775277	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	18/03/2021	Normal	781353	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	27/04/2021	Normal	791517	<0.01	<0.01	<0.01	<0.01	<0.01	0.11	0.07	<0.01	0.5	<0.01	0.09	-	0.9	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	20	<10	10	9	<3	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	26/05/2021	Normal	799115	<0.01	<0.01	<0.01	<0.01	<0.01	0.12	<0.01	<0.01	<0.01	<0.01	0.14	-	0.26	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH25A	GASW_BH25A	15/06/2021	Normal	803914	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
GASW-BH25A	GASW_BH25A	12/07/2021	Normal	810513	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
GASW_BH25A	GASW_BH25A	10/08/2021	Normal	816445	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	46	<1.5	4	<2	<2	<6	<30	<100	<30	<10	<100
GASW_BH25A	GASW_BH25A	29/09/2021	Normal	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100
GASW_BH7	GASW_BH7	5/06/2019	Normal	659250	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC01	GASW_BH7	5/06/2019	Interlab_D	ES1917381	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	30/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH7	GASW_BH7	28/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH7	GASW_BH7	25/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH7	GASW_BH7	16/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	5	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH7	GASW_BH7	14/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH7	GASW_BH7	16/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.05	<0.01	0.3	0.01	0.02	-	0.46	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	4	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH7	GASW_BH7	22/01/2020	Normal	698379	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.17	<0.01	<0.01	-	0.23	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH7	GASW_BH7	24/02/2020	Normal	704673	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.17	<0.01	<0.01	-	0.17	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
GASW_BH7	GASW_BH7	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	17/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	-	0.1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-BH039	SRT_BH039	7/09/2018	Normal	616629	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QA02	SRT_BH039	7/09/2018	Interlab_D	ES1826658	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH039	SRT_BH039	25/10/2018	Normal	624838	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QA02	SRT_BH039	26/10/2018	Interlab_D	ES1832040	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH047	SRT_BH047	6/09/2018	Normal	616629	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-BH047	SRT_BH047	25/10/2018	Normal	624838	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	26/11/2018	Normal	629922	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	18/12/2018	Normal	634274	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	17/01/2019	Normal	636542	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	20/02/2019	Normal	641720	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	16/04/2019	Normal	651825	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	14/05/2019	Normal	656080	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	7/06/2019	Normal	660130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-BH047	SRT_BH047	31/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	30/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	27/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	18/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	15/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	18/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	20/01/2020	Normal	698379	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	26/02/2020	Normal	704673	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	26/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

					PAHs - standard 16													PAHs - extended					Phenols - Halogenated										Phenols - Non-Halogenated										
					Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene-PAH	Phenanthrene	Pyrene	Sum of standard 16 PAHs	PAHs (Sum of total) - Lab calc	Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Benzo(e)pyrene	Perylene	2-Chlorophenol	2,4-Dichlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	Pentachlorophenol	tetrachlorophenols	Phenols (halogenated)	Phenols(halogenated) - Lab Calc	Phenol	2-Nitrophenol	2-Methylphenol (o-Cresol)	3,4-Methylphenol (m,p-cresol)	2,4-Dimethylphenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-Nitrophenol	Cresol Total	Phenols (Total Non Halogenated)
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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					0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	0.5	0.1	0.1	0.1	0.1	0.1	0.6	0.6	1	1	0.6	1	2	30	10	10	0.6	1	0.6	2	1	6	30	100	30	2	100
ADWG 2011 Recreational (v3.6 updated 2021)																								3000	2000		200			100															
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)										1.4			70	2																22				400										
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																											
2-4m													**NL**																															
4-8m													**NL**																															
>8m													**NL**																															
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																								
SRT_BH047	SRT_BH047	16/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	15/04/2020	Normal	714027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	18/05/2020	Normal	720682	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	17/06/2020	Normal	726825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/07/2020	Normal	732590	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	19/08/2020	Normal	738860	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	15/09/2020	Normal	744463	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	26/10/2020	Normal	753369	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	18/11/2020	Normal	758435	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	22/12/2020	Normal	765715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	29/01/2021	Normal	770782	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	17/02/2021	Normal	775277	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	18/03/2021	Normal	781353	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	27/04/2021	Normal	791517	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	-	0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	27/05/2021	Normal	799115	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH047	SRT_BH047	17/06/2021	Normal	803914	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
SRT-BH047	SRT_BH047	12/07/2021	Normal	810513	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
SRT_BH047	SRT_BH047	11/08/2021	Normal	816445	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	<2	<2	<6	<30	<100	<30	<10	<100
SRT_BH047	SRT_BH047	30/09/2021	Normal	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100
QC01	SRT_BH047	30/09/2021	Field_D	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH048	SRT_BH048	6/09/2018	Normal	616629	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-BH048	SRT_BH048	25/10/2018	Normal	624838	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH048	SRT_BH048	26/11/2018	Normal	629922	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH050	SRT_BH050	16/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH050	SRT_BH050	15/04/2020	Normal	714027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH050	SRT_BH050	17/06/2020	Normal	726825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH050	SRT_BH050	17/07/2020	Normal	732590	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH050	SRT_BH050	19/08/2020	Normal	738860	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH050	SRT_BH050	18/11/2020	Normal	758435	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH050	SRT_BH050	22/12/2020	Normal	765715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH050	SRT_BH050	17/02/2021	Normal	775277	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH050	SRT_BH050	18/03/2021	Normal	781353	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-BH050	SRT_BH050	12/07/2021	Normal	810513	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
SRT-BH052	SRT_BH052	25/10/2018	Normal	624838	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	26/11/2018	Normal	629922	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	18/12/2018	Normal	634274	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	17/01/2019	Normal	636542	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	20/02/2019	Normal	641720	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	16/04/2019	Normal	651825	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	14/05/2019	Normal	656080	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	7/06/2019	Normal	660130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-BH052	SRT_BH052	31/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	30/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	27/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	18/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	15/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	18/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	-	0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	20/01/2020	Normal	698379	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	26/02/2020	Normal	704673	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	26/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	16/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	15/04/2020	Normal	714027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	18/05/2020	Normal	720682	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	17/06/2020	Normal	726825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	0.02	-	0.05	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/07/2020	Normal	732590	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	PAHs - standard 16														PAHs - extended					Phenols - Halogenated										Phenols - Non-Halogenated										
	Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene-PAH	Phenanthrene	Pyrene	Sum of standard 16 PAHs	PAHs (Sum of total) - Lab calc	Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Benzo(e)pyrene	Perylene	2-Chlorophenol	2,4-Dichlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	Pentachlorophenol	tetrachlorophenols	Phenols (halogenated)	Phenols(halogenated) - Lab Calc	Phenol	2-Nitrophenol	2-Methylphenol (o-Cresol)	3,4-Methylphenol (m,p-cresol)	2,4-Dimethylphenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-Nitrophenol	Cresol Total	Phenols (Total Non Halogenated)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	0.5	0.1	0.1	0.1	0.1	0.1	0.6	0.6	1	1	0.6	1	2	30	10	10	0.6	1	0.6	2	1	6	30	100	30	2	100
ADWG 2011 Recreational (v3.6 updated 2021)																				3000	2000		200			100														
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)						1.4			70	2																22				400										
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																							
2-4m									NL																														
4-8m									NL																														
>8m									NL																														

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N																																					
SRT_BH052	SRT_BH052	19/08/2020	Normal	738860	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	15/09/2020	Normal	744463	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	26/10/2020	Normal	753369	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	18/11/2020	Normal	758435	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	22/12/2020	Normal	765715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	29/01/2021	Normal	770782	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	17/02/2021	Normal	775277	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	-	0.03	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	18/03/2021	Normal	781353	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	27/04/2021	Normal	791517	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	27/05/2021	Normal	799115	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH052	SRT_BH052	17/06/2021	Normal	803914	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
SRT-BH052	SRT_BH052	12/07/2021	Normal	810513	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100
SRT_BH052	SRT_BH052	11/08/2021	Normal	816445	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	<2	<2	<6	<30	<100	<30	<10	<100
SRT_BH052	SRT_BH052	30/09/2021	Normal	829222	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100
SRT-BH053	SRT_BH053	6/09/2018	Normal	616629	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-BH053	SRT_BH053	25/10/2018	Normal	624838	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-BH059	SRT_BH059	25/10/2018	Normal	624838	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	26/11/2018	Normal	629922	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	17/12/2018	Normal	634274	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	18/01/2019	Normal	636542	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	20/02/2019	Normal	641720	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	17/04/2019	Normal	651825	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	15/05/2019	Normal	656080	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	7/06/2019	Normal	660130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-BH059	SRT_BH059	31/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	30/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	27/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	18/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	15/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	18/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	-	0.03	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	20/01/2020	Normal	698379	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	26/02/2020	Normal	704673	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	26/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	16/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	15/04/2020	Normal	714027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	18/05/2020	Normal	720682	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	17/06/2020	Normal	726825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	17/07/2020	Normal	732590	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	18/08/2020	Normal	738860	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	15/09/2020	Normal	744463	<0.01	<0.01	<0.01	0.04	<0.01	0.09	<0.01	<0.01	<0.01	0.08	0.11	-	0.39	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	26/10/2020	Normal	753369	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH059	SRT_BH059	18/11/2020	Normal	758435	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH060	SRT_BH060	16/03/2020	Normal	708508	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH060	SRT_BH060	15/04/2020	Normal	714027	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	<0.01	<0.01	<0.01	0.04	0.09	-	0.22	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-BH063	SRT_BH063	6/09/2018	Normal	616629	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-BH063	SRT_BH063	25/10/2018	Normal	624838	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH063	SRT_BH063	26/11/2018	Normal	629922	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QA02	SRT_BH063	27/11/2018	Interlab_D	ES1835581	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	17/12/2018	Normal	634274	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QA01	SRT_BH063	17/12/2018	Field_D	634274	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	17/01/2019	Normal	636542	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QA01	SRT_BH063	17/01/2019	Field_D	636542	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	21/02/2019	Normal	641720	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QA02	SRT_BH063	21/02/2019	Interlab_D	ES1905610	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	18/04/2019	Normal	651825	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH063	SRT_BH063	15/05/2019	Normal	656080	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	PAHs - standard 16														PAHs - extended					Phenols - Halogenated										Phenols - Non-Halogenated											
	Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene-PAH	Phenanthrene	Pyrene	Sum of standard 16 PAHs	PAHs (Sum of total) - Lab calc	Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Benzo(e)pyrene	Perylene	2-Chlorophenol	2,4-Dichlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	Pentachlorophenol	tetrachlorophenols	Phenols (halogenated)	Phenols(halogenated) - Lab Calc	Phenol	2-Nitrophenol	2-Methylphenol (o-Cresol)	3,4-Methylphenol (m,p-cresol)	2,4-Dimethylphenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-Nitrophenol	Cresol Total	Phenols (Total Non Halogenated)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	0.5	0.1	0.1	0.1	0.1	0.1	0.6	0.6	1	1	0.6	1	2	30	10	10	0.6	1	0.6	2	1	6	30	100	30	2	100
ADWG 2011 Recreational (v3.6 updated 2021)																				3000	2000		200			100															
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)						1.4			70	2																22				400											
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																								
2-4m									NL																															
4-8m									NL																															
>8m									NL																															

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N																																						
SRT_BH063	SRT_BH063	7/06/2019	Normal	660130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-BH063	SRT_BH063	29/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_BH063	SRT_BH063	28/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-BH064	SRT_BH064	6/09/2018	Normal	616629	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-BH082	SRT_BH082	25/10/2018	Normal	624838	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QA01	SRT_BH082	25/10/2018	Field_D	624838	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH082	SRT_BH082	26/11/2018	Normal	629922	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QA01	SRT_BH082	26/11/2018	Field_D	629922	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-CBH001	SRT_CBH001	6/09/2018	Normal	616629	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QA01	SRT_CBH001	6/09/2018	Field_D	616629	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-CBH001	SRT_CBH001	25/10/2018	Normal	624838	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH001	SRT_CBH001	26/11/2018	Normal	629922	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-CBH007	SRT_CBH007	6/09/2018	Normal	616629	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-CBH015	SRT_CBH015	7/09/2018	Normal	616629	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-CBH015	SRT_CBH015	25/10/2018	Normal	624838	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH015	SRT_CBH015	26/11/2018	Normal	629922	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH015	SRT_CBH015	17/12/2018	Normal	634274	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QA02	SRT_CBH015	17/12/2018	Interlab_D	ES1838345	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	18/01/2019	Normal	636542	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QA02	SRT_CBH015	18/01/2019	Interlab_D	ES1901871	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	20/02/2019	Normal	641720	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH015	SRT_CBH015	17/04/2019	Normal	651825	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH015	SRT_CBH015	15/05/2019	Normal	656080	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH015	SRT_CBH015	7/06/2019	Normal	660130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-CBH015	SRT_CBH015	31/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	SRT_CBH015	31/07/2019	Field_D	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	30/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	SRT_CBH015	30/08/2019	Field_D	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	27/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH015	SRT_CBH015	18/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH015	SRT_CBH015	15/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH015	SRT_CBH015	18/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-CBH017	SRT_CBH017	7/09/2018	Normal	616629	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-CBH017	SRT_CBH017	25/10/2018	Normal	624838	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH017	SRT_CBH017	26/11/2018	Normal	629922	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH017	SRT_CBH017	17/12/2018	Normal	634274	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH017	SRT_CBH017	18/01/2019	Normal	636542	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH017	SRT_CBH017	20/02/2019	Normal	641720	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QA01	SRT_CBH017	20/02/2019	Field_D	641720	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	17/04/2019	Normal	651825	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH017	SRT_CBH017	15/05/2019	Normal	656080	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH017	SRT_CBH017	7/06/2019	Normal	660130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT-CBH017	SRT_CBH017	31/07/2019	Normal	669059	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH017	SRT_CBH017	30/08/2019	Normal	674722	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH017	SRT_CBH017	27/09/2019	Normal	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
QC02	SRT_CBH017	27/09/2019	Field_D	679636	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	18/10/2019	Normal	683453	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH017	SRT_CBH017	15/11/2019	Normal	688512	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH017	SRT_CBH017	18/12/2019	Normal	694466	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	-	0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100
SRT_CBH017	SRT_CBH017	20/01/2020	Normal	698379	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

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Table B2 Groundwater analytical results (September 2018 to September 2021)

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Table B2 Groundwater analytical results (September 2018 to September 2021)

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Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

| | | | | | | OC Pesticides | | | | | |

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

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Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

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Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

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Table B2 Groundwater analytical results (September 2018 to September 2021)

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Table B2 Groundwater analytical results (September 2018 to September 2021)

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Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

					OP Pesticides																									Pesticides		Chlorinated Hydrocarbons													
					Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	EPN	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pirimiphos-methyl	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Atrazine	Simazine	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons (Total)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethene	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	1,4-dichlorobenzene	4-chlorotoluene
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					2	20	2	20	0.005	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2	2	2	2	2	20	2	2	2	2	2	0.005	0.005	5	5	1	1	1	1	1	1	1	1	1	1
ADWG 2011 Recreational (v3.6 updated 2021)									40	50	70	40		40	10	70	100	70	700		7	50	20		10	200		900	200		9		1000	200	200							300	15000	30			400	
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)																																						270	400	1900	700		1900	1100				
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																														
2-4m																																														
4-8m																																														
>8m																																														
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																										
CSM_BH02	CSM_BH02	25/02/2020	Normal	651825	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	14/05/2019	Normal	656080	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	6/06/2019	Normal	660130	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	30/07/2019	Normal	669059	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	29/08/2019	Normal	674722	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	26/09/2019	Normal	679636	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	17/10/2019	Normal	683453	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	13/11/2019	Normal	688512	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	17/12/2019	Normal	694466	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	21/01/2020	Normal	698379	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	25/02/2020	Normal	704673	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/03/2020	Normal	708508	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	14/04/2020	Normal	714027	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	19/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH02	18/06/2020	Field_D	726825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/06/2020	Normal	ES2021404	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	<0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	15/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	14/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH02	14/09/2020	Field_D	744463	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	27/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	19/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	23/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	27/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH02	27/01/2021	Field_D	770782	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	17/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	27/04/2021	Normal	791517	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH02	CSM_BH02	25/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	15/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM-BH02	CSM_BH02	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	9/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	28/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	16/04/2019	Normal	651825	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	13/05/2019	Normal	656080	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	11/06/2019	Normal	660130	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	30/07/2019	Normal	669059	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	29/08/2019	Normal	674722	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	26/09/2019	Normal	679636	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	17/10/2019	Normal	683453	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	17/10/2019	Field_D	683453	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	13/11/2019	Normal	688512	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	13/11/2019	Interlab_D	ES1937682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	17/12/2019	Normal	694466	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	21/01/2020	Normal	698379	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	21/01/2020	Field_D	698379	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	25/02/2020	Normal	704673	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	25/02/2020	Field_D	704673	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	18/03/2020	Normal	708508	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	14/04/2020	Normal	714027	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	20/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	18/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	18/06/2020	Normal	ES2021404	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	<0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	15/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

					OP Pesticides																										Pesticides		Chlorinated Hydrocarbons													
					Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	EPN	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pirimiphos-methyl	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Atrazine	Simazine	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons (Total)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethene	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	1,4-dichlorobenzene	4-chlorotoluene
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					2	20	2	20	0.005	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2	2	2	2	20	2	2	2	2	2	0.005	0.005	5	5	1	1	1	1	1	1	1	1	1	1
ADWG 2011 Recreational (v3.6 updated 2021)									40	50	70	40		40	10	70	100	70	700		7	50	20		10	200		900	200		9		1000	200	200							300	15000	30			400	
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)																																						270	400	1900	700		1900	1100			400	
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																														
2-4m																																														
4-8m																																														
>8m																																														
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																										
CSM_BH04	CSM_BH04	17/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	17/08/2020	Interlab_D	ES2028968	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	14/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	27/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	19/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	19/11/2020	Field_D	758435	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	23/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	27/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	27/01/2021	Interlab_D	ES2102832	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	17/02/2021	Field_D	775277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	17/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	17/03/2021	Interlab_D	ES2109792	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	27/04/2021	Normal	791517	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH04	CSM_BH04	25/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	25/05/2021	Interlab_D	ES2119803	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	15/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	15/06/2021	Field_D	803914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM-BH04	CSM_BH04	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	12/07/2021	Field_D	810513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	9/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	9/08/2021	Field_D	816445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	28/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH05	CSM_BH05	17/04/2019	Normal	651825	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH05	CSM_BH05	13/05/2019	Normal	656080	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH05	CSM_BH05	11/06/2019	Normal	660130	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH05	CSM_BH05	29/07/2019	Normal	669059	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	18/04/2019	Normal	651825	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	14/05/2019	Normal	656080	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH06	14/05/2019	Field_D	656080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	6/06/2019	Normal	660130	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC04	CSM_BH06	8/06/2019	Field_D	660130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	30/07/2019	Normal	669059	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	28/08/2019	Normal	674722	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	26/09/2019	Normal	679636	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	17/10/2019	Normal	683453	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	13/11/2019	Normal	688512	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	17/12/2019	Normal	694466	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH06	17/12/2019	Field_D	694466	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	25/02/2020	Normal	704673	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	16/03/2020	Normal	708508	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH06	16/03/2020	Interlab_D	ES2009232	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	14/04/2020	Normal	714027	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH06	14/04/2020	Interlab_D	ES2012716	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	19/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	18/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	18/06/2020	Normal	ES2021404	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	<0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	15/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	18/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	14/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	27/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	19/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	22/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	27/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	18/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	17/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

						OP Pesticides																								Pesticides		Chlorinated Hydrocarbons											
						Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	EPN	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pirimiphos-methyl	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Atrazine	Simazine	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons (Total)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethene	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	1,4-dichlorobenzene	4-chlorotoluene
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						2	20	2	20	0.005	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2	2	2	2	20	2	2	2	2	2	0.005	0.005	5	5	1	1	1	1	1	1	1	1	1
ADWG 2011 Recreational (v3.6 updated 2021)										40	50	70	40		40	10	70	100	70	700		7	50	20		10	200		900	200		9		1000	200	200							300	15000	30			400	
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)																																							270	400	1900	700		1900	1100			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																														
2-4m																																														
4-8m																																														
>8m																																														
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																									
CSM_BH06	CSM_BH06	27/04/2021	Normal	791517		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH06	CSM_BH06	25/05/2021	Normal	799115		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH06	25/05/2021	Field_D	799115		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	16/06/2021	Normal	803914		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM-BH06	CSM_BH06	12/07/2021	Normal	810513		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	9/08/2021	Normal	816445		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	29/09/2021	Normal	829222		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	18/04/2019	Normal	651825		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH08	18/04/2019	Field_D	651825		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	15/05/2019	Normal	656080		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	6/06/2019	Normal	660130		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-
QC03	CSM_BH08	6/06/2019	Interlab_D	ES1917968		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	30/07/2019	Normal	669059		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	29/08/2019	Normal	674722		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	26/09/2019	Normal	679636		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	18/10/2019	Normal	683453		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	13/11/2019	Normal	688512		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	16/12/2019	Normal	694466		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	21/01/2020	Normal	698379		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	25/02/2020	Normal	704673		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	25/02/2020	Normal	706746		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	18/03/2020	Normal	708508		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	14/04/2020	Normal	714027		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	18/05/2020	Normal	720682		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	18/05/2020	Interlab_D	ES2017182		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	17/06/2020	Normal	726825		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	17/06/2020	Normal	ES2021404		-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	<0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	17/06/2020	Interlab_D	ES2021404		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	15/07/2020	Normal	732590		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	15/07/2020	Interlab_D	ES2024606		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	19/08/2020	Normal	738860		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	14/09/2020	Normal	744463		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	14/09/2020	Interlab_D	ES2032425		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	27/10/2020	Normal	753369		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	27/10/2020	Field_D	753369		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH08	27/10/2020	Interlab_D	ES2037870		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	19/11/2020	Normal	758435		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	21/12/2020	Normal	765715		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD01	CSM_BH08	21/12/2020	Field_D	765715		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD01	CSM_BH08	21/12/2020	Interlab_D	ES2100056		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	28/01/2021	Normal	770782		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	19/02/2021	Normal	775277		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	17/03/2021	Normal	781353		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	17/03/2021	Field_D	781353		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	27/04/2021	Normal	791517		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1
QC02	CSM_BH08	27/04/2021	Interlab_D	ES2115835		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	27/05/2021	Normal	799115		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	15/06/2021	Normal	803914		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH08	15/06/2021	Interlab_D	ES2122606		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM-BH08	CSM_BH08	12/07/2021	Normal	810513		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	10/08/2021	Normal	816445		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH08	10/08/2021	Interlab_D	ES2129447		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	28/09/2021	Normal	829222		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH08	28/09/2021	Interlab_D	EM2119579		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	17/04/2019	Normal	651825		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH09S	17/04/2019	Interlab_D	ES1912362		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	13/05/2019	Normal	656080		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

					OP Pesticides																										Pesticides		Chlorinated Hydrocarbons													
					Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	EPN	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pirimiphos-methyl	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Atrazine	Simazine	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons (Total)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethene	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	1,4-dichlorobenzene	4-chlorotoluene
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					2	20	2	20	0.005	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2	2	2	2	20	2	2	2	2	2	0.005	0.005	5	5	1	1	1	1	1	1	1	1	1	1
ADWG 2011 Recreational (v3.6 updated 2021)									40	50	70	40		40	10	70	100	70	700		7	50	20		10	200		900	200		9		1000	200	200							300	15000	30			400	
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)																																						270	400	1900	700		1900	1100			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																														
2-4m																																														
4-8m																																														
>8m																																														
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																										
QC01	CSM_BH09S	13/05/2019	Interlab_D	ES1914810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	11/06/2019	Normal	660130	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	29/07/2019	Normal	669059	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH09S	29/07/2019	Interlab_D	ES1924197	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	28/08/2019	Normal	674722	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH09S	28/08/2019	Interlab_D	EM1914568	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	25/09/2019	Normal	679636	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH09S	25/09/2019	Interlab_D	ES1931406	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/10/2019	Normal	683453	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	14/11/2019	Normal	688512	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/12/2019	Normal	694466	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH09S	16/12/2019	Interlab_D	ES1941823	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	21/01/2020	Normal	698379	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	24/02/2020	Normal	704673	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH09S	24/02/2020	Interlab_D	ES2006512	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	17/03/2020	Normal	708508	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/04/2020	Normal	714027	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	20/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	19/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09s	CSM_BH09S	19/06/2020	Normal	ES2021404	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	<0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH09S	16/07/2020	Field_D	732590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	18/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH09S	18/08/2020	Field_D	738860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	28/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	20/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	21/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	16/04/2019	Normal	651825	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	13/05/2019	Normal	656080	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	11/06/2019	Normal	660130	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	30/07/2019	Normal	669059	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	29/08/2019	Normal	674722	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	25/09/2019	Normal	679636	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	16/10/2019	Normal	683453	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH10S	16/10/2019	Interlab_D	ES1934142	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	14/11/2019	Normal	688512	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH10S	14/11/2019	Field_D	688512	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/12/2019	Normal	694466	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	20/01/2020	Normal	698379	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH10S	20/01/2020	Interlab_D	ES2001825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	25/02/2020	Normal	704673	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/03/2020	Normal	708508	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH10S	17/03/2020	Field_D	708508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	15/04/2020	Normal	714027	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH10S	15/04/2020	Field_D	714027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	18/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH10S	20/05/2020	Field_D	720682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	19/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	19/06/2020	Normal	ES2021404	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	<0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	15/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	15/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	27/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	18/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

					OP Pesticides																										Pesticides		Chlorinated Hydrocarbons											
					Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	EPN	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pirimiphos-methyl	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Atrazine	Simazine	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons (Total)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethene	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	1,4-dichlorobenzene	4-chlorotoluene
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					2	20	2	20	0.005	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2	2	2	2	20	2	2	2	2	2	0.005	0.005	5	5	1	1	1	1	1	1	1	1	1
ADWG 2011 Recreational (v3.6 updated 2021)									40	50	70	40		40	10	70	100	70	700		7	50	20		10	200		900	200		9		1000	200	200							300	15000	30			400	
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)																																						270	400	1900	700		1900	1100				
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																														
2-4m																																														
4-8m																																														
>8m																																														
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																									
QC01	CSM_BH10S	23/11/2020	Interlab_D	ES2041428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	21/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	28/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH10S	17/02/2021	Interlab_D	ES2105795	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	27/04/2021	Normal	791517	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1
QC01	CSM_BH10S	27/04/2021	Field_D	791517	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH10S	CSM_BH10S	26/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	15/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM-BH10S	CSM_BH10S	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH10S	12/07/2021	Interlab_D	ES2125823	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	10/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	28/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH12S	CSM_BH12S	27/04/2021	Normal	791517	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH12S	CSM_BH12S	26/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH12S	CSM_BH12S	17/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM-BH12S	CSM_BH12S	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH12S	CSM_BH12S	10/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH12S	CSM_BH12S	28/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH13	CSM_BH13	29/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH14S	CSM_BH14S	29/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	5/06/2019	Normal	659250	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	30/07/2019	Normal	669059	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	28/08/2019	Normal	674722	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	26/09/2019	Normal	679636	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	17/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	13/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	16/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	21/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	24/02/2020	Normal	704673	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	18/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	14/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	19/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	18/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	15/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	17/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	14/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	27/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	19/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	23/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	27/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	18/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	17/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	27/04/2021	Normal	791517	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1
GASW_BH10	GASW_BH10	25/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	15/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW-BH10	GASW_BH10	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	10/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	29/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	5/06/2019	Normal	659250	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	GASW_BH11	5/06/2019	Field_D	659250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	30/07/2019	Normal	669059	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	28/08/2019	Normal	674722	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	25/09/2019	Normal	679636	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	16/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	OP Pesticides																											Pesticides		Chlorinated Hydrocarbons											
	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	EPN	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pirimiphos-methyl	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Atrazine	Simazine	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons (Total)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethene	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	1,4-dichlorobenzene	4-chlorotoluene
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	2	20	2	20	0.005	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2	2	2	2	2	20	2	2	2	2	2	0.005	0.005	5	5	1	1	1	1	1	1	1	1	1	1
ADWG 2011 Recreational (v3.6 updated 2021)					40	50	70	40		40	10	70	100	70	700		7	50	20		10	200		900	200		9		1000	200	200							300	15000	30			400	
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)																																		270	400	1900	700		1900	1100			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																											
2-4m																																											
4-8m																																											
>8m																																											

| Field_ID | Location_Code | Sampled_Date_Tim | Sample_Type | Lab_Report_N | | | | | | | | | | | | | | | | | | |

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

					OP Pesticides																										Pesticides		Chlorinated Hydrocarbons													
					Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	EPN	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pirimiphos-methyl	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Atrazine	Simazine	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons (Total)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethene	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	1,4-dichlorobenzene	4-chlorotoluene
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					2	20	2	20	0.005	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2	2	2	2	20	2	2	2	2	2	0.005	0.005	5	5	1	1	1	1	1	1	1	1	1	1
ADWG 2011 Recreational (v3.6 updated 2021)									40	50	70	40		40	10	70	100	70	700		7	50	20		10	200		900	200		9		1000	200	200							300	15000	30			400	
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)																																						270	400	1900	700		1900	1100				
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																															
2-4m																																															
4-8m																																															
>8m																																															
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																											
GASW_BH25A	GASW_BH25A	16/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	22/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	24/02/2020	Normal	704673	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25a	GASW_BH25A	17/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	16/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	20/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	19/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	16/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	17/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	16/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	27/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	20/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	21/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	28/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	18/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	27/04/2021	Normal	791517	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100	<10	<10	<10	<10	<10	<10	56	<10	<10	<10	<10
GASW_BH25A	GASW_BH25A	26/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	15/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW-BH25A	GASW_BH25A	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	10/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	29/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	5/06/2019	Normal	659250	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	GASW_BH7	5/06/2019	Interlab_D	ES1917381	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	30/07/2019	Normal	669059	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	28/08/2019	Normal	674722	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	25/09/2019	Normal	679636	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	16/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	14/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	16/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	22/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	24/02/2020	Normal	704673	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	17/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH039	SRT_BH039	7/09/2018	Normal	616629	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA02	SRT_BH039	7/09/2018	Interlab_D	ES1826658	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH039	SRT_BH039	25/10/2018	Normal	624838	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA02	SRT_BH039	26/10/2018	Interlab_D	ES1832040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH047	SRT_BH047	6/09/2018	Normal	616629	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH047	SRT_BH047	25/10/2018	Normal	624838	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	26/11/2018	Normal	629922	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/12/2018	Normal	634274	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/01/2019	Normal	636542	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	20/02/2019	Normal	641720	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	16/04/2019	Normal	651825	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	14/05/2019	Normal	656080	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	7/06/2019	Normal	660130	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH047	SRT_BH047	31/07/2019	Normal	669059	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	30/08/2019	Normal	674722	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	27/09/2019	Normal	679636	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/10/2019	Normal	683453	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	15/11/2019	Normal	688512	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/12/2019	Normal	694466	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	20/01/2020	Normal	698379	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	26/02/2020	Normal	704673	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	26/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

					OP Pesticides																								Pesticides		Chlorinated Hydrocarbons											
					Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	EPN	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pirimiphos-methyl	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Atrazine	Simazine	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons (Total)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethene	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	1,4-dichlorobenzene	4-chlorotoluene
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					2	20	2	20	0.005	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2	2	2	2	2	20	2	2	2	2	2	0.005	0.005	5	5	1	1	1	1	1	1	1	1	1
ADWG 2011 Recreational (v3.6 updated 2021)									40	50	70	40		40	10	70	100	70	700		7	50	20		10	200		900	200		9		1000	200	200							300	15000	30			400	
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)																																						270	400	1900	700		1900	1100				
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																														
2-4m																																														
4-8m																																														
>8m																																														
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																								
SRT_BH047	SRT_BH047	16/03/2020	Normal	708508	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	15/04/2020	Normal	714027	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/06/2020	Normal	ES2021404	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	<0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	19/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	15/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	26/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	22/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	29/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	27/04/2021	Normal	791517	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1
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SRT_BH047	SRT_BH047	17/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH047	SRT_BH047	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	11/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	30/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	SRT_BH047	30/09/2021	Field_D	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH048	SRT_BH048	6/09/2018	Normal	616629	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH048	SRT_BH048	25/10/2018	Normal	624838	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH048	SRT_BH048	26/11/2018	Normal	629922	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	16/03/2020	Normal	708508	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<500	<500	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	15/04/2020	Normal	714027	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	17/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	17/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	19/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	18/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	22/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	18/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH050	SRT_BH050	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH052	SRT_BH052	25/10/2018	Normal	624838	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	26/11/2018	Normal	629922	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/12/2018	Normal	634274	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/01/2019	Normal	636542	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	20/02/2019	Normal	641720	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	16/04/2019	Normal	651825	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	14/05/2019	Normal	656080	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	7/06/2019	Normal	660130	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH052	SRT_BH052	31/07/2019	Normal	669059	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	30/08/2019	Normal	674722	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	27/09/2019	Normal	679636	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/10/2019	Normal	683453	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	15/11/2019	Normal	688512	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/12/2019	Normal	694466	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	20/01/2020	Normal	698379	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	26/02/2020	Normal	704673	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	26/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	16/03/2020	Normal	708508	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	15/04/2020	Normal	714027	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/06/2020	Normal	ES2021404	-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	<0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

						OP Pesticides																								Pesticides		Chlorinated Hydrocarbons											
						Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	EPN	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pirimiphos-methyl	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Atrazine	Simazine	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons (Total)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethene	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	1,4-dichlorobenzene	4-chlorotoluene
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL						2	20	2	20	0.005	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2	2	2	2	20	2	2	2	2	2	0.005	0.005	5	5	1	1	1	1	1	1	1	1	1
ADWG 2011 Recreational (v3.6 updated 2021)										40	50	70	40		40	10	70	100	70	700		7	50	20		10	200		900	200		9		1000	200	200							300	15000	30			400	
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)																																							270	400	1900	700		1900	1100			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																														
2-4m																																														
4-8m																																														
>8m																																														
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																									
SRT_BH052	SRT_BH052	19/08/2020	Normal	738860		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	15/09/2020	Normal	744463		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	26/10/2020	Normal	753369		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/11/2020	Normal	758435		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	22/12/2020	Normal	765715		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	29/01/2021	Normal	770782		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/02/2021	Normal	775277		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/03/2021	Normal	781353		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	27/04/2021	Normal	791517		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	27/05/2021	Normal	799115		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/06/2021	Normal	803914		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH052	SRT_BH052	12/07/2021	Normal	810513		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	11/08/2021	Normal	816445		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	30/09/2021	Normal	829222		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH053	SRT_BH053	6/09/2018	Normal	616629		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH053	SRT_BH053	25/10/2018	Normal	624838		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH059	SRT_BH059	25/10/2018	Normal	624838		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	26/11/2018	Normal	629922		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	17/12/2018	Normal	634274		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	18/01/2019	Normal	636542		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	20/02/2019	Normal	641720		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	17/04/2019	Normal	651825		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	15/05/2019	Normal	656080		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	7/06/2019	Normal	660130		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH059	SRT_BH059	31/07/2019	Normal	669059		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	30/08/2019	Normal	674722		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	27/09/2019	Normal	679636		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	18/10/2019	Normal	683453		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	15/11/2019	Normal	688512		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	18/12/2019	Normal	694466		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	20/01/2020	Normal	698379		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	26/02/2020	Normal	704673		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	26/02/2020	Normal	706746		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	16/03/2020	Normal	708508		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	15/04/2020	Normal	714027		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	18/05/2020	Normal	720682		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	17/06/2020	Normal	726825		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	17/06/2020	Normal	ES2021404		-	-	-	-	<0.005	-	-	-	-	-	-	-	-	-	<0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	17/07/2020	Normal	732590		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	18/08/2020	Normal	738860		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	15/09/2020	Normal	744463		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	26/10/2020	Normal	753369		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	18/11/2020	Normal	758435		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH060	SRT_BH060	16/03/2020	Normal	708508		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<500	<500	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH060	SRT_BH060	15/04/2020	Normal	714027		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH063	SRT_BH063	6/09/2018	Normal	616629		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH063	SRT_BH063	25/10/2018	Normal	624838		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	26/11/2018	Normal	629922		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
QA02	SRT_BH063	27/11/2018	Interlab_D	ES1835581		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	17/12/2018	Normal	634274		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
QA01	SRT_BH063	17/12/2018	Field_D	634274		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	17/01/2019	Normal	636542		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
QA01	SRT_BH063	17/01/2019	Field_D	636542		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	21/02/2019	Normal	641720		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
QA02	SRT_BH063	21/02/2019	Interlab_D	ES1905610		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	18/04/2019	Normal	651825		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	15/05/2019	Normal	656080		<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	OP Pesticides																											Pesticides		Chlorinated Hydrocarbons
	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	EPN	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pirimiphos-methyl	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Atrazine	Simazine	Chlorinated hydrocarbons EPAVic
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	2	20	2	20	0.005	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2	2	2	2	2	20	2	2	2	2	2	0.005	0.005	5
ADWG 2011 Recreational (v3.6 updated 2021)					40	50	70	40		40	10	70	100	70	700		7	50	20		10	200		900	200		9		1000	200	200	
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)																																
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																
2-4m																																
4-8m																																
>8m																																

	Chlorinated Hydrocarbons													
	Other chlorinated hydrocarbons (Total)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethene	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	1,4-dichlorobenzene	4-chlorotoluene
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	5	1	1	1	1	1	1	1	1	1	1	1
ADWG 2011 Recreational (v3.6 updated 2021)						300	15000	30			400	
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)			270	400	1900	700		1900	1100			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand												
2-4m												
4-8m												
>8m												

| Field_ID | Location_Code | Sampled_Date_Tim | Sample_Type | Lab_Report_N | | | | | | | | | | | | | | | | | | |

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Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

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Table B2 Groundwater analytical results (September 2018 to September 2021)

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Table B2 Groundwater analytical results (September 2018 to September 2021)

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Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

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Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

											ated Hydro		Herbicides						Solvents	PCBs								MAH				SVOCs										
					Bromobenzene	Bromochloromethane	Carbon tetrachloride	Chlorobenzene	Chloroform	Chloromethane	cis-1,2-dichloroethene	Methylene chloride	Vinyl chloride	Bromomethane	Dichlorodifluoromethane	Dinoseb	Diuron	Metolachlor	Molinate	Thiobencarb	Trifluralin	Carbon disulfide	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	Styrene	Total MAH	Coronene	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromoethane	1,3-dichlorobenzene	2-butanone (MEK)	4-methyl-2-pentanone (MIBK)	Acetone	Allyl chloride	Bromodichloromethane
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	5	1	1	1	1	1	1	100	0.005	0.005	0.005	0.005	0.005	1	1	1	1	1	1	1	1	1	1	1	1	1	3	0.1	1	1	1	1	1	1	1	1	1
ADWG 2011 Recreational (v3.6 updated 2021)							30	3000				40	3	10			200	3000	40	400	900												300				10							
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)							240	55	770			4000	100																		30												
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																										
2-4m																																										
4-8m																																										
>8m																																										
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**																																							
SRT_BH047	SRT_BH047	16/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<5	<1	<5	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	15/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	19/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	15/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	26/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	22/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	29/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	27/04/2021	Normal	791517	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<100	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<3	-	<1	<1	<1	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	27/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH047	SRT_BH047	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	11/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	30/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	SRT_BH047	30/09/2021	Field_D	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH048	SRT_BH048	6/09/2018	Normal	616629	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH048	SRT_BH048	25/10/2018	Normal	624838	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH048	SRT_BH048	26/11/2018	Normal	629922	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	16/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<5	<1	<5	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	15/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	17/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	17/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	19/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	18/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	22/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	18/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH050	SRT_BH050	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH052	SRT_BH052	25/10/2018	Normal	624838	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	26/11/2018	Normal	629922	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/12/2018	Normal	634274	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/01/2019	Normal	636542	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	20/02/2019	Normal	641720	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	16/04/2019	Normal	651825	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<5	<1	<5	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	14/05/2019	Normal	656080	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	7/06/2019	Normal	660130	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<5	<1	<5	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH052	SRT_BH052	31/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	30/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	27/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	15/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	20/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	26/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	26/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	16/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<5	<1	<5	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	15/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

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Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	VOCs										
	Bromoform	Chlorodibromomethane	Chloroethane	cis-1,3-dichloropropene	Dibromomethane	Iodomethane	Trichloroethene	Tetrachloroethene	trans-1,3-dichloropropene	trans-1,2-dichloroethene	Trichlorofluoromethane
	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
ADWG 2011 Recreational (v3.6 updated 2021)								500			
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)							330	70			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand											
2-4m											
4-8m											
>8m											

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N										
CSM_BH02	CSM_BH02	16/04/2019	Normal	651825	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	14/05/2019	Normal	656080	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	6/06/2019	Normal	660130	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	30/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	29/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	26/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	17/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	13/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	17/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	21/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	25/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	14/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	19/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH02	18/06/2020	Field_D	726825	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	15/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	14/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH02	14/09/2020	Field_D	744463	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	27/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	19/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	23/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	27/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH02	27/01/2021	Field_D	770782	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	18/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	17/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	27/04/2021	Normal	791517	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH02	CSM_BH02	25/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	15/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-
CSM-BH02	CSM_BH02	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	9/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	28/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	16/04/2019	Normal	651825	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	13/05/2019	Normal	656080	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	11/06/2019	Normal	660130	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	30/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	29/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	26/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	17/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	17/10/2019	Field_D	683453	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	13/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	13/11/2019	Interlab_D	ES1937682	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	17/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	21/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	21/01/2020	Field_D	698379	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	25/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	25/02/2020	Field_D	704673	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	18/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	14/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	20/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	18/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	18/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	15/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

					VOCs										
					Bromoform	Chlorodibromomethane	Chloroethane	cis-1,3-dichloropropene	Dibromomethane	Iodomethane	Trichloroethene	Tetrachloroethene	trans-1,3-dichloropropene	trans-1,2-dichloroethene	Trichlorofluoromethane
					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
ADWG 2011 Recreational (v3.6 updated 2021)												500			
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)											330	70			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand															
2-4m															
4-8m															
>8m															
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**											
CSM_BH04	CSM_BH04	17/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	17/08/2020	Interlab_D	ES2028968	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	14/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	27/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	19/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	19/11/2020	Field_D	758435	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	23/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	27/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	27/01/2021	Interlab_D	ES2102832	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	17/02/2021	Field_D	775277	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	17/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	17/03/2021	Interlab_D	ES2109792	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	27/04/2021	Normal	791517	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH04	CSM_BH04	25/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	25/05/2021	Interlab_D	ES2119803	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	15/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	15/06/2021	Field_D	803914	-	-	-	-	-	-	-	-	-	-	-
CSM-BH04	CSM_BH04	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	12/07/2021	Field_D	810513	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	9/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	9/08/2021	Field_D	816445	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	28/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-
CSM_BH05	CSM_BH05	17/04/2019	Normal	651825	-	-	-	-	-	-	-	-	-	-	-
CSM_BH05	CSM_BH05	13/05/2019	Normal	656080	-	-	-	-	-	-	-	-	-	-	-
CSM_BH05	CSM_BH05	11/06/2019	Normal	660130	-	-	-	-	-	-	-	-	-	-	-
CSM_BH05	CSM_BH05	29/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	18/04/2019	Normal	651825	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	14/05/2019	Normal	656080	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH06	14/05/2019	Field_D	656080	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	6/06/2019	Normal	660130	-	-	-	-	-	-	-	-	-	-	-
QC04	CSM_BH06	8/06/2019	Field_D	660130	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	30/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	28/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	26/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	17/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	13/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	17/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH06	17/12/2019	Field_D	694466	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	25/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	16/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH06	16/03/2020	Interlab_D	ES2009232	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	14/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH06	14/04/2020	Interlab_D	ES2012716	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	19/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	18/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	18/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	15/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	18/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	14/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	27/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	19/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	22/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	27/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	18/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	17/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	VOCs										
	Bromoform	Chlorodibromomethane	Chloroethane	cis-1,3-dichloropropene	Dibromomethane	Iodomethane	Trichloroethene	Tetrachloroethene	trans-1,3-dichloropropene	trans-1,2-dichloroethene	Trichlorofluoromethane
	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
ADWG 2011 Recreational (v3.6 updated 2021)								500			
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)							330	70			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand											
2-4m											
4-8m											
>8m											

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N											
CSM_BH06	CSM_BH06	27/04/2021	Normal	791517	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH06	CSM_BH06	25/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH06	25/05/2021	Field_D	799115	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	16/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-
CSM-BH06	CSM_BH06	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	9/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	29/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	18/04/2019	Normal	651825	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH08	18/04/2019	Field_D	651825	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	15/05/2019	Normal	656080	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	6/06/2019	Normal	660130	-	-	-	-	-	-	-	-	-	-	-
QC03	CSM_BH08	6/06/2019	Interlab_D	ES1917968	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	30/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	29/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	26/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	18/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	13/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	16/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	21/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	25/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	18/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	14/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	18/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	18/05/2020	Interlab_D	ES2017182	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	17/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	17/06/2020	Interlab_D	ES2021404	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	15/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	15/07/2020	Interlab_D	ES2024606	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	19/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	14/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	14/09/2020	Interlab_D	ES2032425	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	27/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	27/10/2020	Field_D	753369	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH08	27/10/2020	Interlab_D	ES2037870	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	19/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	21/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-
BD01	CSM_BH08	21/12/2020	Field_D	765715	-	-	-	-	-	-	-	-	-	-	-
SD01	CSM_BH08	21/12/2020	Interlab_D	ES2100056	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	28/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	19/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	17/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH08	17/03/2021	Field_D	781353	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	27/04/2021	Normal	791517	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
QC02	CSM_BH08	27/04/2021	Interlab_D	ES2115835	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	27/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	15/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH08	15/06/2021	Interlab_D	ES2122606	-	-	-	-	-	-	-	-	-	-	-
CSM-BH08	CSM_BH08	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	10/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH08	10/08/2021	Interlab_D	ES2129447	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	28/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH08	28/09/2021	Interlab_D	EM2119579	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	17/04/2019	Normal	651825	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH09S	17/04/2019	Interlab_D	ES1912362	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	13/05/2019	Normal	656080	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	VOCs										
	Bromoform	Chlorodibromomethane	Chloroethane	cis-1,3-dichloropropene	Dibromomethane	Iodomethane	Trichloroethene	Tetrachloroethene	trans-1,3-dichloropropene	trans-1,2-dichloroethene	Trichlorofluoromethane
	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
ADWG 2011 Recreational (v3.6 updated 2021)								500			
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)							330	70			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand											
2-4m											
4-8m											
>8m											

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N											
QC01	CSM_BH09S	13/05/2019	Interlab_D	ES1914810	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	11/06/2019	Normal	660130	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	29/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH09S	29/07/2019	Interlab_D	ES1924197	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	28/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH09S	28/08/2019	Interlab_D	EM1914568	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	25/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH09S	25/09/2019	Interlab_D	ES1931406	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	14/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH09S	16/12/2019	Interlab_D	ES1941823	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	21/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	24/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH09S	24/02/2020	Interlab_D	ES2006512	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	17/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	20/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	19/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09s	CSM_BH09S	19/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH09S	16/07/2020	Field_D	732590	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	18/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH09S	18/08/2020	Field_D	738860	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	16/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	28/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	20/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-
CSM_BH09S	CSM_BH09S	21/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	16/04/2019	Normal	651825	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	13/05/2019	Normal	656080	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	11/06/2019	Normal	660130	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	30/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	29/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	25/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	16/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH10S	16/10/2019	Interlab_D	ES1934142	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	14/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH10S	14/11/2019	Field_D	688512	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	20/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH10S	20/01/2020	Interlab_D	ES2001825	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	25/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	25/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH10S	17/03/2020	Field_D	708508	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	15/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH10S	15/04/2020	Field_D	714027	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	18/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH10S	20/05/2020	Field_D	720682	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	19/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	19/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	15/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	15/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	27/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	18/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-

	VOCs										
	Bromoform	Chlorodibromomethane	Chloroethane	cis-1,3-dichloropropene	Dibromomethane	Iodomethane	Trichloroethene	Tetrachloroethene	trans-1,3-dichloropropene	trans-1,2-dichloroethene	Trichlorofluoromethane
	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
ADWG 2011 Recreational (v3.6 updated 2021)								500			
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)							330	70			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand											
2-4m											
4-8m											
>8m											

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N											
QC01	CSM_BH10S	23/11/2020	Interlab_D	ES2041428	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	21/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	28/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH10S	17/02/2021	Interlab_D	ES2105795	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	17/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	27/04/2021	Normal	791517	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
QC01	CSM_BH10S	27/04/2021	Field_D	791517	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH10S	CSM_BH10S	26/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	15/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-
CSM-BH10S	CSM_BH10S	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH10S	12/07/2021	Interlab_D	ES2125823	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	10/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	28/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-
CSM_BH12S	CSM_BH12S	27/04/2021	Normal	791517	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH12S	CSM_BH12S	26/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-
CSM_BH12S	CSM_BH12S	17/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-
CSM-BH12S	CSM_BH12S	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-
CSM_BH12S	CSM_BH12S	10/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-
CSM_BH12S	CSM_BH12S	28/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-
CSM_BH13	CSM_BH13	29/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-
CSM_BH14S	CSM_BH14S	29/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	5/06/2019	Normal	659250	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	30/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	28/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	26/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	17/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	13/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	16/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	21/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	24/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	18/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	14/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	19/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	18/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	15/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	17/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	14/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	27/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	19/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	23/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	27/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	18/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	17/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	27/04/2021	Normal	791517	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
GASW_BH10	GASW_BH10	25/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	15/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-
GASW-BH10	GASW_BH10	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	10/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	29/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	5/06/2019	Normal	659250	-	-	-	-	-	-	-	-	-	-	-
QC02	GASW_BH11	5/06/2019	Field_D	659250	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	30/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	28/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	25/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	16/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	VOCs										
	Bromoform	Chlorodibromomethane	Chloroethane	cis-1,3-dichloropropene	Dibromomethane	Iodomethane	Trichloroethene	Tetrachloroethene	trans-1,3-dichloropropene	trans-1,2-dichloroethene	Trichlorofluoromethane
	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
ADWG 2011 Recreational (v3.6 updated 2021)								500			
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)							330	70			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand											
2-4m											
4-8m											
>8m											
Field_ID	**Location_Code**	**Sampled_Date_Tim**	**Sample_Type**	**Lab_Report_N**											
GASW_BH11	GASW_BH11	14/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	16/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	22/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	24/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	17/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	16/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	20/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	19/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	16/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	17/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	16/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	27/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	20/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	21/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	28/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	18/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	27/04/2021	Normal	791517	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
GASW_BH11	GASW_BH11	26/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	16/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-
GASW-BH11	GASW_BH11	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	10/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	28/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-
BH23	GASW_BH23	23/08/2019	Normal	ES1926979	-	-	-	-	-	-	-	-	-	-	-
GW-BR1	GASW_BH23	23/08/2019	Field_D	ES1926979	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	25/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	16/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	14/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	16/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	22/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	24/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	17/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	16/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	20/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	17/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	16/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	17/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	15/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	26/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	18/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	21/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	28/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	18/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	27/04/2021	Normal	791517	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
GASW_BH23	GASW_BH23	26/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	16/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-
GASW-BH23	GASW_BH23	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	10/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	29/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-
GW-SR1	GASW_BH25A	23/08/2019	Interlab_D	673339	-	-	-	-	-	-	-	-	-	-	-
BH25a	GASW_BH25A	23/08/2019	Normal	ES1926979	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	25/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25a	GASW_BH25A	16/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	14/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	VOCs										
	Bromoform	Chlorodibromomethane	Chloroethane	cis-1,3-dichloropropene	Dibromomethane	Iodomethane	Trichloroethene	Tetrachloroethene	trans-1,3-dichloropropene	trans-1,2-dichloroethene	Trichlorofluoromethane
	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
ADWG 2011 Recreational (v3.6 updated 2021)								500			
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)							330	70			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand											
2-4m											
4-8m											
>8m											

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N										
GASW_BH25A	GASW_BH25A	16/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	22/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	24/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-
GASW_BH25a	GASW_BH25A	17/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	16/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	20/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	19/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	16/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	17/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	16/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	27/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	20/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	21/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	28/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	18/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	27/04/2021	Normal	791517	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
GASW_BH25A	GASW_BH25A	26/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	15/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-
GASW-BH25A	GASW_BH25A	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	10/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	29/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	5/06/2019	Normal	659250	-	-	-	-	-	-	-	-	-	-
QC01	GASW_BH7	5/06/2019	Interlab_D	ES1917381	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	30/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	28/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	25/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	16/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	14/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	16/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	22/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	24/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	24/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-
GASW_BH7	GASW_BH7	17/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-
SRT-BH039	SRT_BH039	7/09/2018	Normal	616629	-	-	-	-	-	-	-	-	-	-
QA02	SRT_BH039	7/09/2018	Interlab_D	ES1826658	-	-	-	-	-	-	-	-	-	-
SRT-BH039	SRT_BH039	25/10/2018	Normal	624838	-	-	-	-	-	-	-	-	-	-
QA02	SRT_BH039	26/10/2018	Interlab_D	ES1832040	-	-	-	-	-	-	-	-	-	-
SRT-BH047	SRT_BH047	6/09/2018	Normal	616629	-	-	-	-	-	-	-	-	-	-
SRT-BH047	SRT_BH047	25/10/2018	Normal	624838	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	26/11/2018	Normal	629922	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/12/2018	Normal	634274	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/01/2019	Normal	636542	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	20/02/2019	Normal	641720	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	16/04/2019	Normal	651825	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	14/05/2019	Normal	656080	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	7/06/2019	Normal	660130	-	-	-	-	-	-	-	-	-	-
SRT-BH047	SRT_BH047	31/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	30/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	27/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	15/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	20/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	26/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	26/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	VOCs										
	Bromoform	Chlorodibromomethane	Chloroethane	cis-1,3-dichloropropene	Dibromomethane	Iodomethane	Trichloroethene	Tetrachloroethene	trans-1,3-dichloropropene	trans-1,2-dichloroethene	Trichlorofluoromethane
	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
ADWG 2011 Recreational (v3.6 updated 2021)								500			
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)							330	70			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand											
2-4m											
4-8m											
>8m											

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N											
SRT_BH047	SRT_BH047	16/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	15/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	19/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	15/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	26/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	22/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	29/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	18/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	27/04/2021	Normal	791517	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	27/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-	-
SRT-BH047	SRT_BH047	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	11/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	30/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-	-
QC01	SRT_BH047	30/09/2021	Field_D	829222	-	-	-	-	-	-	-	-	-	-	-
SRT-BH048	SRT_BH048	6/09/2018	Normal	616629	-	-	-	-	-	-	-	-	-	-	-
SRT-BH048	SRT_BH048	25/10/2018	Normal	624838	-	-	-	-	-	-	-	-	-	-	-
SRT_BH048	SRT_BH048	26/11/2018	Normal	629922	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	16/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	15/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	17/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	17/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	19/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	18/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	22/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-	-
SRT_BH050	SRT_BH050	18/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-	-
SRT-BH050	SRT_BH050	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-	-
SRT-BH052	SRT_BH052	25/10/2018	Normal	624838	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	26/11/2018	Normal	629922	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/12/2018	Normal	634274	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/01/2019	Normal	636542	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	20/02/2019	Normal	641720	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	16/04/2019	Normal	651825	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	14/05/2019	Normal	656080	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	7/06/2019	Normal	660130	-	-	-	-	-	-	-	-	-	-	-
SRT-BH052	SRT_BH052	31/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	30/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	27/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	15/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	20/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	26/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	26/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	16/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	15/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B2 Groundwater analytical results (September 2018 to September 2021)

	VOCs										
	Bromoform	Chlorodibromomethane	Chloroethane	cis-1,3-dichloropropene	Dibromomethane	Iodomethane	Trichloroethene	Tetrachloroethene	trans-1,3-dichloropropene	trans-1,2-dichloroethene	Trichlorofluoromethane
	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
ADWG 2011 Recreational (v3.6 updated 2021)								500			
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)							330	70			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand											
2-4m											
4-8m											
>8m											

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N										
SRT_BH052	SRT_BH052	19/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	15/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	26/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	22/12/2020	Normal	765715	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	29/01/2021	Normal	770782	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/02/2021	Normal	775277	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	18/03/2021	Normal	781353	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	27/04/2021	Normal	791517	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	27/05/2021	Normal	799115	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/06/2021	Normal	803914	-	-	-	-	-	-	-	-	-	-
SRT-BH052	SRT_BH052	12/07/2021	Normal	810513	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	11/08/2021	Normal	816445	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	30/09/2021	Normal	829222	-	-	-	-	-	-	-	-	-	-
SRT-BH053	SRT_BH053	6/09/2018	Normal	616629	-	-	-	-	-	-	-	-	-	-
SRT-BH053	SRT_BH053	25/10/2018	Normal	624838	-	-	-	-	-	-	-	-	-	-
SRT-BH059	SRT_BH059	25/10/2018	Normal	624838	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	26/11/2018	Normal	629922	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	17/12/2018	Normal	634274	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	18/01/2019	Normal	636542	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	20/02/2019	Normal	641720	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	17/04/2019	Normal	651825	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	15/05/2019	Normal	656080	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	7/06/2019	Normal	660130	-	-	-	-	-	-	-	-	-	-
SRT-BH059	SRT_BH059	31/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	30/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	27/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	18/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	15/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	18/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	20/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	26/02/2020	Normal	704673	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	26/02/2020	Normal	706746	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	16/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	15/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	18/05/2020	Normal	720682	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	17/06/2020	Normal	726825	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	17/06/2020	Normal	ES2021404	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	17/07/2020	Normal	732590	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	18/08/2020	Normal	738860	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	15/09/2020	Normal	744463	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	26/10/2020	Normal	753369	-	-	-	-	-	-	-	-	-	-
SRT_BH059	SRT_BH059	18/11/2020	Normal	758435	-	-	-	-	-	-	-	-	-	-
SRT_BH060	SRT_BH060	16/03/2020	Normal	708508	-	-	-	-	-	-	-	-	-	-
SRT_BH060	SRT_BH060	15/04/2020	Normal	714027	-	-	-	-	-	-	-	-	-	-
SRT-BH063	SRT_BH063	6/09/2018	Normal	616629	-	-	-	-	-	-	-	-	-	-
SRT-BH063	SRT_BH063	25/10/2018	Normal	624838	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	26/11/2018	Normal	629922	-	-	-	-	-	-	-	-	-	-
QA02	SRT_BH063	27/11/2018	Interlab_D	ES1835581	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	17/12/2018	Normal	634274	-	-	-	-	-	-	-	-	-	-
QA01	SRT_BH063	17/12/2018	Field_D	634274	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	17/01/2019	Normal	636542	-	-	-	-	-	-	-	-	-	-
QA01	SRT_BH063	17/01/2019	Field_D	636542	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	21/02/2019	Normal	641720	-	-	-	-	-	-	-	-	-	-
QA02	SRT_BH063	21/02/2019	Interlab_D	ES1905610	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	18/04/2019	Normal	651825	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	15/05/2019	Normal	656080	-	-	-	-	-	-	-	-	-	-

	VOCs										
	Bromoform	Chlorodibromomethane	Chloroethane	cis-1,3-dichloropropene	Dibromomethane	Iodomethane	Trichloroethene	Tetrachloroethene	trans-1,3-dichloropropene	trans-1,2-dichloroethene	Trichlorofluoromethane
	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
ADWG 2011 Recreational (v3.6 updated 2021)								500			
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)							330	70			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand											
2-4m											
4-8m											
>8m											

Field_ID	Location_Code	Sampled_Date_Tim	Sample_Type	Lab_Report_N											
SRT_BH063	SRT_BH063	7/06/2019	Normal	660130	-	-	-	-	-	-	-	-	-	-	-
SRT-BH063	SRT_BH063	29/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-	-
SRT_BH063	SRT_BH063	28/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-	-
SRT-BH064	SRT_BH064	6/09/2018	Normal	616629	-	-	-	-	-	-	-	-	-	-	-
SRT-BH082	SRT_BH082	25/10/2018	Normal	624838	-	-	-	-	-	-	-	-	-	-	-
QA01	SRT_BH082	25/10/2018	Field_D	624838	-	-	-	-	-	-	-	-	-	-	-
SRT_BH082	SRT_BH082	26/11/2018	Normal	629922	-	-	-	-	-	-	-	-	-	-	-
QA01	SRT_BH082	26/11/2018	Field_D	629922	-	-	-	-	-	-	-	-	-	-	-
SRT-CBH001	SRT_CBH001	6/09/2018	Normal	616629	-	-	-	-	-	-	-	-	-	-	-
QA01	SRT_CBH001	6/09/2018	Field_D	616629	-	-	-	-	-	-	-	-	-	-	-
SRT-CBH001	SRT_CBH001	25/10/2018	Normal	624838	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH001	SRT_CBH001	26/11/2018	Normal	629922	-	-	-	-	-	-	-	-	-	-	-
SRT-CBH007	SRT_CBH007	6/09/2018	Normal	616629	-	-	-	-	-	-	-	-	-	-	-
SRT-CBH015	SRT_CBH015	7/09/2018	Normal	616629	-	-	-	-	-	-	-	-	-	-	-
SRT-CBH015	SRT_CBH015	25/10/2018	Normal	624838	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	26/11/2018	Normal	629922	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	17/12/2018	Normal	634274	-	-	-	-	-	-	-	-	-	-	-
QA02	SRT_CBH015	17/12/2018	Interlab_D	ES1838345	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	18/01/2019	Normal	636542	-	-	-	-	-	-	-	-	-	-	-
QA02	SRT_CBH015	18/01/2019	Interlab_D	ES1901871	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	20/02/2019	Normal	641720	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	17/04/2019	Normal	651825	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	15/05/2019	Normal	656080	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	7/06/2019	Normal	660130	-	-	-	-	-	-	-	-	-	-	-
SRT-CBH015	SRT_CBH015	31/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-	-
QC02	SRT_CBH015	31/07/2019	Field_D	669059	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	30/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-	-
QC02	SRT_CBH015	30/08/2019	Field_D	674722	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	27/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	18/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	15/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH015	SRT_CBH015	18/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-	-
SRT-CBH017	SRT_CBH017	7/09/2018	Normal	616629	-	-	-	-	-	-	-	-	-	-	-
SRT-CBH017	SRT_CBH017	25/10/2018	Normal	624838	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	26/11/2018	Normal	629922	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	17/12/2018	Normal	634274	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	18/01/2019	Normal	636542	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	20/02/2019	Normal	641720	-	-	-	-	-	-	-	-	-	-	-
QA01	SRT_CBH017	20/02/2019	Field_D	641720	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	17/04/2019	Normal	651825	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	15/05/2019	Normal	656080	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	7/06/2019	Normal	660130	-	-	-	-	-	-	-	-	-	-	-
SRT-CBH017	SRT_CBH017	31/07/2019	Normal	669059	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	30/08/2019	Normal	674722	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	27/09/2019	Normal	679636	-	-	-	-	-	-	-	-	-	-	-
QC02	SRT_CBH017	27/09/2019	Field_D	679636	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	18/10/2019	Normal	683453	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	15/11/2019	Normal	688512	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	18/12/2019	Normal	694466	-	-	-	-	-	-	-	-	-	-	-
SRT_CBH017	SRT_CBH017	20/01/2020	Normal	698379	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B3 Groundwater analytical results of current monitoring period (April 2021 to September 2021)

	Inorganics			Cyanide	Acidity & Alkalinity					Major Ions						Nutrients	Metals										Iron speciation	BTEXN					
	pH (Lab)	Total Dissolved Solids	Total Suspended Solids	Cyanide (Total)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)	Hardness as CaCO3	Calcium	Magnesium	Potassium	Sodium	Chloride	Sulfate	Ammonia as N	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Lead (Filtered)	Manganese	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)	Zinc (Filtered)	Ferrous Iron	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total
	pH units	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	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.1	5	1	0.004	10	20	20	20	1	0.5	0.5	0.5	0.5	1	2	0.01	0.001	0.0002	0.001	0.001	0.001	0.005	0.005	0.0001	0.001	0.005	0.05	1	1	1	1	2	3
ADWG 2011 Recreational (v3.6 updated 2021)				0.8											5000		0.1	0.02		20	0.1	5	5	0.01	0.2			10	8000	3000			6000
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)				0.004												0.91		0.0055	0.0044	0.0013	0.0044			0.0004	0.07	0.008		700	180	80			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																	
2-4m																												**5000**	**NL**	**NL**			**NL**
4-8m																												**5000**	**NL**	**NL**			**NL**
>8m																												**5000**	**NL**	**NL**			**NL**

Field_ID	Location_Code	Sampled_Date_T	Sample_Type	Lab_Report_Number																													
CSM_BH02	CSM_BH02	27/04/2021	Normal	791517	5.8	520	27,000	<0.004	<10	300	<20	300	410	61	62	13	100	160	25	0.17	0.001	<0.0002	<0.001	<0.001	<0.001	4.3	-	<0.0001	0.019	0.044	0.6	<1	<1	<1	<1	<2	<3
CSM_BH02	CSM_BH02	25/05/2021	Normal	799115	7.3	580	7700	<0.004	<10	360	<20	360	280	45	41	<5	120	190	31	0.06	<0.001	<0.0002	<0.001	0.004	<0.001	-	0.37	<0.0001	0.01	0.02	0.33	<1	<1	<1	<1	<2	<3
CSM_BH02	CSM_BH02	15/06/2021	Normal	803914	7.6	560	1200	<0.004	<10	290	<20	290	340	63	43	7.7	130	160	31	0.13	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.1	<0.0001	0.019	0.02	<0.05	<1	<1	<1	<1	<2	<3
CSM-BH02	CSM_BH02	12/07/2021	Normal	810513	8.4	560	3000	<0.004	<10	300	<20	300	460	50	81	4.8	110	150	30	0.02	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.094	<0.0001	0.005	0.015	<0.05	<1	<1	<1	<1	<2	<3
CSM_BH02	CSM_BH02	9/08/2021	Normal	816445	7.7	490	780	<0.004	<20	160	<20	160	180	37	21	3.5	92	92	32	0.03	<0.001	<0.0002	<0.001	0.003	<0.001	-	0.068	<0.0001	0.01	0.021	0.13	<1	<1	<1	<1	<2	<3
CSM_BH02	CSM_BH02	28/09/2021	Normal	829222	6.9	260	1800	<0.004	<10	120	<20	120	100	14	<0.5	<0.5	<0.5	56	36	0.13	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.059	<0.0001	0.033	0.01	<0.05	<1	<1	<1	<1	<2	<3
CSM_BH04	CSM_BH04	27/04/2021	Normal	791517	5.4	260	1200	<0.004	<10	100	<20	100	120	14	20	4.3	64	82	33	0.07	<0.001	<0.0002	0.004	0.003	<0.001	1.2	-	<0.0001	0.046	0.084	3.9	<1	<1	<1	<1	<2	<3
CSM_BH04	CSM_BH04	25/05/2021	Normal	799115	6.8	280	1200	<0.004	<10	98	<20	98	84	8.6	15	<5	66	94	32	0.08	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.4	<0.0001	0.057	0.064	5.3	<1	<1	<1	<1	<2	<3
QC02	CSM_BH04	25/05/2021	Interlab_D	ES2119803	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	<0.001	-	-	<0.0001	0.059	0.059	-	<1	<2	<2	<2	<2	<2
CSM_BH04	CSM_BH04	15/06/2021	Normal	803914	6.6	290	1300	<0.004	<10	100	<20	100	85	8.2	16	2.7	68	74	43	0.03	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.4	<0.0001	0.025	0.054	6.2	<1	<1	<1	<1	<2	<3
QC01	CSM_BH04	15/06/2021	Field_D	803914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	<0.001	-	-	<0.0001	0.026	0.057	-	<1	<1	<1	<1	<2	<3
CSM-BH04	CSM_BH04	12/07/2021	Normal	810513	7.8	280	350	<0.004	<10	120	<20	120	79	8	14	2.8	72	66	38	0.1	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.37	<0.0001	0.041	0.031	10	<1	<1	<1	<1	<2	<3
QC01	CSM_BH04	12/07/2021	Field_D	810513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	<0.001	-	-	<0.0001	0.042	0.03	-	<1	<1	<1	<1	<2	<3
CSM_BH04	CSM_BH04	9/08/2021	Normal	816445	7.3	290	390	<0.004	<20	88	<20	88	85	11	14	6.2	69	76	38	0.06	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.41	<0.0001	0.036	0.036	3.7	<1	<1	<1	<1	<2	<3
QC01	CSM_BH04	9/08/2021	Field_D	816445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	<0.001	-	-	<0.0001	0.038	0.041	-	<1	<1	<1	<1	<2	<3
CSM_BH04	CSM_BH04	28/09/2021	Normal	829222	6.5	260	460	<0.004	<10	88	<20	88	81	7.3	15	2.5	69	78	38	<0.1	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.47	<0.0001	0.039	0.017	3.9	<1	<1	<1	<1	<2	<3
CSM_BH06	CSM_BH06	27/04/2021	Normal	791517	5.7	330	50	<0.004	<10	140	<20	140	210	34	31	4.6	110	240	25	0.04	<0.001	<0.0002	<0.001	0.006	<0.001	0.3	-	<0.0001	0.046	0.053	0.9	<1	<1	<1	<1	<2	<3
CSM_BH06	CSM_BH06	25/05/2021	Normal	799115	6.7	560	130	<0.004	<10	150	<20	150	190	26	30	<5	110	220	28	0.02	<0.001	<0.0002	<0.001	0.018	<0.001	-	0.44	<0.0001	0.012	0.066	2.7	<1	<1	<1	<1	<2	<3
QC01	CSM_BH06	25/05/2021	Field_D	799115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.019	<0.001	-	-	<0.0001	0.012	0.069	-	<1	<1	<1	<1	<2	<3
CSM_BH06	CSM_BH06	16/06/2021	Normal	803914	7.1	580	200	<0.004	<10	140	<20	140	210	32	32	4.5	110	240	29	0.02	<0.001	<0.0002	<0.001	0.008	<0.001	-	0.37	<0.0001	0.055	0.063	1.5	<1	<1	<1	<1	<2	<3
CSM-BH06	CSM_BH06	12/07/2021	Normal	810513	8.3	580	260	<0.004	<10	150	<20	150	220	32	34	4.6	110	300	28	<0.01	<0.001	<0.0002	<0.001	0.006	<0.001	-	0.45	<0.0001	0.01	0.042	2.2	<1	<1	<1	<1	<2	<3
CSM_BH06	CSM_BH06	9/08/2021	Normal	816445	7	560	320	<0.004	<20	120	<20	120	370	62	52	4.5	120	200	26	0.02	<0.001	<0.0002	<0.001	0.028	<0.001	-	0.43	<0.0001	0.011	0.13	1.6	<1	<1	<1	<1	<2	<3
CSM_BH06	CSM_BH06	29/09/2021	Normal	829222	6.3	470	680	<0.004	<10	140	<20	140	190	26	30	5.1	110	210	30	0.16	<0.001	<0.0002	<0.001	0.013	<0.001	-	0.38	<0.0001	0.034	0.067	2.4	<1	<1	<1	<1	<2	<3
CSM_BH08	CSM_BH08	27/04/2021	Normal	791517	5.3	250	38	<0.004	<10	100	<20	100	110	15	17	4	83	110	47	0.15	<0.001	<0.0002	0.001	0.007	0.001	0.52	-	<0.0001	0.087	0.16	4.4	<1	<1	<1	<1	<2	<3
QC02	CSM_BH08	27/04/2021	Interlab_D	ES2115835	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	0.0001	<0.001	0.007	<0.001	-	-	<0.0001	0.093	0.191	-	<1	<2	<2	<2	<2	<2
CSM_BH08	CSM_BH08	27/05/2021	Normal	799115	7.2	380	50	<0.004	<10	140	<20	140	110	13	19	<5	94	130	46	0.13	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.4	<0.0001	0.004	0.023	1.2	<1	<1	<1	<1	<2	<3
CSM_BH08	CSM_BH08	15/06/2021	Normal	803914	6.9	360	11	<0.004	<10	99	<20	99	120	15	20	4	82	100	46	0.06	<0.001	<0.0002	<0.001	0.001	<0.001	-	0.33	<0.0001	0.028	0.031	6.3	<1	<1	<1	<1	<2	<3
QC02	CSM_BH08	15/06/2021	Interlab_D	ES2122606	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	0.002	<0.001	-	-	<0.0001	0.031	0.039	-	<1	<2	<2	<2	<2	<2
CSM-BH08	CSM_BH08	12/07/2021	Normal	810513	6.7	340	20	<0.004	<10	110	<20	110	110	13	19	3.8	86	110	44	0.05	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.34	<0.0001	0.023	0.024	5.7	<1	<1	<1	<1	<2	<3
CSM_BH08	CSM_BH08	10/08/2021	Normal	816445	7.4	340	9	<0.004	<20	96	<20	96	120	15	20	4	88	120	45	0.04	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.39	<0.0001	0.06	0.032	6	<1	<1	<1	<1	<2	<3
QC02	CSM_BH08	10/08/2021	Interlab_D	ES2129447	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	<0.001	-	-	<0.0001	0.05	0.029	-	<1	<2	<2	<2	<2	<2
CSM_BH08	CSM_BH08	28/09/2021	Normal	829222	7	350	1000	<0.004	<10	100	<20	100	150	21	24	3.9	88	120	48	0.1	<0.001	<0.0002	<0.001	0.003	<0.001	-	0.42	<0.0001	0.019	0.025	5.6	<1	<1	<1	<1	<2	<3
QC02	CSM_BH08	28/09/2021	Interlab_D	EM2119579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	<0.001	-	-	<0.0001	0.017	0.008	-	<1	<2	<2	<2	<2	<2
CSM_BH10S	CSM_BH10S	27/04/2021	Normal	791517	5.8	150	150	<0.004	<10	21	<20	21	38	5	6.1	3	34	21	51	0.13	<0.001	<0.0002	<0.001	0.001	<0.001	0.56	-	<0.0001	0.002	<0.005	<0.5	<1	<1	<1	<1	<2	<3
QC01	CSM_BH10S	27/04/2021	Field_D	791517	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	<0.001	<0.001	-	-	<0.0001	0.002	<0.005	-	<1	<1	<1	<1	<2	<3
CSM_BH10S	CSM_BH10S	26/05/2021	Normal	799115	6.3	190	140	<0.004	<10	24	<20	24	38	<5	6.3	<5	36	23	52	0.03	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.55	<0.0001	0.001	<0.005	<0.05	<1	<1	<1	<1	<2	<3
CSM_BH10S	CSM_BH10S	15/06/2021	Normal	803914	6.7	180	160	<0.004	<10	25	<20	25	47	6.8	7.3	2.7	34	24	57	0.15	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.52	<0.0001	0.002	<0.005	<0.05	<1	<1	<1	<1	<2	<3
CSM-BH10S	CSM_BH10S	12/07/2021	Normal	810513	6.7	170	160	<0.004	<10	<20	<20	<20	37	4.8	6.2	2.3	31	24	55	0.18	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.49	<0.0001	0.001	<0.005	<0.05	<1	<1	<1	<1	<2	<3
QC02	CSM_BH10S	12/07/2021	Interlab_D	ES2125823	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	<0.001	-	-	<0.0001	0.001	<0.005	-	<1	<2	<2	<2	<2	<2
CSM_BH10S	CSM_BH10S	10/08/2021	Normal	816445	6.4	170	100	<0.004	<20	<20	<20	<20	36	4.3	6.3	2.5	31	25	54	<0.01	<0.001	<0.0002	<0.001	0.002	<0.001	-	0.58	<0.0001	0.002	0.005	<0.05	<1	<1	<1	<1	<2	<3
CSM_BH10S	CSM_BH10S	28/09/2021	Normal	829222	5.9	170	750	<0.004	<10	<20	<20	<20	31	3.4	5.5	2.2	33	23	55	0.04	<0.001	<0.0002	<0.001	0.002	<0.001	-	0.6	<0.0001	0.002	0.018	<0.05	<1	<1	<1	<1	<2	<3
CSM_BH12S	CSM_BH12S	27/04/2021	Normal	791517	6.4	170	920	<0.004	<10	91	<20	91	31	3.3	5.5	5.2	110	54	100	0.24	0.004	<0.0002	<0.001	<0.001	<0.001	0.65	-	<0.0001	0.009	0.033	3.5	<1	<1	<1	<1	<2	<3
CSM_BH12S	CSM_BH12S	26/05/2021	Normal	799115	6.9	370	100	<0.004	<10	100	<20	100	22	<5	<5	<5	110	67	110	0.06	0.003	<0.0002	<0.001	<0.001	<0.001	-	0.48	<0.0001	0.016	0.052	5.5	<1	<1	<1	<1	<2	<3
CSM_BH12S	CSM_BH12S	17/06/2021	Normal	803914	7.5	370	390	<0.004	<10	85	<20	85	29	2.6	5.4	2.4	100	55	110	0.09	0.003	<0.0002	<0.001	<0.001	<0.001	-	0.36	<0.0001	0.009	0.025	7.9	<1	<1	<1	<1	<2	<3
CSM-BH12S	CSM_BH12S	12/07/2021	Normal	810513	7.7	360	140	<0.004	<10	78	<20	78	27	2.5	5	2.1	100	57	120	0.06	0.003	<0.0002	<0.001	<0.001	<0.001	-	0.45	<0.0001	0.014	0.054	6	<1	<1	<1	<1	<2	<3
CSM_BH12S	CSM_BH12S	10/08/2021	Normal	816445	7.3	400	89	<0.004	<20	56	<20	56	33	2.8	6.3	2.2	120	65	150	0.29	0.003	<0.0002	<0.001	<0.001	<0.001	-	0.68	<0.0001	0.025	0.099	7.4	<1	<1	<1	<1	<2	<3
CSM_BH12S	CSM_BH12S	28/09/2021	Normal	829222	6.4	390	75	<0.004	<10	60	<20	60	33	2.2	6.8	1.9	120	76	170	<0.1	0.002	<0.0002	<0.001	<0.001	<0.001	-	0.91	<0.0001	0.032	0.13	7.7	<1	<1	<1	<1	<2	<3
CSM_BH13	CSM_BH13	29/09/2021	Normal	829222	7.8	570	110	<0.004	<10	180	<20	180	210	51	19	6.4	130	230	43	<0.1	<0.001	<0.0002	<0.001	0.001	<0.001	-	0.43	<0.0001	0.007	0.007	<0.05	<1	<1	<1	<1	<2	<3
CSM_BH14S	CSM_BH14S	29/09/2021	Normal	829222	7.1	110	3.4	<0.004	<10	40	<20	40	48	15	2.6	1.6	13	28	13	0.07	<0.001	<0.0002	<0.001	0.002	<0.001	-	<0.005	<0.0001	<0.001	0.016	<0.05	<1	<1	<1	<1	<2	<3
GASW_BH10	GASW_BH10	27/04/2021	Normal	791517	6.9	760	3300	<0.004	<10	570	<20	570	630	160	56	13	130	160	<2	0.04	0.003	<0.0002	0.001	<0.001	<0.001	0.92	-	<0.0001	0.003	0.009	5.5	<1	<1	<1	<1	<2	<3
GASW_BH10	GASW_BH10	25/05/2021	Normal	799115	7.5	810	49	0.004	<10	600	<20	600	380	83	42	11	130	170	<5	0.03	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.11	<0.0001	0.002	0.014	0.59	<1	<1	<1	<1	<2	<3
GASW_BH10	GASW_BH10	15/06/2021	Normal	803914	8.1	760	8700	<0.004	<10	610	<20	610	450	98	49	12	130	170	<5	0.13	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.11	<0.0001	0.002	0.061	5	<1	<1	<1	<1	<2	<3
GASW-BH10	GASW_BH10	12/07/2021	Normal	810513	8.2	820	220	<0.004	<10	490	<20	490	430	90	51	10	130	170	<5	0.02	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.097	<0.0001	0.001	0.009	5.2	<1	<1	<1	<1	<2	<3
GASW_BH10	GASW_BH10	10/08/2021	Normal	816445	7.6	760	11	<0.004	<20	430	<20	430	400	90	42	11	120	180	<5	0.18	0.001	<0.0002	<0.001	<0.001	<0.001	-	0.096	<0.0001	<0.001	0.011	5.2	<1	<1	<1	<1	<2	<3
GASW_BH10	GASW_BH10	29/09/2021	Normal	829222	7.4	690	1600	<0.004	<10	440	<20	440	380	83	41	11	120	190	<5	0.02	0.002	<0.0002	<0.001	0.004	<0.001	-	0.097	<0.0001	<0.001	0.009	3.7	<1	<1	<1	<1	<2	<3
GASW_BH11	GASW_BH11	27/04/2021	Normal	791517	6.3	180	260	<0.004	<10	57	<20	57	63	13	7.5	3.6	40	36	37	0.27	<0.001	<0.0002	<0.001	0.001	<0.001	0.27	-	<0.0001	0.002	0.051	<0.5	<1	<1	<1	<1	<2	<3
GASW_BH11	GASW_BH11	26/05/2021	Normal	799115	6.8	210	360	<0.004	<10	74	<20	74	32	4.6	4.9	1.4	36	42	39	0.16	<0.001	<0.0002	<0.001	0.001	<0.001	-	0.13	<0.0001	0.002	0.044	0.33	<1	<1	<1	<1	<2	<3

Appendix B
Table B3 Groundwater analytical results of current monitoring period (April 2021 to September 2021)

	Inorganics			Cyanide	Acidity & Alkalinity					Major Ions						Nutrients	Metals										Iron speciation	BTEXN					
	pH (Lab)	Total Dissolved Solids	Total Suspended Solids	Cyanide (Total)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Hydroxide as CaCO3)	Alkalinity (total as CaCO3)	Hardness as CaCO3	Calcium	Magnesium	Potassium	Sodium	Chloride	Sulfate	Ammonia as N	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Lead (Filtered)	Manganese	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)	Zinc (Filtered)	Ferrous Iron	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total
	pH units	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	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.1	5	1	0.004	10	20	20	20	1	0.5	0.5	0.5	0.5	1	2	0.01	0.001	0.0002	0.001	0.001	0.001	0.005	0.005	0.0001	0.001	0.005	0.05	1	1	1	1	2	3
ADWG 2011 Recreational (v3.6 updated 2021)				0.8											5000		0.1	0.02		20	0.1	5	5	0.01	0.2			10	8000	3000			6000
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)				0.004												0.91		0.0055	0.0044	0.0013	0.0044			0.0004	0.07	0.008		700	180	80			
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																	
2-4m																												**5000**	**NL**	**NL**			**NL**
4-8m																												**5000**	**NL**	**NL**			**NL**
>8m																												**5000**	**NL**	**NL**			**NL**

Field_ID	Location_Code	Sampled_Date	Sample_Type	Lab_Report_Number																														
GASW_BH11	GASW_BH11	16/06/2021	Normal	803914	7.3	220	2700	<0.004	<10	71	<20	71	38	5.7	5.7	1.7	36	38	41	0.24	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.13	<0.0001	0.002	0.034	0.22	<1	<1	<1	<1	<2	<3
GASW-BH11	GASW_BH11	12/07/2021	Normal	810513	7.6	390	1000	<0.004	<10	82	<20	82	38	6.6	5.1	1.5	34	39	40	0.03	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.11	<0.0001	<0.001	0.019	0.19	<1	<1	<1	<1	<2	<3
GASW_BH11	GASW_BH11	10/08/2021	Normal	816445	7.5	280	2.2	<0.004	<20	150	<20	150	76	19	6.9	2.2	34	41	38	0.14	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.17	<0.0001	0.002	0.1	0.07	<1	<1	<1	<1	<2	<3
GASW_BH11	GASW_BH11	28/09/2021	Normal	829222	7.1	220	480	<0.004	<10	110	<20	110	54	13	4.2	2	33	37	45	0.19	<0.001	<0.0002	<0.001	0.001	<0.001	-	0.16	<0.0001	0.002	0.088	1.2	<1	<1	<1	<1	<2	<3
GASW_BH23	GASW_BH23	27/04/2021	Normal	791517	7.3	490	19	0.01	<10	290	<20	290	340	130	7.4	11	27	15	110	0.4	0.004	<0.0002	<0.001	<0.001	<0.001	0.31	-	<0.0001	<0.001	0.008	4.1	330	7	14	<5	<10	<15
GASW_BH23	GASW_BH23	26/05/2021	Normal	799115	7.9	410	10	0.009	<10	260	<20	260	280	100	6.9	9	25	23	89	0.57	0.003	<0.0002	<0.001	<0.001	<0.001	-	0.28	<0.0001	<0.001	0.016	6.1	120	2	6	<1	<2	<3
GASW_BH23	GASW_BH23	16/06/2021	Normal	803914	8.1	380	430	<0.004	<10	270	<20	270	270	93	8.7	17	40	28	33	0.61	0.003	<0.0002	<0.001	<0.001	<0.001	-	0.18	<0.0001	<0.001	<0.005	6.5	580	19	17	<10	<20	<30
GASW-BH23	GASW_BH23	12/07/2021	Normal	810513	8.2	2300	16	<0.004	<10	160	<20	160	220	73	8.3	5.6	17	11	96	0.32	0.001	<0.0002	<0.001	<0.001	<0.001	-	0.23	0.0002	<0.001	0.032	5.9	31	<1	1	<1	<2	<3
GASW_BH23	GASW_BH23	10/08/2021	Normal	816445	7.9	240	4600	<0.004	<20	150	<20	150	330	120	9.7	15	32	14	51	0.54	0.003	<0.0002	<0.001	<0.001	<0.001	-	0.38	<0.0001	<0.001	<0.005	6.3	850	<25	<25	<25	<50	<75
GASW_BH23	GASW_BH23	29/09/2021	Normal	829222	7.9	230	22	<0.004	<10	230	<20	230	330	110	10	7.4	22	13	150	0.43	0.002	<0.0002	<0.001	<0.001	<0.001	-	0.39	0.0003	<0.001	0.031	14	21	<1	<1	<1	<2	<3
GASW_BH25A	GASW_BH25A	27/04/2021	Normal	791517	7.5	320	15	0.005	<10	210	<20	210	240	84	6.1	4.1	19	13	54	0.37	0.004	<0.0002	<0.001	<0.001	<0.001	0.16	-	<0.0001	<0.001	<0.005	1.4	1400	460	49	58	73	130
GASW_BH25A	GASW_BH25A	26/05/2021	Normal	799115	8.2	310	4.1	0.005	<10	220	<20	220	220	77	6.2	3.8	18	11	54	0.33	0.003	<0.0002	<0.001	<0.001	<0.001	-	0.13	<0.0001	<0.001	<0.005	1	500	200	28	27	30	57
GASW_BH25A	GASW_BH25A	15/06/2021	Normal	803914	8.3	310	19	0.005	<10	170	<20	170	220	79	6.2	3.9	20	16	54	0.3	0.002	<0.0002	<0.001	<0.001	<0.001	-	0.1	<0.0001	<0.001	<0.005	1.1	1000	560	120	130	140	260
GASW-BH25A	GASW_BH25A	12/07/2021	Normal	810513	8.1	170	4.1	<0.004	<10	96	<20	96	98	34	3.4	2.5	14	5000	660	0.03	0.003	<0.0002	<0.001	0.003	<0.001	-	<0.005	<0.0001	<0.001	<0.005	<0.05	2	<1	<1	<1	<2	<3
GASW_BH25A	GASW_BH25A	10/08/2021	Normal	816445	7.9	230	9.2	<0.004	<20	150	<20	150	170	61	4.7	3.4	15	21	35	0.35	0.003	<0.0002	<0.001	<0.001	<0.001	-	0.089	<0.0001	<0.001	<0.005	0.81	**8900**	4100	350	350	590	940
GASW_BH25A	GASW_BH25A	29/09/2021	Normal	829222	7.3	140	5.6	<0.004	<10	71	<20	71	70	25	2.2	2.6	14	21	19	0.28	0.005	<0.0002	<0.001	0.004	<0.001	-	<0.005	<0.0001	<0.001	<0.005	<0.05	77	34	7	8	10	18
SRT_BH047	SRT_BH047	27/04/2021	Normal	791517	6.5	270	20	<0.004	<10	27	<20	27	77	16	9.3	0.9	24	19	11	0.05	<0.001	<0.0002	<0.001	0.009	0.001	0.15	-	<0.0001	0.008	0.053	<0.5	<1	<1	<1	<1	<2	<3
SRT_BH047	SRT_BH047	27/05/2021	Normal	799115	7.1	250	13	<0.004	<10	48	<20	48	120	33	8.2	<5	26	21	11	<0.01	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.009	<0.0001	<0.001	<0.005	<0.05	<1	<1	<1	<1	<2	<3
SRT_BH047	SRT_BH047	17/06/2021	Normal	803914	6.9	190	34	<0.004	<10	<20	<20	<20	88	18	10	0.9	26	21	12	0.04	<0.001	<0.0002	<0.001	<0.001	<0.001	-	0.021	<0.0001	0.004	0.024	<0.05	<1	<1	<1	<1	<2	<3
SRT-BH047	SRT_BH047	12/07/2021	Normal	810513	6.8	180	29	<0.004	<10	<20	<20	<20	73	14	9.4	0.7	20	5000	790	0.21	<0.001	<0.0002	<0.001	0.001	<0.001	-	0.02	<0.0001	0.004	0.027	<0.05	<1	<1	<1	<1	<2	<3
SRT_BH047	SRT_BH047	11/08/2021	Normal	816445	7.3	230	170	<0.004	<20	29	<20	29	75	15	9.3	0.7	20	21	12	0.03	<0.001	<0.0002	<0.001	0.001	<0.001	-	0.029	<0.0001	0.004	0.013	<0.05	<1	<1	<1	<1	<2	<3
SRT_BH047	SRT_BH047	30/09/2021	Normal	829222	6.3	160	33	<0.004	<10	<20	<20	<20	49	6.6	8	0.6	21	18	13	<0.2	<0.001	<0.0002	<0.001	0.005	<0.001	-	0.025	<0.0001	0.004	0.035	<0.05	<1	<1	<1	<1	<2	<3
QC01	SRT_BH047	30/09/2021	Field_D	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.001	<0.001	-	-	<0.0001	0.004	0.033	-	<1	<1	<1	<1	<2	<3
SRT-BH050	SRT_BH050	12/07/2021	Normal	810513	-	-	-	0.008	-	-	-	-	-	-	-	-	-	-	-	0.02	<0.001	<0.0002	<0.001	0.004	<0.001	-	-	<0.0001	0.001	0.009	-	<1	<1	<1	<1	<2	<3
SRT_BH052	SRT_BH052	27/04/2021	Normal	791517	6.7	230	730	<0.004	<10	93	<20	93	140	45	7.3	2.5	44	39	24	0.11	<0.001	<0.0002	<0.001	<0.001	<0.001	0.43	-	<0.0001	<0.001	<0.005	<0.5	<1	<1	<1	<1	<2	<3
SRT_BH052	SRT_BH052	27/05/2021	Normal	799115	7	230	52	<0.004	<10	47	<20	47	31	12	<5	<5	49	45	34	0.15	<0.001	<0.0002	<0.001	<0.001	<0.001	-	<0.005	<0.0001	<0.001	<0.005	<0.05	<1	<1	<1	<1	<2	<3
SRT_BH052	SRT_BH052	17/06/2021	Normal	803914	7.1	230	110	<0.004	<10	47	<20	47	62	16	5.3	1.6	47	48	39	<0.01	<0.001	<0.0002	<0.001	<0.001	<0.001	-	<0.005	<0.0001	<0.001	<0.005	<0.05	<1	<1	<1	<1	<2	<3
SRT-BH052	SRT_BH052	12/07/2021	Normal	810513	7.5	300	130	<0.004	<10	53	<20	53	62	17	5	1.7	46	47	36	0.03	<0.001	<0.0002	<0.001	<0.001	<0.001	-	<0.005	<0.0001	<0.001	<0.005	<0.05	<1	<1	<1	<1	<2	<3
SRT_BH052	SRT_BH052	11/08/2021	Normal	816445	7.4	560	650	<0.004	<20	84	<20	84	58	17	4.2	1.6	50	48	36	0.26	<0.001	<0.0002	<0.001	0.006	<0.001	-	<0.005	<0.0001	<0.001	0.006	<0.05	<1	1	<1	<1	<2	<3
SRT_BH052	SRT_BH052	30/09/2021	Normal	829222	6.8	230	25	<0.004	<10	57	<20	57	48	13	3.6	1.5	47	47	40	0.3	<0.001	<0.0002	<0.001	<0.001	<0.001	-	<0.005	<0.0001	<0.001	<0.005	<0.05	<1	<1	<1	<1	<2	<3

Appendix B
Table B3 Groundwater analytical results of current monitoring period (April 2021 to September 2021)

							TRH - NEPM 2013					TRH - NEPM 2013 - SG Cleanup				PAHs - standard 16																PAHs - ext		
					BTEX (Sum of Total) - Lab Calc	Naphthalene (BTEXN suite)	F1 (C6-C10 minus BTEX)	C6-C10 Fraction	F2 (>C10-C16 minus Naphthalene)	>C10-C16 Fraction	F3 (>C16-C34 Fraction)	F4 (>C34-C40 Fraction)	>C10-C40 (Sum of Total)	>C10-C16 SG Cleanup	>C16-C34 SG Cleanup	>C34-C40 SG Cleanup	>C10-C40 (sum) SG Cleanup	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene-PAH	Phenanthrene	Pyrene	PAHs (Sum of total) - Lab calc	Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	10	20	20	50	50	100	100	100	50	100	100	100	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.1	0.1	0.1
ADWG 2011 Recreational (v3.6 updated 2021)																						0.1															
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)						70																0.2					1.4			70	2						
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																					
2-4m						**NL**	**6000**		**NL**																					**NL**								
4-8m						**NL**	**6000**		**NL**																					**NL**								
>8m						**NL**	**7000**		**NL**																					**NL**								
Field_ID	**Location_Code**	**Sampled_Date_T**	**Sample_Type**	**Lab_Report_Numb**																																	
CSM_BH02	CSM_BH02	27/04/2021	Normal	791517	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.02	-	-	-	-
CSM_BH02	CSM_BH02	25/05/2021	Normal	799115	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH02	CSM_BH02	15/06/2021	Normal	803914	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM-BH02	CSM_BH02	12/07/2021	Normal	810513	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH02	CSM_BH02	9/08/2021	Normal	816445	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH02	CSM_BH02	28/09/2021	Normal	829222	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH04	CSM_BH04	27/04/2021	Normal	791517	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.03	-	-	-	-
CSM_BH04	CSM_BH04	25/05/2021	Normal	799115	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
QC02	CSM_BH04	25/05/2021	Interlab_D	ES2119803	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.05	<0.1	<0.1	<0.1
CSM_BH04	CSM_BH04	15/06/2021	Normal	803914	-	<10	<20	<20	50	50	100	<100	150	<50	<100	<100	100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
QC01	CSM_BH04	15/06/2021	Field_D	803914	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM-BH04	CSM_BH04	12/07/2021	Normal	810513	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
QC01	CSM_BH04	12/07/2021	Field_D	810513	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH04	CSM_BH04	9/08/2021	Normal	816445	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
QC01	CSM_BH04	9/08/2021	Field_D	816445	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH04	CSM_BH04	28/09/2021	Normal	829222	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH06	CSM_BH06	27/04/2021	Normal	791517	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.01	-	-	-	-
CSM_BH06	CSM_BH06	25/05/2021	Normal	799115	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
QC01	CSM_BH06	25/05/2021	Field_D	799115	-	<10	<20	<20	<50	<50	100	<100	100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH06	CSM_BH06	16/06/2021	Normal	803914	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM-BH06	CSM_BH06	12/07/2021	Normal	810513	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH06	CSM_BH06	9/08/2021	Normal	816445	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH06	CSM_BH06	29/09/2021	Normal	829222	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH08	CSM_BH08	27/04/2021	Normal	791517	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<0.01	0.03	0.03	0.14	0.15	0.15	0.14	0.11	0.19	<0.01	0.26	<0.01	0.06	0.02	0.04	0.28	1.6	-	-	-	-
QC02	CSM_BH08	27/04/2021	Interlab_D	ES2115835	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<0.1	<0.1	<0.1	0.2	0.33	0.3	0.1	0.2	0.2	<0.1	0.3	<0.1	0.2	<0.1	<0.1	0.4	2.2	0.4	<0.1	<0.1	<0.1
CSM_BH08	CSM_BH08	27/05/2021	Normal	799115	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<0.01	<0.01	<0.01	0.1	0.08	0.07	0.07	0.04	0.08	0.01	0.11	<0.01	0.01	<0.01	<0.01	0.14	0.71	-	-	-	-
CSM_BH08	CSM_BH08	15/06/2021	Normal	803914	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
QC02	CSM_BH08	15/06/2021	Interlab_D	ES2122606	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.05	<0.1	<0.1	<0.1
CSM-BH08	CSM_BH08	12/07/2021	Normal	810513	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	0.09	0.03	0.18	0.39	0.28	0.26	0.18	0.22	0.04	0.27	<0.01	0.22	0.03	0.04	0.37	6.25	-	-	-	-
CSM_BH08	CSM_BH08	10/08/2021	Normal	816445	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
QC02	CSM_BH08	10/08/2021	Interlab_D	ES2129447	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<0.1	<0.1	<0.1	0.3	0.42	0.4	0.2	0.3	0.3	<0.1	0.3	<0.1	0.2	<0.1	<0.1	0.4	2.8	0.5	<0.1	<0.1	<0.1
CSM_BH08	CSM_BH08	28/09/2021	Normal	829222	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
QC02	CSM_BH08	28/09/2021	Interlab_D	EM2119579	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<0.1	<0.1	<0.1	0.2	0.39	0.4	0.1	0.3	0.2	<0.1	0.2	<0.1	0.2	<0.1	<0.1	0.3	2.3	0.5	<0.1	<0.1	<0.1
CSM_BH10S	CSM_BH10S	27/04/2021	Normal	791517	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.01	-	-	-	-
QC01	CSM_BH10S	27/04/2021	Field_D	791517	-	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH10S	CSM_BH10S	26/05/2021	Normal	799115	-	<10	<20	<20	110	110	700	<100	810	<50	100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH10S	CSM_BH10S	15/06/2021	Normal	803914	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM-BH10S	CSM_BH10S	12/07/2021	Normal	810513	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
QC02	CSM_BH10S	12/07/2021	Interlab_D	ES2125823	<1	<5	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.05	<0.1	<0.1	<0.1
CSM_BH10S	CSM_BH10S	10/08/2021	Normal	816445	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH10S	CSM_BH10S	28/09/2021	Normal	829222	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH12S	CSM_BH12S	27/04/2021	Normal	791517	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.01	-	-	-	-
CSM_BH12S	CSM_BH12S	26/05/2021	Normal	799115	-	<10	<20	<20	60	60	600	<100	660	<50	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH12S	CSM_BH12S	17/06/2021	Normal	803914	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM-BH12S	CSM_BH12S	12/07/2021	Normal	810513	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH12S	CSM_BH12S	10/08/2021	Normal	816445	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH12S	CSM_BH12S	28/09/2021	Normal	829222	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH13	CSM_BH13	29/09/2021	Normal	829222	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
CSM_BH14S	CSM_BH14S	29/09/2021	Normal	829222	-	<10	40	40	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW_BH10	GASW_BH10	27/04/2021	Normal	791517	-	<10	<20	<20	120	120	400	<100	520	<50	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW_BH10	GASW_BH10	25/05/2021	Normal	799115	-	<10	<20	<20	160	160	600	<100	760	<50	200	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW_BH10	GASW_BH10	15/06/2021	Normal	803914	-	<10	30	30	70	70	1000	300	1370	<50	200	<100	200	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW-BH10	GASW_BH10	12/07/2021	Normal	810513	-	<10	<20	<20	100	100	200	<100	300	<50	100	<100	100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.03	-	-	-	-
GASW_BH10	GASW_BH10	10/08/2021	Normal	816445	-	<10	<20	<20	110	110	300	<100	410	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW_BH10	GASW_BH10	29/09/2021	Normal	829222	-	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.02	-	-	-	-
GASW_BH11	GASW_BH11	27/04/2021	Normal	791517	-	<10	<20	<20	170	170	100	<100	270	<50	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW_BH11	GASW_BH11	26/05/2021	Normal	799115	-	<10	<20	<20	300	300	600	<100	900	90	100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-

Appendix B
Table B3 Groundwater analytical results of current monitoring period (April 2021 to September 2021)

						TRH - NEPM 2013							TRH - NEPM 2013 - SG Cleanup				PAHs - standard 16																PAHs - ext		
Field_ID	Location_Code	Sampled_Date_T	Sample_Type	Lab_Report_Numb		BTEX (Sum of Total) - Lab Calc	Naphthalene (BTEXN suite)	F1 (C6-C10 minus BTEX)	C6-C10 Fraction	F2 (>C10-C16 minus Naphthalene)	>C10-C16 Fraction	F3 (>C16-C34 Fraction)	F4 (>C34-C40 Fraction)	>C10-C40 (Sum of Total)	>C10-C16 SG Cleanup	>C16-C34 SG Cleanup	>C34-C40 SG Cleanup	>C10-C40 (sum) SG Cleanup	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo[b+j]fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene-PAH	Phenanthrene	Pyrene	PAHs (Sum of total) - Lab calc	Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Ca	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	10	20	20	50	50	100	100	100	50	100	100	100	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.1	0.1	0.1
ADWG 2011 Recreational (v3.6 updated 2021)																							0.1															
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)							70																0.2						1.4			70	2					
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																						
2-4m							**NL**	**6000**		**NL**																						**NL**								
4-8m							**NL**	**6000**		**NL**																						**NL**								
>8m							**NL**	**7000**		**NL**																						**NL**								
GASW_BH11	GASW_BH11	16/06/2021	Normal	803914	-	<10	<10	<20	<20	210	210	200	<100	410	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW-BH11	GASW_BH11	12/07/2021	Normal	810513	-	<10	<10	<20	<20	290	290	300	<100	590	140	200	<100	300	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW_BH11	GASW_BH11	10/08/2021	Normal	816445	-	<10	<10	<20	<20	160	160	300	<100	460	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW_BH11	GASW_BH11	28/09/2021	Normal	829222	-	<10	<10	<20	<20	<50	<50	200	<100	200	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW_BH23	GASW_BH23	27/04/2021	Normal	791517	-	<50	<10	120	470	230	230	100	<100	330	130	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW_BH23	GASW_BH23	26/05/2021	Normal	799115	-	<10	<10	50	180	260	260	800	<100	1060	100	100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	<0.01	<0.01	<0.01	<0.01	0.08	0.15	-	-	-	-
GASW_BH23	GASW_BH23	16/06/2021	Normal	803914	-	<100	<100	180	800	150	150	100	<100	250	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW-BH23	GASW_BH23	12/07/2021	Normal	810513	-	<10	<10	30	60	120	120	300	<100	420	<50	<100	<100	<100	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	0.06	<0.01	0.03	0.16	-	-	-	-
GASW_BH23	GASW_BH23	10/08/2021	Normal	816445	-	<250	<250	350	1200	<250	200	200	<100	400	<50	<100	<100	<100	0.22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	0.15	<0.01	0.12	0.06	0.11	0.76	-	-	-	-
GASW_BH23	GASW_BH23	29/09/2021	Normal	829222	-	<10	<10	<20	40	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW_BH25A	GASW_BH25A	27/04/2021	Normal	791517	-	<100	<100	1400	3400	340	340	200	<100	540	<50	<100	<100	-	0.08	0.03	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.11	0.07	<0.01	0.5	<0.01	0.09	0.9	-	-	-	-
GASW_BH25A	GASW_BH25A	26/05/2021	Normal	799115	-	<100	<100	220	1000	370	370	900	<100	1270	240	300	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.12	<0.01	<0.01	<0.01	<0.01	0.14	0.26	-	-	-	-
GASW_BH25A	GASW_BH25A	15/06/2021	Normal	803914	-	<250	<250	450	2400	250	250	300	<100	550	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW-BH25A	GASW_BH25A	12/07/2021	Normal	810513	-	<10	<10	<20	<20	60	60	100	<100	160	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW_BH25A	GASW_BH25A	10/08/2021	Normal	816445	-	<1000	<1000	**6700**	21,000	<1000	250	200	<100	450	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
GASW_BH25A	GASW_BH25A	29/09/2021	Normal	829222	-	<10	<10	100	240	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
SRT_BH047	SRT_BH047	27/04/2021	Normal	791517	-	<10	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.01	-	-	-	-
SRT_BH047	SRT_BH047	27/05/2021	Normal	799115	-	<10	<10	<20	<20	<50	<50	500	<100	500	<50	100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
SRT_BH047	SRT_BH047	17/06/2021	Normal	803914	-	<10	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
SRT-BH047	SRT_BH047	12/07/2021	Normal	810513	-	<10	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
SRT_BH047	SRT_BH047	11/08/2021	Normal	816445	-	<10	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
SRT_BH047	SRT_BH047	30/09/2021	Normal	829222	-	<10	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
QC01	SRT_BH047	30/09/2021	Field_D	829222	-	<10	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
SRT-BH050	SRT_BH050	12/07/2021	Normal	810513	-	<10	<10	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
SRT_BH052	SRT_BH052	27/04/2021	Normal	791517	-	<10	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
SRT_BH052	SRT_BH052	27/05/2021	Normal	799115	-	<10	<10	<20	<20	110	110	500	<100	610	70	<100	<100	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
SRT_BH052	SRT_BH052	17/06/2021	Normal	803914	-	<10	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
SRT-BH052	SRT_BH052	12/07/2021	Normal	810513	-	<10	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
SRT_BH052	SRT_BH052	11/08/2021	Normal	816445	-	<10	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
SRT_BH052	SRT_BH052	30/09/2021	Normal	829222	-	<10	<10	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-

Appendix B
Table B3 Groundwater analytical results of current monitoring period (April 2021 to September 2021)

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Appendix B
Table B3 Groundwater analytical results of current monitoring period (April 2021 to September 2021)

					:ended		Phenols - Halogenated										Phenols - Non-Halogenated										Chlorinated Hydrocarbons																			
					Benzo(e)pyrene	Perylene	2-Chlorophenol	2,4-Dichlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	Pentachlorophenol	tetrachlorophenols	Phenols (halogenated)	Phenols(halogenated) - Lab Calc	Phenol	2-Nitrophenol	2-Methylphenol (o-Cresol)	3,4-Methylphenol (m,p-cresol)	2,4-Dimethylphenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-Nitrophenol	Cresol Total	Phenols (Total Non Halogenated)	Chlorinated hydrocarbons EPAVic	Other chlorinated hydrocarbons (Total)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethene	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	1,4-dichlorobenzene	4-chlorotoluene	Bromobenzene	Bromochloromethane	Carbon tetrachloride	Chlorobenzene	Chloroform	Chloromethane	cis-1,2-dichloroethene	Methylene 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	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL					0.1	0.1	0.6	0.6	1.5	1.5	0.6	1.5	10	30	10	10	0.6	1.5	0.6	2	2	6	30	100	30	2	100	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1	1	1
ADWG 2011 Recreational (v3.6 updated 2021)							3000	2000		200			100																				300	15000	30			400				30	3000				40
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)													22				400													270	400	1900	700		1900	1100			400				240	55	770			4000
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																														
2-4m																																														
4-8m																																														
>8m																																														
Field_ID	**Location_Code**	**Sampled_Date_T**	**Sample_Type**	**Lab_Report_Numl**																																											
GASW_BH11	GASW_BH11	16/06/2021	Normal	803914	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW-BH11	GASW_BH11	12/07/2021	Normal	810513	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	10/08/2021	Normal	816445	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	<2	<2	<6	<30	<100	<30	<10	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	28/09/2021	Normal	829222	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	27/04/2021	Normal	791517	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100	<50	<50	<5	<5	<5	<5	<5	<5	27	<5	<5	<5	<5	<5	<5	<5	<25	<5	<5	<50
GASW_BH23	GASW_BH23	26/05/2021	Normal	799115	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	16/06/2021	Normal	803914	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW-BH23	GASW_BH23	12/07/2021	Normal	810513	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	10/08/2021	Normal	816445	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	<2	<2	<6	<30	<100	<30	<10	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	29/09/2021	Normal	829222	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	27/04/2021	Normal	791517	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	20	<10	10	9	<3	<30	<30	<100	<30	-	<100	<100	<100	<10	<10	<10	<10	<10	<10	56	<10	<10	<10	<10	<10	<10	<10	<10	<50	<10	<10	<100
GASW_BH25A	GASW_BH25A	26/05/2021	Normal	799115	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	15/06/2021	Normal	803914	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW-BH25A	GASW_BH25A	12/07/2021	Normal	810513	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	10/08/2021	Normal	816445	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	46	<1.5	4	<2	<2	<6	<30	<100	<30	<10	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	29/09/2021	Normal	829222	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	27/04/2021	Normal	791517	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1
SRT_BH047	SRT_BH047	27/05/2021	Normal	799115	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/06/2021	Normal	803914	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH047	SRT_BH047	12/07/2021	Normal	810513	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	11/08/2021	Normal	816445	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	<2	<2	<6	<30	<100	<30	<10	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	30/09/2021	Normal	829222	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	SRT_BH047	30/09/2021	Field_D	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH050	SRT_BH050	12/07/2021	Normal	810513	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	27/04/2021	Normal	791517	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1
SRT_BH052	SRT_BH052	27/05/2021	Normal	799115	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/06/2021	Normal	803914	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH052	SRT_BH052	12/07/2021	Normal	810513	-	-	<3	<3	<10	<10	<3	<10	<10	<30	<10	-	<3	<10	<3	<6	<3	<30	<30	<100	<30	<6	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	11/08/2021	Normal	816445	-	-	<0.6	<0.6	<1.5	<1.5	<0.6	<1.5	<10	<30	<10	-	<0.6	<1.5	<0.6	<2	<2	<6	<30	<100	<30	<10	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	30/09/2021	Normal	829222	-	-	<3	<3	<10	<10	<3	<10	<10	<30	-	<10	<3	<10	<3	<6	<3	<30	<30	<100	<30	<10	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B3 Groundwater analytical results of current monitoring period (April 2021 to September 2021)

		ated Hydrc		Herbicides	Solvents	MAH					SVOCs	VOCs																					
	Vinyl chloride	Bromomethane	Dichlorodifluoromethane	Dinoseb	Carbon disulfide	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	Styrene	Total MAH	Coronene	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromoethane	1,3-dichlorobenzene	2-butanone (MEK)	4-methyl-2-pentanone (MIBK)	Acetone	Allyl chloride	Bromodichloromethane	Bromoform	Chlorodibromomethane	Chloroethane	cis-1,3-dichloropropene	Dibromomethane	Iodomethane	Trichloroethene	Tetrachloroethene	trans-1,3-dichloropropene	trans-1,2-dichloroethene	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	µg/L	µg/L	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	100	1	1	1	1	1	3	0.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADWG 2011 Recreational (v3.6 updated 2021)	3	10							300					10														500				
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)	100							30																			330	70				
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																
2-4m																																
4-8m																																
>8m																																

Field_ID	Location_Code	Sampled_Date_T	Sample_Type	Lab_Report_Numb																															
CSM_BH02	CSM_BH02	27/04/2021	Normal	791517	<1	<1	<1	<100	<1	<1	<1	<1	<1	<3	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH02	CSM_BH02	25/05/2021	Normal	799115	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	15/06/2021	Normal	803914	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM-BH02	CSM_BH02	12/07/2021	Normal	810513	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	9/08/2021	Normal	816445	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH02	CSM_BH02	28/09/2021	Normal	829222	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	27/04/2021	Normal	791517	<1	<1	<1	<100	<1	<1	<1	<1	<1	<3	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH04	CSM_BH04	25/05/2021	Normal	799115	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH04	25/05/2021	Interlab_D	ES2119803	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	15/06/2021	Normal	803914	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	15/06/2021	Field_D	803914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM-BH04	CSM_BH04	12/07/2021	Normal	810513	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	12/07/2021	Field_D	810513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	9/08/2021	Normal	816445	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH04	9/08/2021	Field_D	816445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH04	CSM_BH04	28/09/2021	Normal	829222	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	27/04/2021	Normal	791517	<1	<1	<1	<100	<1	<1	<1	<1	<1	<3	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH06	CSM_BH06	25/05/2021	Normal	799115	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	CSM_BH06	25/05/2021	Field_D	799115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	16/06/2021	Normal	803914	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM-BH06	CSM_BH06	12/07/2021	Normal	810513	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	9/08/2021	Normal	816445	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH06	CSM_BH06	29/09/2021	Normal	829222	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	27/04/2021	Normal	791517	<1	<1	<1	<100	<1	<1	<1	<1	<1	<3	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
QC02	CSM_BH08	27/04/2021	Interlab_D	ES2115835	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	27/05/2021	Normal	799115	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	15/06/2021	Normal	803914	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH08	15/06/2021	Interlab_D	ES2122606	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM-BH08	CSM_BH08	12/07/2021	Normal	810513	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	10/08/2021	Normal	816445	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH08	10/08/2021	Interlab_D	ES2129447	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH08	CSM_BH08	28/09/2021	Normal	829222	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH08	28/09/2021	Interlab_D	EM2119579	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	27/04/2021	Normal	791517	<1	<1	<1	<100	<1	<1	<1	<1	<1	<3	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
QC01	CSM_BH10S	27/04/2021	Field_D	791517	<1	<1	<1	-	<1	<1	<1	<1	<1	<3	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH10S	CSM_BH10S	26/05/2021	Normal	799115	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	15/06/2021	Normal	803914	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM-BH10S	CSM_BH10S	12/07/2021	Normal	810513	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	CSM_BH10S	12/07/2021	Interlab_D	ES2125823	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	10/08/2021	Normal	816445	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH10S	CSM_BH10S	28/09/2021	Normal	829222	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH12S	CSM_BH12S	27/04/2021	Normal	791517	<1	<1	<1	<100	<1	<1	<1	<1	<1	<3	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
CSM_BH12S	CSM_BH12S	26/05/2021	Normal	799115	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH12S	CSM_BH12S	17/06/2021	Normal	803914	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM-BH12S	CSM_BH12S	12/07/2021	Normal	810513	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH12S	CSM_BH12S	10/08/2021	Normal	816445	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH12S	CSM_BH12S	28/09/2021	Normal	829222	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH13	CSM_BH13	29/09/2021	Normal	829222	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CSM_BH14S	CSM_BH14S	29/09/2021	Normal	829222	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	27/04/2021	Normal	791517	<1	<1	<1	<100	<1	<1	<1	<1	<1	<3	-	<1	<1	<1	<1	<1	<1	28	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
GASW_BH10	GASW_BH10	25/05/2021	Normal	799115	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	15/06/2021	Normal	803914	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW-BH10	GASW_BH10	12/07/2021	Normal	810513	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	10/08/2021	Normal	816445	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH10	GASW_BH10	29/09/2021	Normal	829222	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	27/04/2021	Normal	791517	<1	<1	<1	<100	<1	<1	<1	<1	<1	<3	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
GASW_BH11	GASW_BH11	26/05/2021	Normal	799115	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B3 Groundwater analytical results of current monitoring period (April 2021 to September 2021)

		ated Hydro		Herbicides	Solvents	MAH					SVOCs	VOCs																							
	Vinyl chloride	Bromomethane	Dichlorodifluoromethane	Dinoseb	Carbon disulfide	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	Styrene	Total MAH	Coronene	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromoethane	1,3-dichlorobenzene	2-butanone (MEK)	4-methyl-2-pentanone (MIBK)	Acetone	Allyl chloride	Bromodichloromethane	Bromoform	Chlorodibromomethane	Chloroethane	cis-1,3-dichloropropene	Dibromomethane	Iodomethane	Trichloroethene	Tetrachloroethene	trans-1,3-dichloropropene	trans-1,2-dichloroethene	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	µg/L	µg/L	µg/L	µg/L	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	100	1	1	1	1	1	3	0.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADWG 2011 Recreational (v3.6 updated 2021)	3	10							300					10														500						
ANZG (2018) - MW - 95% species protection (updated 1/10/2021)	100							30																			330	70						
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																		
2-4m																																		
4-8m																																		
>8m																																		
Field_ID	**Location_Code**	**Sampled_Date_T**	**Sample_Type**	**Lab_Report_Numb**																															
GASW_BH11	GASW_BH11	16/06/2021	Normal	803914	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW-BH11	GASW_BH11	12/07/2021	Normal	810513	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	10/08/2021	Normal	816445	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH11	GASW_BH11	28/09/2021	Normal	829222	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	27/04/2021	Normal	791517	<5	<5	<5	<100	<5	<5	<5	<5	<5	351	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
GASW_BH23	GASW_BH23	26/05/2021	Normal	799115	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	16/06/2021	Normal	803914	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW-BH23	GASW_BH23	12/07/2021	Normal	810513	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	10/08/2021	Normal	816445	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH23	GASW_BH23	29/09/2021	Normal	829222	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	27/04/2021	Normal	791517	<10	<10	<10	<100	<10	<10	<10	<10	<10	2040	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
GASW_BH25A	GASW_BH25A	26/05/2021	Normal	799115	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	15/06/2021	Normal	803914	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW-BH25A	GASW_BH25A	12/07/2021	Normal	810513	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	10/08/2021	Normal	816445	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GASW_BH25A	GASW_BH25A	29/09/2021	Normal	829222	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	27/04/2021	Normal	791517	<1	<1	<1	<100	<1	<1	<1	<1	<1	<3	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SRT_BH047	SRT_BH047	27/05/2021	Normal	799115	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	17/06/2021	Normal	803914	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH047	SRT_BH047	12/07/2021	Normal	810513	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	11/08/2021	Normal	816445	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH047	SRT_BH047	30/09/2021	Normal	829222	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	SRT_BH047	30/09/2021	Field_D	829222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH050	SRT_BH050	12/07/2021	Normal	810513	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	27/04/2021	Normal	791517	<1	<1	<1	<100	<1	<1	<1	<1	<1	<3	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SRT_BH052	SRT_BH052	27/05/2021	Normal	799115	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	17/06/2021	Normal	803914	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT-BH052	SRT_BH052	12/07/2021	Normal	810513	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	11/08/2021	Normal	816445	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRT_BH052	SRT_BH052	30/09/2021	Normal	829222	-	-	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix B
Table B4 - Summary of Groundwater Gauging Results (April 2021 to September 2021)

Well ID	Sampling Event	SWL (mbTOC)	Elevation of well (m TOC)	SWL (m AHD)	Shallow or deep?	Date Measured	Lithology (mAHD)	Well screen (mAHD)	Lithology (mbgl)	Well screen (mbgl)
CSM_BH02	Event 31 - Apr 2021	26.44	21.424	-5.016	Deep	27/04/2021	14.28-14.88 concrete / fill 13.98-14.28 residual soil (20.12)-13.98 sandstone	(20.12)-0.88	-	-
CSM_BH02	Event 32 - May 2021	26.62	21.424	-5.196	Deep	25/05/2021				
CSM_BH02	Event 33 - Jun 2021	26.5	21.424	-5.076	Deep	15/06/2021				
CSM_BH02	Event 34 - Jul 2021	26.21	21.424	-4.786	Deep	12/07/2021				
CSM_BH02	Event 35 - Aug 2021	26.225	21.424	-4.801	Deep	9/08/2021				
CSM_BH02	Event 36 - Sep 2021	26.09	21.424	-4.666	Deep	28/09/2021				
CSM_BH04	Event 31 - Apr 2021	21.92	15.814	-6.106	Deep	27/04/2021	13.91-15.91 fill 5.91-13.91 residual (sand, clayey sand, sandy clay) (20.91)-5.91 sandstone	(20.91)-(5.91)	-	-
CSM_BH04	Event 32 - May 2021	21.88	15.814	-6.066	Deep	25/05/2021				
CSM_BH04	Event 33 - Jun 2021	21.86	15.814	-6.046	Deep	15/06/2021				
CSM_BH04	Event 34 - Jul 2021	21.93	15.814	-6.116	Deep	12/07/2021				
CSM_BH04	Event 35 - Aug 2021	22.025	15.814	-6.211	Deep	9/08/2021				
CSM_BH04	Event 36 - Sep 2021	21.945	15.814	-6.131	Deep	28/09/2021				
CSM_BH06	Event 31 - Apr 2021	26.6	21.93	-4.67	Deep	27/04/2021	19.52-20.02 fill 14.02-19.52 residual (clayey sand, sandy clay, clay) 10.02-14.02 residual / weathered shale / weathered claystone	(13.02)-2.02	-	-
CSM_BH06	Event 32 - May 2021	26.84	21.93	-4.91	Deep	25/05/2021				
CSM_BH06	Event 33 - Jun 2021	26.705	21.93	-4.775	Deep	16/06/2021				
CSM_BH06	Event 34 - Jul 2021	26.37	21.93	-4.44	Deep	13/07/2021				
CSM_BH06	Event 35 - Aug 2021	26.435	21.93	-4.505	Deep	9/08/2021				
CSM_BH06	Event 36 - Sep 2021	26.34	21.93	-4.41	Deep	29/09/2021				
CSM_BH08	Event 31 - Apr 2021	18.92	14.694	-4.226	Deep	27/04/2021	14.28-14.88 concrete / fill 13.98-14.28 residual (sandy clay) (21.88)-13.98 sandstone	(21.88)-(6.88)	-	-
CSM_BH08	Event 32 - May 2021	19.07	14.694	-4.376	Deep	27/05/2021				
CSM_BH08	Event 33 - Jun 2021	18.935	14.694	-4.241	Deep	15/06/2021				
CSM_BH08	Event 34 - Jul 2021	18.67	14.694	-3.976	Deep	12/07/2021				
CSM_BH08	Event 35 - Aug 2021	18.672	14.694	-3.978	Deep	10/08/2021				
CSM_BH08	Event 36 - Sep 2021	18.435	14.694	-3.741	Deep	28/09/2021				
CSM_BH10S	Event 31 - Apr 2021	4.01	15.583	11.573	Shallow	28/04/2021	13.68-15.68 fill 9.68-13.68 residual soil (sand) 5.68-9.68 residual soil (clayey sand and sandy clay)	5.98-9.68	-	-
CSM_BH10S	Event 32 - May 2021	4.075	15.583	11.508	Shallow	26/05/2021				
CSM_BH10S	Event 33 - Jun 2021	4.16	15.583	11.423	Shallow	15/06/2021				
CSM_BH10S	Event 34 - Jul 2021	4.04	15.583	11.543	Shallow	12/07/2021				
CSM_BH10S	Event 35 - Aug 2021	4.395	15.583	11.188	Shallow	10/08/2021				
CSM_BH10S	Event 36 - Sep 2021	4.39	15.583	11.193	Shallow	28/09/2021				
CSM_BH12S	Event 31 - Apr 2021	4.905	20.726	15.821	Shallow	28/04/2021				
CSM_BH12S	Event 32 - May 2021	4.9	20.726	15.826	Shallow	26/05/2021				
CSM_BH12S	Event 33 - Jun 2021	4.985	20.726	15.741	Shallow	17/06/2021				
CSM_BH12S	Event 34 - Jul 2021	4.855	20.726	15.871	Shallow	13/07/2021				
CSM_BH12S	Event 35 - Aug 2021	4.935	20.726	15.791	Shallow	10/08/2021				
CSM_BH12S	Event 36 - Sep 2021	4.815	20.726	15.911	Shallow	28/09/2021				
CSM_BH13	Event 36 - Sep 2026	22.29	25.452	3.162	Deep	29/09/2021			Sandstone	
CSM_BH14S	Event 36 - Sep 2021	2.45	20.726	18.276	Shallow	29/09/2021	-	-	0-2 fill	3-6
GASW_BH7	Event 31 - Apr 2021	DRY	21.17	Dry	Shallow	27/04/2021	20.59-20.89 fill 14.39-20.59 residual (weathered shale)	-	0-2.7 fill 2.7-5 silty clay 5-7 shale	5-7
GASW_BH7	Event 32 - May 2021	DRY	21.17	Dry	Shallow	26/05/2021				
GASW_BH7	Event 33 - Jun 2021	DRY	21.17	Dry	Shallow	15/06/2021				
GASW_BH7	Event 34 - Jul 2021	DRY	21.17	Dry	Shallow	12/07/2021				
GASW_BH7	Event 35 - Aug 2021	DRY	21.17	Dry	Shallow	17/02/2021				
GASW_BH7	Event 36 - Sep 2021	DRY	21.17	Dry	Shallow	28/09/2021				

Appendix B
Table B4 - Summary of Groundwater Gauging Results (April 2021 to September 2021)

Well ID	Sampling Event	SWL (mbTOC)	Elevation of well (m TOC)	SWL (m AHD)	Shallow or deep?	Date Measured	Lithology (mAHD)	Well screen (mAHD)	Lithology (mbgl)	Well screen (mbgl)
GASW_BH10	Event 31 - Apr 2021	23.472	20.493	-2.979	Deep	27/04/2021	-	-	0-3.5 fill 3.5-6 silty clay 6-8.5 shale 8.5-25 sandstone	22-25
GASW_BH10	Event 32 - May 2021	23.75	20.493	-3.257	Deep	25/05/2021				
GASW_BH10	Event 33 - Jun 2021	23.8	20.493	-3.307	Deep	15/06/2021				
GASW_BH10	Event 34 - Jul 2021	23.75	20.493	-3.257	Deep	12/07/2021				
GASW_BH10	Event 35 - Aug 2021	23.77	20.493	-3.277	Deep	10/08/2021				
GASW_BH10	Event 36 - Sep 2021	23.74	20.493	-3.247	Deep	29/09/2021				
GASW_BH11	Event 31 - Apr 2021	7.175	20.548	13.373	Shallow	28/04/2021	-	-	0-3.7 fill 3.7-6 silty clay 6-7 shale 7-9 sandstone	6-9
GASW_BH11	Event 32 - May 2021	7.175	20.548	13.373	Shallow	26/05/2021				
GASW_BH11	Event 33 - Jun 2021	7.195	20.548	13.353	Shallow	16/06/2021				
GASW_BH11	Event 34 - Jul 2021	7.16	20.548	13.388	Shallow	13/07/2021				
GASW_BH11	Event 35 - Aug 2021	7.201	20.548	13.347	Shallow	10/08/2021				
GASW_BH11	Event 36 - Sep 2021	7.175	20.548	13.373	Shallow	28/09/2021				
GASW_BH23	Event 31 - Apr 2021	3.155	19.605	16.45	Shallow	28/04/2021	17.01-19.61 fill	17.01-18.61	-	-
GASW_BH23	Event 32 - May 2021	3.065	19.605	16.54	Shallow	26/05/2021				
GASW_BH23	Event 33 - Jun 2021	3.295	19.605	16.31	Shallow	16/06/2021				
GASW_BH23	Event 34 - Jul 2021	2.325	19.605	17.28	Shallow	13/07/2021				
GASW_BH23	Event 35 - Aug 2021	3.47	19.605	16.135	Shallow	10/08/2021				
GASW_BH23	Event 36 - Sep 2021	2.87	19.605	16.735	Shallow	29/09/2021				
GASW_BH25A	Event 31 - Apr 2021	1.802	19.631	17.829	Shallow	28/04/2021	16.73-19.63 fill / concrete	16.73-18.63	-	-
GASW_BH25A	Event 32 - May 2021	1.7	19.631	17.931	Shallow	26/05/2021				
GASW_BH25A	Event 33 - Jun 2021	1.84	19.631	17.791	Shallow	15/06/2021				
GASW_BH25A	Event 34 - Jul 2021	0.975	19.631	18.656	Shallow	13/07/2021				
GASW_BH25A	Event 35 - Aug 2021	1.845	19.631	17.786	Shallow	10/08/2021				
GASW_BH25A	Event 36 - Sep 2021	1.44	19.631	18.191	Shallow	29/09/2021				
SRT_BH047	Event 31 - Apr 2021	5.06	21.31	16.25	Shallow	29/04/2021	19.71-21.11 fill 14.18-19.71 laminite / residual soil 6.31-14.18 bedrock sandstone	11.91-15.41	-	-
SRT_BH047	Event 32 - May 2021	4.625	21.31	16.685	Shallow	27/05/2021				
SRT_BH047	Event 33 - Jun 2021	4.38	21.31	16.93	Shallow	17/06/2021				
SRT_BH047	Event 34 - Jul 2021	3.95	21.31	17.36	Shallow	14/07/2021				
SRT_BH047	Event 35 - Aug 2021	5.18	21.31	16.13	Shallow	11/08/2021				
SRT_BH047	Event 36 - Sep 2021	4.43	21.31	16.88	Shallow	30/09/2021				
SRT_BH050	Event 31 - Apr 2021	DRY	21.39		Shallow	29/04/2021	-	-	-	-
SRT_BH050	Event 32 - May 2021	DRY	21.39		Shallow	27/05/2021				
SRT_BH050	Event 33 - Jun 2021	DRY	21.39		Shallow	22/12/2020				
SRT_BH050	Event 34 - Jul 2021	2.535	21.39	18.855	Shallow	29/01/2021				
SRT_BH050	Event 35 - Aug 2021	DRY	21.39		Shallow	11/08/2021				
SRT_BH050	Event 36 - Sep 2021	DRY	21.39		Shallow	30/09/2021				
SRT_BH052	Event 31 - Apr 2021	6.125	21.4	15.275	Shallow	29/04/2021	19.55-21.40 fill 16.40-19.55 residual soil 6.08-16.40 sandstone	14.2-16.9	-	-
SRT_BH052	Event 32 - May 2021	6.225	21.4	15.175	Shallow	27/05/2021				
SRT_BH052	Event 33 - Jun 2021	6.245	21.4	15.155	Shallow	17/06/2021				
SRT_BH052	Event 34 - Jul 2021	6.19	21.4	15.21	Shallow	14/07/2021				
SRT_BH052	Event 35 - Aug 2021	6.33	21.4	15.07	Shallow	11/08/2021				
SRT_BH052	Event 36 - Sep 2021	6.22	21.4	15.18	Shallow	30/09/2021				

mTOC: metres top of casing
AHD: Australian Height Datum
mbgl: metres below ground level

Appendix B
Table B5 - Summary of Groundwater Field Parameters - April 2021 to September 2021

Well ID	Sampling Event	Date Measured	SWL (mbTOC)	BOC (mbTOC)	Dissolved Oxygen (ppm)	Electrical Conductivity (us/cm)	pH	Ox-Red Potential (mV)	Temperature (°C)	Comments
CSM_BH02	Event 31 - Apr 2021	27/04/2021	26.44	33.2	1.29	933	5.5	151.2	20.7	Orange brown, cloudy, no odour/sheen
CSM_BH02	Event 32 - May 2021	25/05/2021	26.62	32.9	0.87	1052	6.33	69.4	20.5	Brown, cloudy, some sediments, no odour/sheen
CSM_BH02	Event 33 - Jun 2021	15/06/2021	26.5	32.65	1.38	967	5.97	129.5	20	Light brown, cloudy, some sediment, no odour/sheen
CSM_BH02	Event 34 - Jul 2021	12/07/2021	26.21	32.65	2.3	905	6.72	146.8	19.7	Brown orange, cloudy, some sediment, no odour/sheen
CSM_BH02	Event 35 - Aug 2021	9/08/2021	26.225	32.61	2.76	589	6.49	34.6	19.9	Light brown, suspended sediments, no odour/sheen
CSM_BH02	Event 36 - Sept 2021	28/09/2021	26.09	32.81	2.55	429.3	5.97	150.3	19.8	Light brown, some sediment, no odour/sheen
CSM_BH04	Event 31 - Apr 2021	27/04/2021	21.92	33.78	1.94	483.3	5.07	148	21.2	Light brown, some sediment, turbid, no odour/sheen
CSM_BH04	Event 32 - May 2021	25/05/2021	21.88	33.73	0.56	500	5.94	13.8	20	Brown, cloudy, no odour/sheen
CSM_BH04	Event 33 - Jun 2021	15/06/2021	21.86	33.32	0.71	472.4	5.1	139.3	20.6	Light brown, cloudy, some sediment, no odour/sheen
CSM_BH04	Event 34 - Jul 2021	12/07/2021	21.93	33.2	0.79	452.4	5.94	62.5	20.6	Light brown, trace sediment, no odour/sheen
CSM_BH04	Event 35 - Aug 2021	9/08/2021	22.025	34.19	4.02	455	6	19.3	20.4	Brown, cloudy, suspended sediments, no odour/sheen
CSM_BH04	Event 36 - Sept 2021	28/09/2021	21.945	33.23	4.79	468.3	5.91	61.1	20.8	Light brown, cloudy, no odour/sheen
CSM_BH06	Event 31 - Apr 2021	27/04/2021	26.6	35.82	2.2	975	5.47	158.9	22.4	Brown, cloudy, no odour/sheen
CSM_BH06	Event 32 - May 2021	25/05/2021	26.84	35.85	0.61	948	5.72	101.6	21.4	Orange brown, some sediments, no odour/sheen
CSM_BH06	Event 33 - Jun 2021	16/06/2021	26.705	35.4	1.02	949	5.84	88.6	21.2	Light brown, cloudy, no odour/sheen
CSM_BH06	Event 34 - Jul 2021	13/07/2021	26.37	35.4	0.68	947	6.08	74.7	21.6	Brown, cloudy, no odour/sheen
CSM_BH06	Event 35 - Aug 2021	9/08/2021	26.435	35.42	0.73	938	5.95	78.1	20.9	Brown, cloudy, no odour/sheen
CSM_BH06	Event 36 - Sept 2021	29/09/2021	25.78	35.43	3.18	902	5.62	129.4	19.1	Light brown, some sediment, no odour/sheen
CSM_BH08	Event 31 - Apr 2021	27/04/2021	18.92	34.99	1.76	611	5.04	131.1	20.8	Orange, cloudy, no odour/sheen
CSM_BH08	Event 32 - May 2021	27/05/2021	19.07	35.4	0.27	695	6.21	-9.1	20.6	Brown, cloudy, red suspended sedimets, no odour/sheen
CSM_BH08	Event 33 - Jun 2021	15/06/2021	18.935	34.93	1.21	603	5.78	32.8	20.5	Brown, cloudy, no odour/sheen
CSM_BH08	Event 34 - Jul 2021	12/07/2021	18.67	35.05	1.9	610	5.83	59.4	20.5	Light brown, some red sediment, no odour/sheen
CSM_BH08	Event 35 - Aug 2021	10/08/2021	18.672	34.93	0.45	620	6.28	-13.5	20.1	Orange, cloudy, suspended sediment, no odour/sheen
CSM_BH08	Event 36 - Sept 2021	28/09/2021	18.435	35.16	0.83	615	6.32	-20	19.9	Light brown, cloudy, no odour/sheen
CSM_BH10S	Event 31 - Apr 2021	28/04/2021	4.01	9.73	0.67	243.5	5.32	206.9	21.2	Brown, slightly cloudy, no odour/sheen
CSM_BH10S	Event 32 - May 2021	26/05/2021	4.075	9.7	0.23	246.4	5.1	288.3	21	Brown, cloudy, no odour/sheen
CSM_BH10S	Event 33 - Jun 2021	15/06/2021	4.16	9.71	0.6	259.5	5.41	220.8	21	Light brown, cloudy, no odour/sheen
CSM_BH10S	Event 34 - Jul 2021	12/07/2021	4.04	10.68	0.55	246	5.24	252	21	Brown, cloudy, no odour/sheen
CSM_BH10S	Event 35 - Aug 2021	10/08/2021	4.395	9.675	0.36	234.9	5.22	91	21	Light brown, cloudy, no odour/sheen
CSM_BH10S	Event 36 - Sept 2021	28/09/2021	4.39	9.67	0.53	234.3	5.16	200.1	20.5	Slightly cloudy, no odour/sheen
CSM_BH12S	Event 31 - Apr 2021	28/04/2021	4.905	6.51	0.45	552	6.15	-8	20.6	Grey, cloudy, no odour/sheen
CSM_BH12S	Event 32 - May 2021	26/05/2021	4.9	6.455	0.02	590	5.82	32.4	20.2	Grey, cloudy, no odour/sheen
CSM_BH12S	Event 33 - Jun 2021	17/06/2021	4.985	6.51	0.08	559	6.12	-16.2	19.7	Grey, cloudy, no odour/sheen
CSM_BH12S	Event 34 - Jul 2021	13/07/2021	4.855	6.51	0.58	575	6.01	19.6	19.5	Grey, cloudy, no odour/sheen
CSM_BH12S	Event 35 - Aug 2021	10/08/2021	4.935	6.5	0.25	606	5.87	24.2	19.1	Grey, cloudy, sediments, no odour/sheen
CSM_BH12S	Event 36 - Sept 2021	28/09/2021	4.815	6.49	0.78	655	5.68	74.4	19.8	Brown, cloudy, no odour/sheen
CSM_BH13	Event 36 - Sept 2021	29/09/2021	22.29	33.67	1.95	1000	7.24	-84.3	20.5	Orange, cloudy, no odour/sheen
CSM_BH14S	Event 36 - Sept 2021	29/09/2021	2.45	5.59	3.52	160.2	6.67	98.1	17.6	Slight yellow, no odour/sheen
GASW_BH10	Event 31 - Apr 2021	27/04/2021	23.432	24.69	2.69	1347	7.13	-40.8	20.6	Grey, high sediment/sand, no sheen, organic odour
GASW_BH10	Event 32 - May 2021	25/05/2021	23.75	24.74	-	-	-	-	-	Grab sample taken due to limited water
GASW_BH10	Event 33 - Jun 2021	15/06/2021	23.8	24.73	-	-	-	-	-	Grey, cloudy, some sediment, organic odour, no sheen (grab sample taken)
GASW_BH10	Event 34 - Jul 2021	12/07/2021	23.75	24.73	-	-	-	-	-	Grey, cloudy, some sediment, organic odour, no sheen (grab sample taken)
GASW_BH10	Event 35 - Aug 2021	10/08/2021	23.77	24.72	1.61	1156	6.57	-84.7	18.6	Light grey, cloudy, sediment and sand, organic odour, no sheen
GASW_BH10	Event 36 - Sept 2021	29/09/2021	23.74	24.74	-	-	-	-	-	Grey, cloudy, slight sulphurous odour, no sheen
GASW_BH11	Event 31 - Apr 2021	28/04/2021	7.175	8.05	0.7	239.6	6.25	-33.5	20.5	Brown, cloudy, no odour/sheen
GASW_BH11	Event 32 - May 2021	26/05/2021	7.175	8.045	4.1	256.7	5.4	148.7	20.2	Brown, cloudy, no odour/sheen
GASW_BH11	Event 33 - Jun 2021	16/06/2021	7.195	8.05	4.85	234.8	5.91	31.2	17.4	Grey brown, cloudy, no odour/sheen (grab sample taken)
GASW_BH11	Event 34 - Jul 2021	13/07/2021	7.16	8.05	5.08	232.7	5.54	180.5	17.9	Brown, cloudy, no odour/sheen (grab sample taken)
GASW_BH11	Event 35 - Aug 2021	10/08/2021	7.201	8.05	3.93	284	6.12	82.5	18.1	Brown, cloudy, no odour/sheen
GASW_BH11	Event 36 - Sept 2021	28/09/2021	7.175	8.05	2.23	278.1	5.93	40.8	18.5	Grey, slightly cloudy, slight sulphurous odour, no sheen

Appendix B
Table B5 - Summary of Groundwater Field Parameters - April 2021 to September 2021

Well ID	Sampling Event	Date Measured	SWL (mbTOC)	BOC (mbTOC)	Dissolved Oxygen (ppm)	Electrical Conductivity (us/cm)	pH	Ox-Red Potential (mV)	Temperature (°C)	Comments
GASW_BH23	Event 31 - Apr 2021	28/04/2021	3.155	3.91	0.05	770	7.2	-176.2	21.9	Grey, cloudy, no sheen, hydrocarbon odour
GASW_BH23	Event 32 - May 2021	26/05/2021	3.065	3.91	0.01	575	7.14	-170.8	20.1	Grey, cloudy, some sediments, hydrocarbon odour, no sheen
GASW_BH23	Event 33 - Jun 2021	16/06/2021	3.295	3.915	0.6	548	7.08	-162.7	18.7	Grey, cloudy, hydrocarbon odour, no sheen (grab sample taken)
GASW_BH23	Event 34 - Jul 2021	13/07/2021	2.325	3.91	0.18	450.7	7.05	-130.2	17.7	Grey, cloudy, hydrocarbon odour, no sheen
GASW_BH23	Event 35 - Aug 2021	10/08/2021	3.47	3.91	-	-	-	-	-	Grey and dark grey, cloudy, sediments, hydrocarbon odour, no sheen
GASW_BH23	Event 36 - Sept 2021	29/09/2021	2.87	3.91	0.38	651	7.11	-144.2	18.2	Grey to clear, hydrocarbon odour, no sheen
GASW_BH25A	Event 31 - Apr 2021	28/04/2021	1.802	2.945	0.08	495.4	7.36	-204	21.3	Grey, cloudy, no sheen, hydrocarbon odour
GASW_BH25A	Event 32 - May 2021	26/05/2021	1.7	2.94	0.1	430.8	7.23	-175.1	20	Grey, cloudy, some sediments, hydrocarbon odour, no sheen
GASW_BH25A	Event 33 - Jun 2021	15/06/2021	1.84	2.95	2.62	409.3	7.37	166.7	18.9	Dark grey to black, some sediment, hydrocarbon odour, no sheen (grab sample taken)
GASW_BH25A	Event 34 - Jul 2021	13/07/2021	0.975	2.94	2.84	219.7	7.78	128.3	16.2	Grey, cloudy, hydrocarbon odour, no sheen
GASW_BH25A	Event 35 - Aug 2021	10/08/2021	1.845	2.94	1.99	342.6	7.62	-113	16.9	Grey, cloudy to clear, hydrocarbon odour, no sheen
GASW_BH25A	Event 36 - Sept 2021	29/09/2021	1.44	2.94	2.64	213.1	7.99	-110.4	17.8	Clear, hydrocarbon odour, no sheen
GASW_BH7	Event 31 - Apr 2021	27/04/2021	DRY	6.22	-	-	-	-	-	DRY
GASW_BH7	Event 32 - May 2021	26/05/2021	DRY	6.2	-	-	-	-	-	DRY
GASW_BH7	Event 33 - Jun 2021	15/06/2021	DRY	6.2	-	-	-	-	-	DRY
GASW_BH7	Event 34 - Jul 2021	12/07/2021	DRY	6.16	-	-	-	-	-	DRY
GASW_BH7	Event 35 - Aug 2021	10/08/2021	DRY	6.18	-	-	-	-	-	DRY
GASW_BH7	Event 36 - Sept 2021	28/09/2021	DRY	6.2	-	-	-	-	-	DRY
SRT_BH047	Event 31 - Apr 2021	29/04/2021	5.06	6.99	2.25	235.1	5.68	193.6	20.1	Clear, no odour/sheen
SRT_BH047	Event 32 - May 2021	27/05/2021	4.625	6.96	2.45	224.7	5.06	298.3	20	Clear, no odour/sheen
SRT_BH047	Event 33 - Jun 2021	17/06/2021	4.38	6.98	1.93	226.3	5.56	243.1	19.7	Brown, cloudy, no odour/sheen
SRT_BH047	Event 34 - Jul 2021	14/07/2021	3.95	7.01	2.73	208.9	5.44	250.5	19.5	Brown, cloudy, no odour/sheen
SRT_BH047	Event 35 - Aug 2021	11/08/2021	5.18	7.045	0	208.1	5.32	54.7	19.5	Clear, no odour/sheen
SRT_BH047	Event 36 - Sept 2021	30/09/2021	4.43	7.03	2.24	206.6	5.61	215.7	19.6	Clear, no odour/sheen
SRT_BH050	Event 31 - Apr 2021	29/04/2021	DRY	2.78	-	-	-	-	-	DRY
SRT_BH050	Event 32 - May 2021	27/05/2021	DRY	2.77	-	-	-	-	-	DRY
SRT_BH050	Event 33 - Jun 2021	17/06/2021	DRY	2.78	-	-	-	-	-	DRY
SRT_BH050	Event 34 - Jul 2021	14/07/2021	2.535	2.76	-	-	-	-	-	Light brown, cloudy, no odour/sheen (grab sample taken)
SRT_BH050	Event 35 - Aug 2021	11/08/2021	DRY	2.77	-	-	-	-	-	DRY
SRT_BH050	Event 36 - Sept 2021	30/09/2021	DRY	2.75	-	-	-	-	-	DRY
SRT_BH052	Event 31 - Apr 2021	29/04/2021	6.125	7.925	3.99	312.4	6.12	162.8	20.1	Clear, no odour/sheen
SRT_BH052	Event 32 - May 2021	27/05/2021	6.225	7.885	5.32	316	5.88	210	19.8	Brown, cloudy, no odour/sheen
SRT_BH052	Event 33 - Jun 2021	17/06/2021	6.245	7.89	3.24	324.9	6.14	180.2	19.3	Clear to cloudy, no odour/sheen
SRT_BH052	Event 34 - Jul 2021	14/07/2021	6.19	7.92	3.91	336.2	6.19	194.5	19.8	Clear, no odour/sheen
SRT_BH052	Event 35 - Aug 2021	11/08/2021	6.33	7.92	4.84	318.5	6.22	30	19.6	Clear, no odour/sheen
SRT_BH052	Event 36 - Sept 2021	30/09/2021	6.22	7.88	3.36	320.4	6.04	193.9	19.8	Clear, no odour/sheen

Appendix B
Table B6 Calculated RPD of groundwater field duplicate samples

Field Duplicates (Water)
Filter: [Sampled_Date_Time] >= '01 Apr 2021' and [Sampled_D

Lab Report Number	803914	803914		799115	799115		829222	829222		791517	791517		816445	816445		810513	810513		829222	EM2119579		791517	ES2115835	
Field ID	CSM_BH04	QC01	**RPD**	CSM_BH06	QC01	**RPD**	SRT_BH047	QC01	**RPD**	CSM_BH10S	QC01	**RPD**	CSM_BH04	QC01	**RPD**	CSM-BH04	QC01	**RPD**	CSM_BH08	QC02	**RPD**	CSM_BH08	QC02	**RPD**
Sampled Date/Time	15/06/2021	15/06/2021		25/05/2021	25/05/2021		30/09/2021	30/09/2021		27/04/2021	27/04/2021		9/08/2021	9/08/2021		12/07/2021	12/07/2021		28/09/2021	28/09/2021		27/04/2021	27/04/2021	
Chem_Group	**ChemName**	**Units**	**EQL**																										
Metals	Arsenic (Filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0
	Cadmium (Filtered)	mg/L	0.0002 : 0.0001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0001	0	<0.0002	0.0001	0	<0.0002	0.0001	0
	Chromium (III+VI) (Filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	0.001	<0.001	0
	Copper (Filtered)	mg/L	0.001	<0.001	<0.001	0	0.018	0.019	5	0.005	0.001	133	0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	0.003	<0.001	100	0.007	0.007	0			
	Lead (Filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	0.001	<0.001	0
	Mercury (Filtered)	mg/L	0.0001	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0
	Nickel (Filtered)	mg/L	0.001	0.025	0.026	4	0.012	0.012	0	0.004	0.004	0	0.002	0.002	0	0.036	0.038	5	0.041	0.042	2	0.019	0.017	11	0.087	0.093	7			
	Zinc (Filtered)	mg/L	0.005	0.054	0.057	5	0.066	0.069	4	0.035	0.033	6	<0.005	<0.005	0	0.036	0.041	13	0.031	0.03	3	0.025	0.008	103	0.16	0.191	18			
BTEXN	Benzene	µg/l	1	<1	<1	0	<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0			
	Toluene	µg/l	1 : 2 (Interlab)	<1	<1	0	<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0	<1	<2	0	<1	<2	0			
	Ethylbenzene	µg/l	1 : 2 (Interlab)	<1	<1	0	<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0	<1	<2	0	<1	<2	0			
	Xylene (o)	µg/l	1 : 2 (Interlab)	<1	<1	0	<1	<1	0	<1	<1	0				<1	<1	0	<1	<1	0	<1	<2	0	<1	<2	0			
	Xylene (m & p)	µg/l	2	<2	<2	0	<2	<2	0	<2	<2	0				<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0			
	Naphthalene (BTEXN suite)	µg/l	10 : 5 (Interlab)	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<10	0	<10	<5	0	<10	<5	0			
TRH - NEPM 2013	F1 (C6-C10 minus BTEX)	µg/l	20	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0			
	C6-C10 Fraction	µg/l	20	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0			
	F2 (>C10-C16 minus Naphthalene)	µg/l	50 : 100 (Interlab)	50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<100	0	<50	<100	0			
	>C10-C16 Fraction	µg/l	50 : 100 (Interlab)	50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<100	0	<50	<100	0			
	F3 (>C16-C34 Fraction)	µg/l	100	100	<100	0	<100	100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0			
	F4 (>C34-C40 Fraction)	µg/l	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0			
TRH - NEPM 1999	C6-C9 Fraction	µg/l	20	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0			
	C10-C14 Fraction	µg/l	50	60	<50	18	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0			
	C15-C28 Fraction	µg/l	100	100	<100	0	<100	100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0			
	C29-C36 Fraction	µg/l	100 : 50 (Interlab)	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0	<100	<50	0	<100	<50	0			
PAHs - standard 16	Acenaphthene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.1	0	<0.01	<0.1	0			
	Acenaphthylene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.1	0	0.03	<0.1	0			
	Anthracene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.1	0	0.03	<0.1	0			
	Benz(a)anthracene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	0.2	181	0.14	0.2	35			
	Benzo(a)pyrene	µg/l	0.01 : 0.05 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	0.39	190	**0.15**	**0.33**	**75**			
	Benzo[b+j]fluoranthene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	0.4	190	**0.15**	**0.3**	**67**			
	Benzo(k)fluoranthene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	0.1	164	0.14	0.1	33			
	Benzo(g,h,i)perylene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	0.3	187	**0.11**	**0.2**	**58**			
	Chrysene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	0.2	181	0.19	0.2	5			
	Dibenz(a,h)anthracene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.1	0	<0.01	<0.1	0			
	Fluoranthene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	0.2	181	0.26	0.3	14			
	Fluorene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.1	0	<0.01	<0.1	0			
	Indeno(1,2,3-c,d)pyrene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	0.2	181	0.06	0.2	108			
	Naphthalene-PAH	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.1	0	0.02	<0.1	0			
	Phenanthrene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.1	0	0.04	<0.1	0			
	Pyrene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	0.3	187	0.28	0.4	35			

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-30 x EQL); 50 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Appendix B
Table B6 Calculated RPD of groundwater field duplicate samples

Field Duplicates (Water)
Filter: [Sampled_Date_Time] >= '01 Apr 2021' and [Sampled_D

Lab Report Number			799115	ES2119803		803914	ES2122606		810513	ES2125823		816445	ES2129447	
Field ID			CSM_BH04	QC02	**RPD**	CSM_BH08	QC02	**RPD**	CSM-BH10S	QC02	**RPD**	CSM_BH08	QC02	**RPD**
Sampled Date/Time			25/05/2021	25/05/2021		15/06/2021	15/06/2021		12/07/2021	12/07/2021		10/08/2021	10/08/2021	
Chem_Group	**ChemName**	**Units**	**EQL**											
Metals	Arsenic (Filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0
	Cadmium (Filtered)	mg/L	0.0002 : 0.0001 (Interlab)	<0.0002	<0.0001	0	<0.0002	<0.0001	0	<0.0002	<0.0001	0	<0.0002	<0.0001	0
	Chromium (III+VI) (Filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0
	Copper (Filtered)	mg/L	0.001	<0.001	<0.001	0	0.001	0.002	67	<0.001	<0.001	0	<0.001	<0.001	0
	Lead (Filtered)	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0
	Mercury (Filtered)	mg/L	0.0001	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0
	Nickel (Filtered)	mg/L	0.001	0.057	0.059	3	0.028	0.031	10	0.001	0.001	0	0.06	0.05	18
	Zinc (Filtered)	mg/L	0.005	0.064	0.059	8	0.031	0.039	23	<0.005	<0.005	0	0.032	0.029	10
BTEXN	Benzene	µg/l	1	<1	<1	0	<1	<1	0	<1	<1	0	<1	<1	0
	Toluene	µg/l	1 : 2 (Interlab)	<1	<2	0	<1	<2	0	<1	<2	0	<1	<2	0
	Ethylbenzene	µg/l	1 : 2 (Interlab)	<1	<2	0	<1	<2	0	<1	<2	0	<1	<2	0
	Xylene (o)	µg/l	1 : 2 (Interlab)	<1	<2	0	<1	<2	0	<1	<2	0	<1	<2	0
	Xylene (m & p)	µg/l	2	<2	<2	0	<2	<2	0	<2	<2	0	<2	<2	0
	Naphthalene (BTEXN suite)	µg/l	10 : 5 (Interlab)	<10	<5	0	<10	<5	0	<10	<5	0	<10	<5	0
TRH - NEPM 2013	F1 (C6-C10 minus BTEX)	µg/l	20	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0
	C6-C10 Fraction	µg/l	20	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0
	F2 (>C10-C16 minus Naphthalene)	µg/l	50 : 100 (Interlab)	<50	<100	0	<50	<100	0	<50	<100	0	<50	<100	0
	>C10-C16 Fraction	µg/l	50 : 100 (Interlab)	<50	<100	0	<50	<100	0	<50	<100	0	<50	<100	0
	F3 (>C16-C34 Fraction)	µg/l	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
	F4 (>C34-C40 Fraction)	µg/l	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
TRH - NEPM 1999	C6-C9 Fraction	µg/l	20	<20	<20	0	<20	<20	0	<20	<20	0	<20	<20	0
	C10-C14 Fraction	µg/l	50	<50	<50	0	<50	<50	0	<50	<50	0	<50	<50	0
	C15-C28 Fraction	µg/l	100	<100	<100	0	<100	<100	0	<100	<100	0	<100	<100	0
	C29-C36 Fraction	µg/l	100 : 50 (Interlab)	<100	<50	0	<100	<50	0	<100	<50	0	<100	<50	0
PAHs - standard 16	Acenaphthene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0
	Acenaphthylene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0
	Anthracene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0
	Benz(a)anthracene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	0.3	187
	Benzo(a)pyrene	µg/l	0.01 : 0.05 (Interlab)	<0.01	<0.05	0	<0.01	<0.05	0	<0.01	<0.05	0	<0.01	0.42	191
	Benzo[b+j]fluoranthene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	0.4	190
	Benzo(k)fluoranthene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	0.2	181
	Benzo(g,h,i)perylene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	0.3	187
	Chrysene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	0.3	187
	Dibenz(a,h)anthracene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0
	Fluoranthene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	0.3	187
	Fluorene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0
	Indeno(1,2,3-c,d)pyrene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	0.2	181
	Naphthalene-PAH	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0
	Phenanthrene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0
	Pyrene	µg/l	0.01 : 0.1 (Interlab)	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	<0.1	0	<0.01	0.4	190

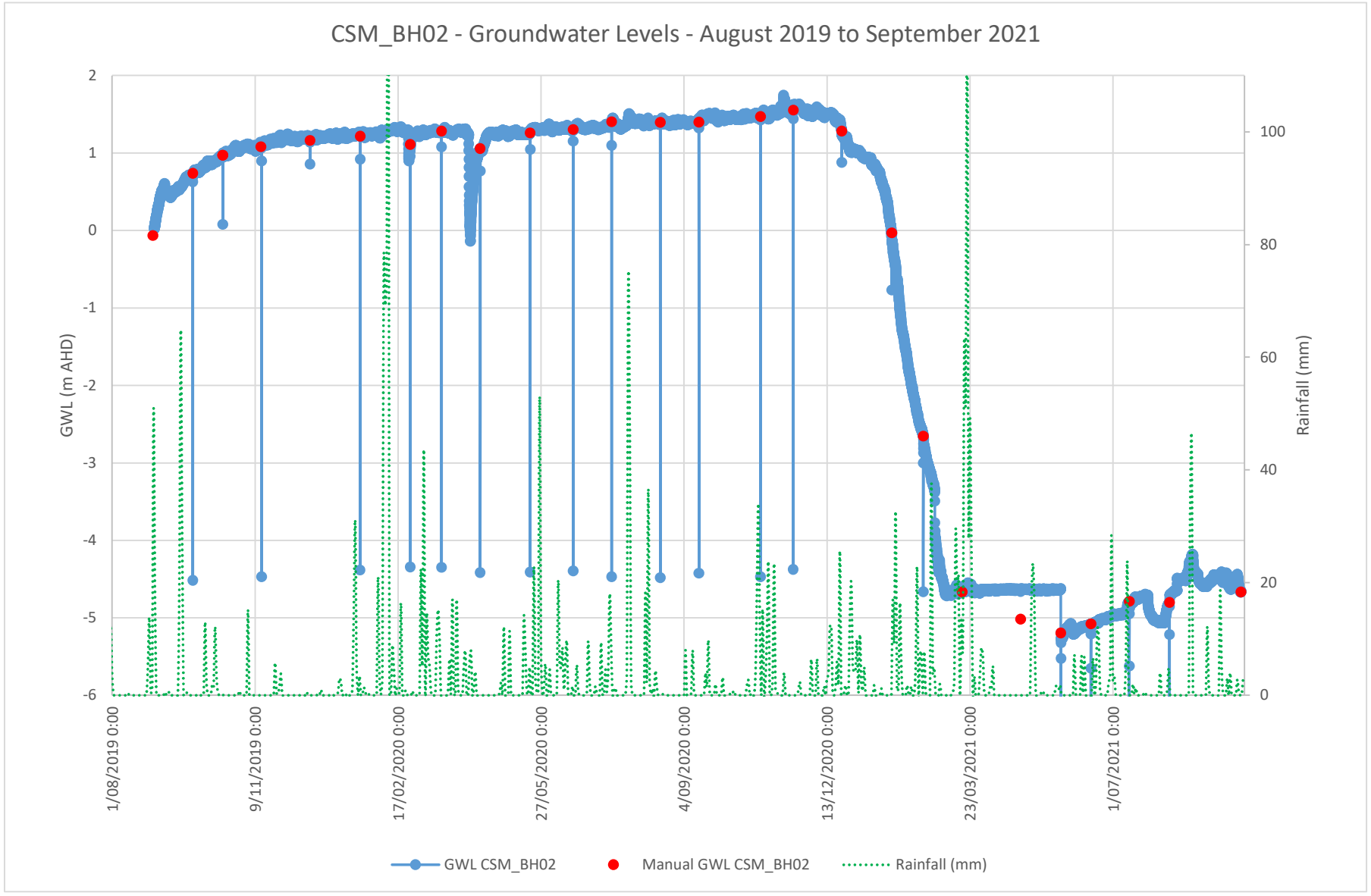
*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL);
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratori

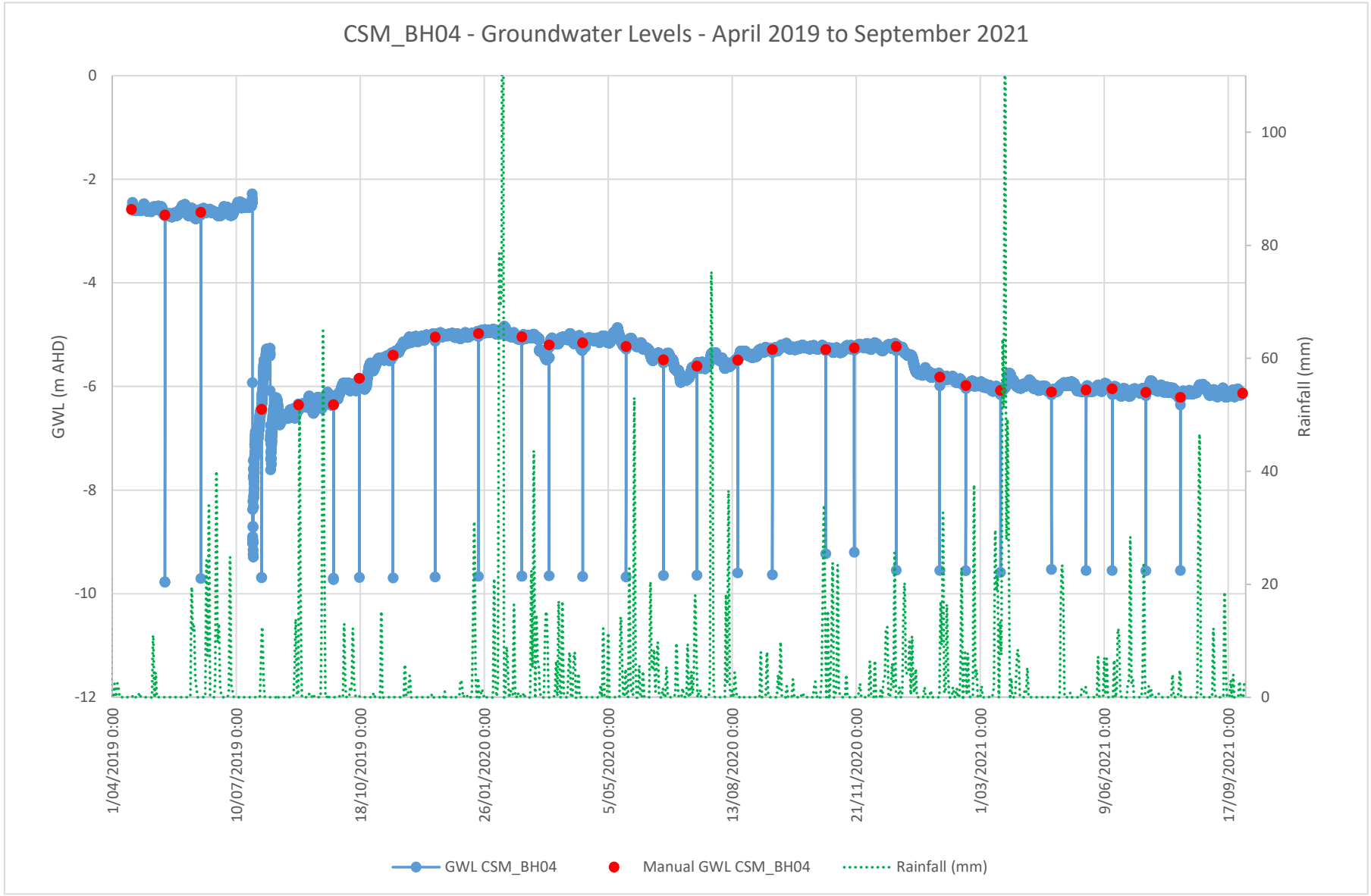
Appendix B
Table B7 Results of rinsate, trip blank and trip spike samples

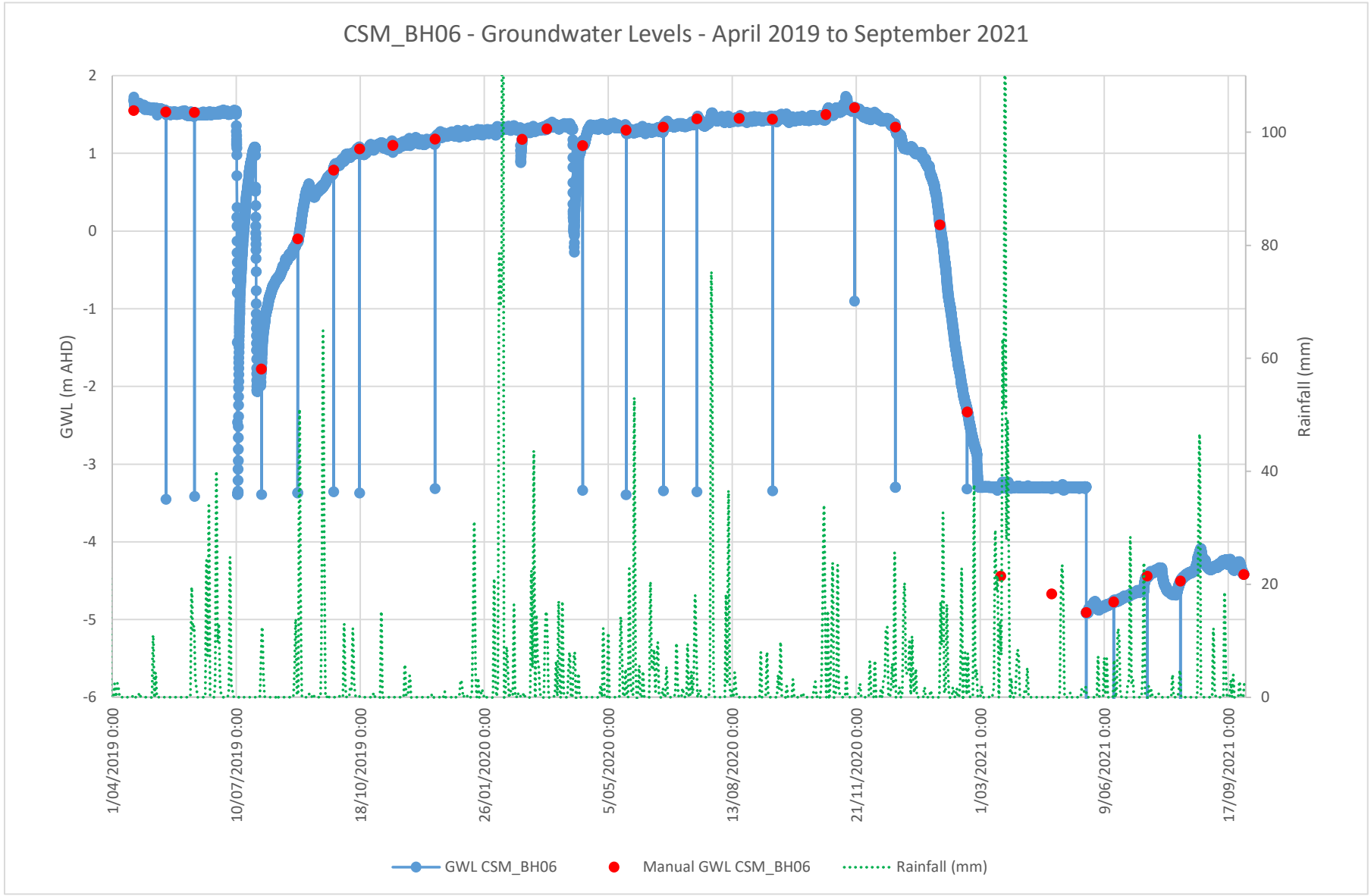
				Metals									BTEXN							TRH - NEPM 2013	
				Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene (BTEXN suite	F1 (C6-C10 minus BTEX)	C6-C10 Fraction
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.001	0.0002	0.001	0.001	0.001	0.0001	0.001	0.005	1	1	1	1	2	3	10	20	20
Field_ID	**Sampled_Date_Time**	**Sample_Type**	**Lab_Report_Number**																	
RB01	27/04/2021	Rinsate	791517	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	-	-	-	-	-	-	-	-	-
RB01	26/05/2021	Rinsate	799115	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	-	-	-	-	-	-	-	-	-
RB01	16/06/2021	Rinsate	803914	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	-	-	-	-	-	-	-	-	-
RB01	12/07/2021	Rinsate	810513	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	-	-	-	-	-	-	-	-	-
RB01	10/08/2021	Rinsate	816445	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	-	-	-	-	-	-	-	-	-
RB01	30/09/2021	Rinsate	829222	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	-	-	-	-	-	-	-	-	-
TRIP BLANK	27/04/2021	Trip_B	791517	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	<3	<10	<20	<20
TRIP BLANK	25/05/2021	Trip_B	799115	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	<3	<10	<20	<20
TRIP BLANK	15/06/2021	Trip_B	803914	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	<3	<10	<20	<20
TRIP BLANK	12/07/2021	Trip_B	810513	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	<3	<10	<20	<20
TRIP BLANK	9/08/2021	Trip_B	816445	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	<3	<10	<20	<20
TRIP BLANK	30/09/2021	Trip_B	829222	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<2	<3	<10	<20	<20
TRIP SPIKE	27/04/2021	Trip_S	791517	-	-	-	-	-	-	-	-	95%	89%	87%	84%	94%	87%	88%	-	58%
TRIP SPIKE	25/05/2021	Trip_S	799115	-	-	-	-	-	-	-	-	73%	70%	81%	77%	72%	73%	79%	-	83%
TRIP SPIKE	15/06/2021	Trip_S	803914	-	-	-	-	-	-	-	-	93%	90%	88%	86%	94%	89%	91%	-	84%
TRIP SPIKE	12/07/2021	Trip_S	810513	-	-	-	-	-	-	-	-	98%	110%	120%	76%	120%	91%	110%	-	73%
TRIP SPIKE	9/08/2021	Trip_S	816445	-	-	-	-	-	-	-	-	99%	120%	110%	110%	110%	110%	110%	-	78%
TRIP SPIKE	30/09/2021	Trip_S	829222	-	-	-	-	-	-	-	-	100%	89%	81%	93%	98%	95%	85%	-	75%

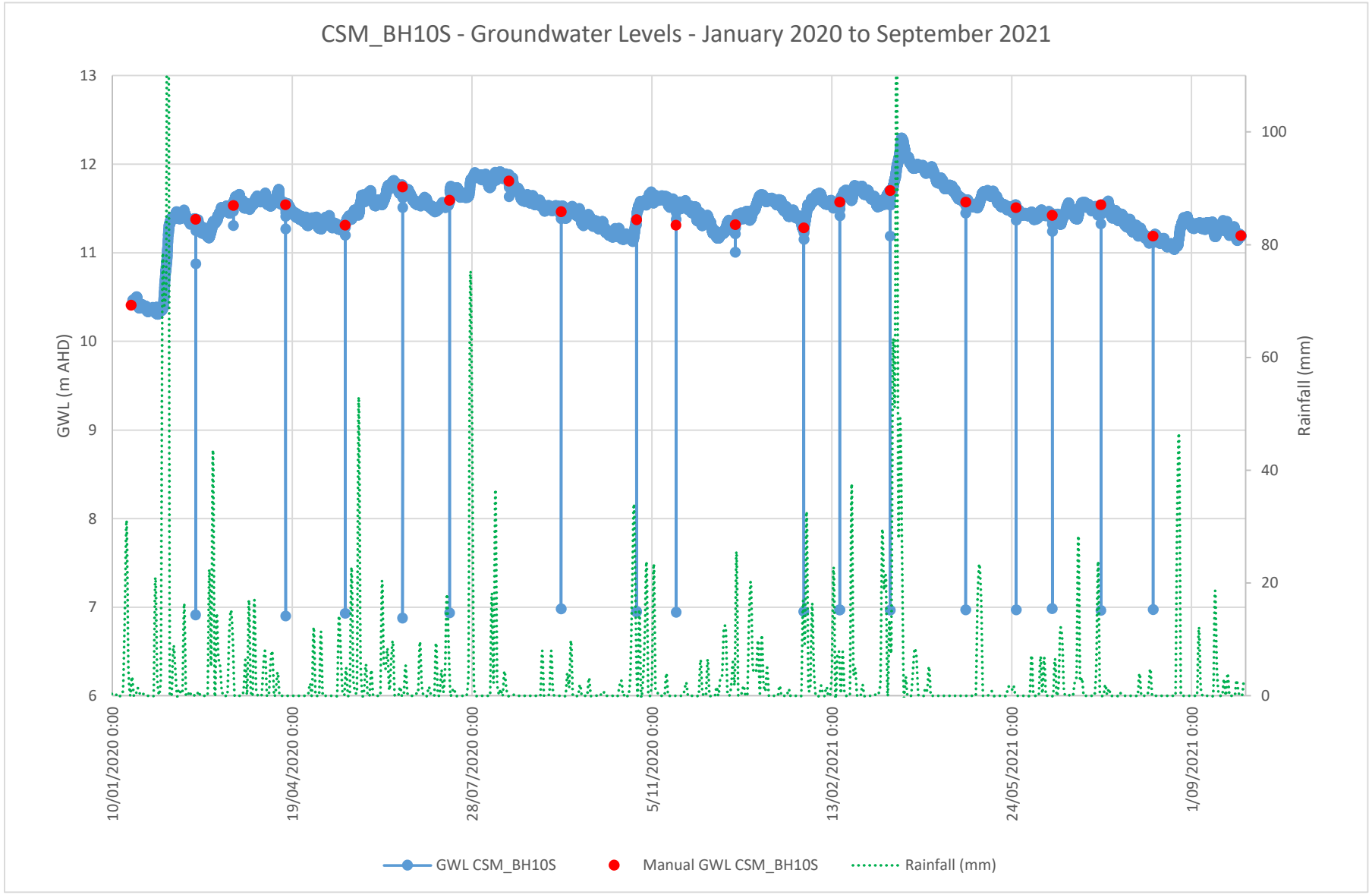
Table

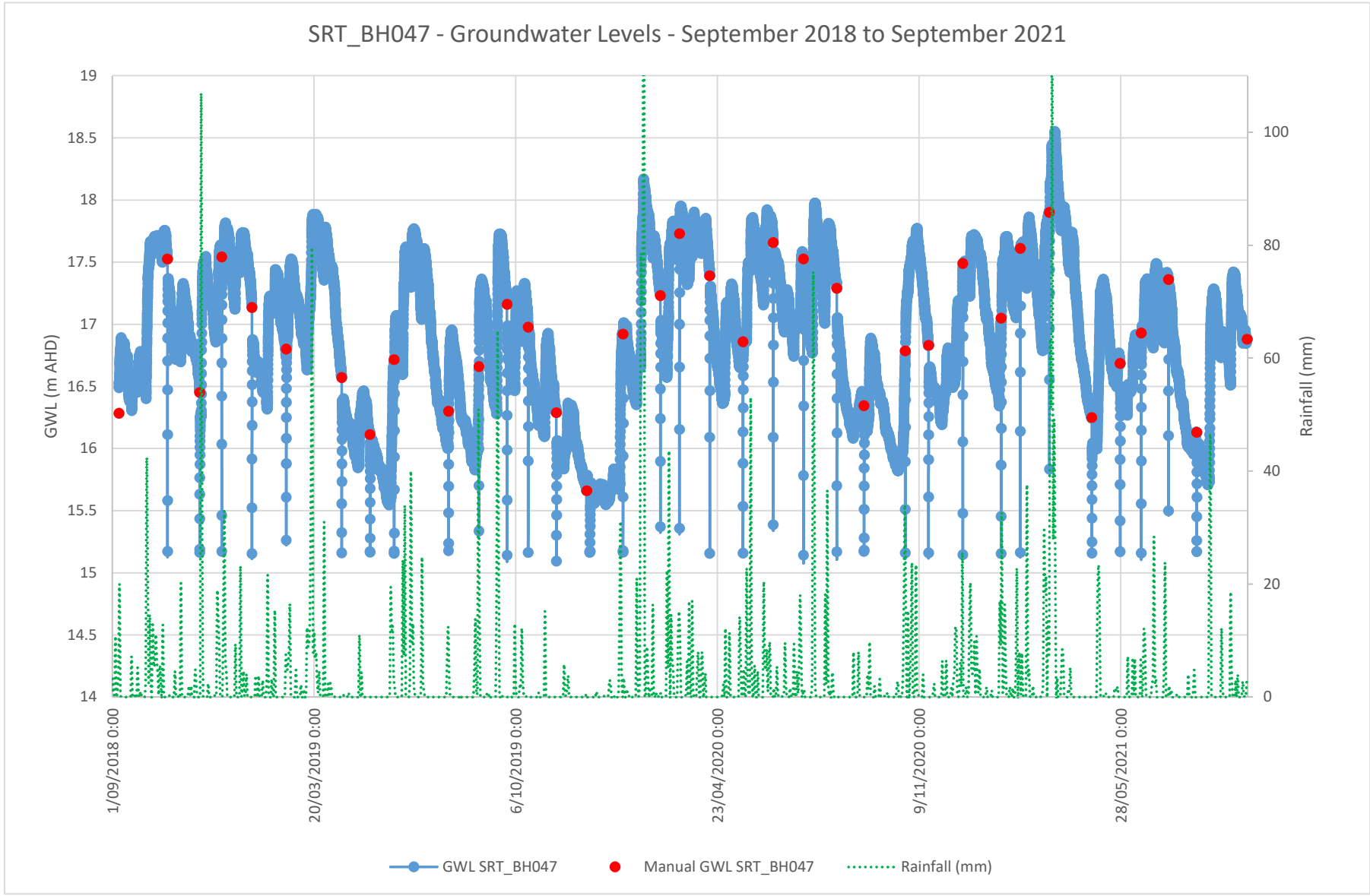
Appendix C
Graphs for groundwater levels and selected analytes / water quality parameters

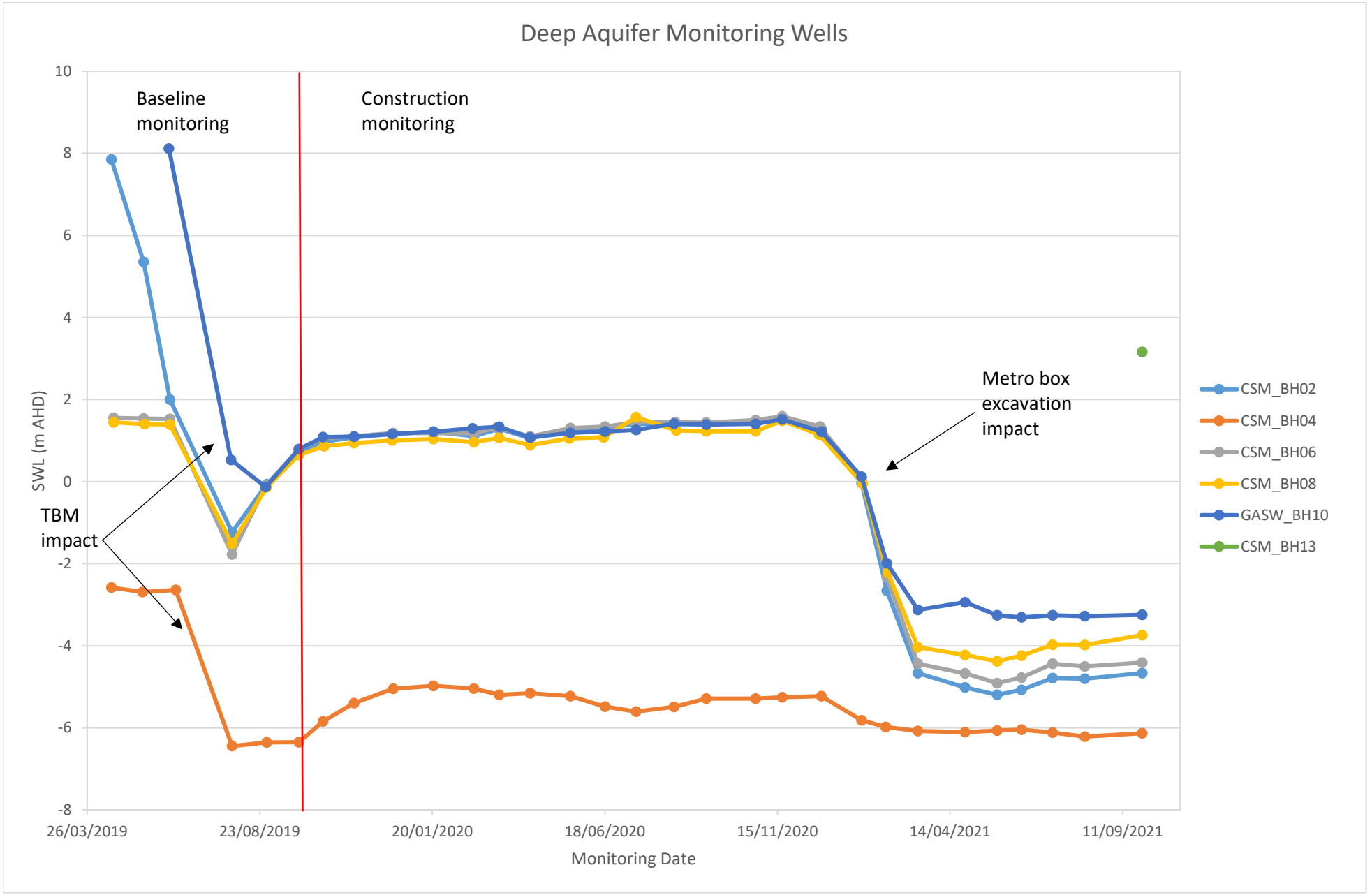

CSM_BH02 - Groundwater Levels - August 2019 to September 2021
GWL (m AHD)
Rainfall (mm)
2
1
0
-1
-2
-3
-4
-5
-6
100
80
60
40
20
0
1/08/2019 0:00
9/11/2019 0:00
17/02/2020 0:00
27/05/2020 0:00
4/09/2020 0:00
13/12/2020 0:00
23/03/2021 0:00
1/07/2021 0:00
GWL CSM_BH02
Manual GWL CSM_BH02
Rainfall (mm)

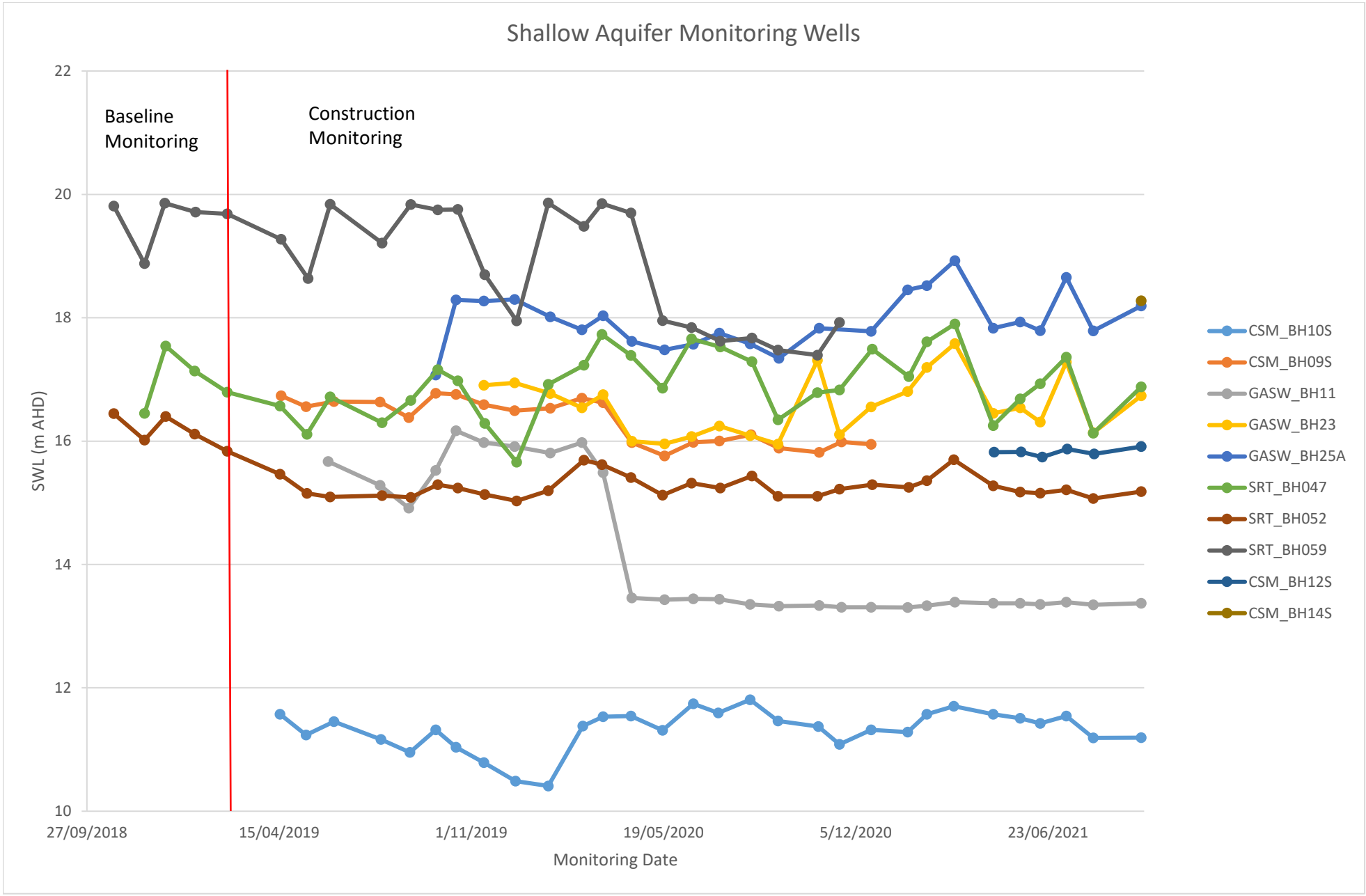

CSM_BH04 - Groundwater Levels - April 2019 to September 2021
GWL (m AHD)
Rainfall (mm)
0
-2
-4
-6
-8
-10
-12
100
80
60
40
20
0
1/04/2019 0:00
10/07/2019 0:00
18/10/2019 0:00
26/01/2020 0:00
5/05/2020 0:00
13/08/2020 0:00
21/11/2020 0:00
1/03/2021 0:00
9/06/2021 0:00
17/09/2021 0:00
GWL CSM_BH04
Manual GWL CSM_BH04
Rainfall (mm)


CSM_BH06 - Groundwater Levels - April 2019 to September 2021
GWL (m AHD)
Rainfall (mm)
2
1
0
-1
-2
-3
-4
-5
-6
100
80
60
40
20
0
1/04/2019 0:00
10/07/2019 0:00
18/10/2019 0:00
26/01/2020 0:00
5/05/2020 0:00
13/08/2020 0:00
21/11/2020 0:00
1/03/2021 0:00
9/06/2021 0:00
17/09/2021 0:00
GWL CSM_BH06
Manual GWL CSM_BH06
Rainfall (mm)


CSM_BH10S - Groundwater Levels - January 2020 to September 2021
GWL (m AHD)
Rainfall (mm)
13
12
11
10
9
8
7
6
100
80
60
40
20
0
10/01/2020 0:00
19/04/2020 0:00
28/07/2020 0:00
5/11/2020 0:00
13/02/2021 0:00
24/05/2021 0:00
1/09/2021 0:00
GWL CSM_BH10S
Manual GWL CSM_BH10S
Rainfall (mm)


SRT_BH047 - Groundwater Levels - September 2018 to September 2021
GWL (m AHD)
Rainfall (mm)
19
18.5
18
17.5
17
16.5
16
15.5
15
14.5
14
100
80
60
40
20
0
1/09/2018 0:00
20/03/2019 0:00
6/10/2019 0:00
23/04/2020 0:00
9/11/2020 0:00
28/05/2021 0:00
GWL SRT_BH047
Manual GWL SRT_BH047
Rainfall (mm)


Deep Aquifer Monitoring Wells
Baseline monitoring
Construction monitoring
Metro box excavation impact
TBM impact
SWL (m AHD)
10
8
6
4
2
0
-2
-4
-6
-8
26/03/2019
23/08/2019
20/01/2020
18/06/2020
15/11/2020
14/04/2021
11/09/2021
Monitoring Date
CSM_BH02
CSM_BH04
CSM_BH06
CSM_BH08
GASW_BH10
CSM_BH13


Shallow Aquifer Monitoring Wells
Baseline Monitoring
Construction Monitoring
SWL (m AHD)
22
20
18
16
14
12
10
27/09/2018
15/04/2019
1/11/2019
19/05/2020
5/12/2020
23/06/2021
Monitoring Date
CSM_BH10S
CSM_BH09S
GASW_BH11
GASW_BH23
GASW_BH25A
SRT_BH047
SRT_BH052
SRT_BH059
CSM_BH12S
CSM_BH14S

Appendix D
Calibration certificates

Multi Parameter Water Meter

Instrument **YSI Quatro Pro Plus**
Serial No. **11C100760**

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. D.O		0 ppm		10959	0.01ppm
2. Conductivity		2760uS		350510	2.76uS
3. pH 10		pH 10.00		355386	pH 9.88
4. pH7		pH 7.00		360390	pH 7.02
5. pH4		pH 4.00		367234	pH 4.06
6. ORP mV		231.8mV		364217/358634	231.7mV
7. Temp °C		20.6°C		MultiMeter	21.0°C

Calibrated by: **Eloise Carroll**

Calibration date: **26-Apr-21**

Next calibration due: **23-Oct-21**

Oil / Water Interface Meter

airmet

Air-Met Scientific Pty Ltd
1300 137 067

Instrument **Geotech Interface Meter (60m)**
Serial No. **3955**

Item	Test	Pass	Comments
Battery	Compartment	✓	
	Capacity	✓	
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors			
Tape Check	Cleaned	✓	
Connectors	Checked for cuts	✓	
Instrument Test	At surface level	✓	

Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by: **Jay Marosa**

Calibration date: **26-Apr-21**

Next calibration due: **26-Jun-21**

Multi Parameter Water Meter

Instrument **YSI Quatro Pro Plus**
Serial No. **18J104315**

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 10.00		pH 10.00		355386	pH 9.73
2. pH 7.00		pH 7.00		364212	pH 6.94
3. pH 4.00		pH 4.00		366070	pH 3.98
4. mV		234.0mV		365755/364219	234.7mV
5. EC		2.76mS		350510	2.74mS
6. D.O		0.00ppm		10959	0.00ppm
7. Temp		20.1°C		MultiTherm	20.5°C

Calibrated by: **Sarah Lian**

Calibration date: **21/05/2021**

Next calibration due: **20/06/2021**

Oil / Water Interface Meter

Instrument **Geotech Interface Meter (60M)**
Serial No. **4439**

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Compartment	✓	On/Off light not working
	Capacity	✓	
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
		✓	
Tape Check	Cleaned	✓	
Connectors	Checked for cuts	✓	
Instrument Test	At surface level	✓	

Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by: **Ashok Hettigama**

Calibration date: **21/05/2021**

Next calibration due: **20/07/2021**

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 20M101177

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 10.00		pH 10.00		363695	pH 9.88
2. pH 7.00		pH 7.00		364212	pH 7.01
3. pH 4.00		pH 4.00		366070	pH 4.01
4. mV		240.6 mV		365755/364219	2340.5mV
5. EC		2.76mS		350510	2.76mS
6. D.O		0.00ppm		10959	0.02ppm
7. Temp		17.4°C		MultiTherm	17.2°C

Calibrated by: Chris Edwards

Calibration date: 9/06/2021

Next calibration due: 10/07/2021

Oil / Water Interface Meter

Instrument **Geotech Interface Meter (60M)**
Serial No. **3953**

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Compartment	✓	Beeper noise is soft
	Capacity	✓	
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
		✓	
Tape Check	Cleaned	✓	
Connectors	Checked for cuts	✓	
Instrument Test	At surface level	✓	

Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by: **Eloise Carroll**

Calibration date: **11/06/2021**

Next calibration due: **10/08/2021**

18/06/2021

Oil / Water Interface Meter

Instrument **Geotech Interface Meter (60M)**
Serial No. **4439**

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Compartment	✓	On/Off light not working
	Capacity	✓	
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
		✓	
Tape Check	Cleaned	✓	
Connectors	Checked for cuts	✓	
Instrument Test	At surface level	✓	

Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by: **Ashok Hettigama**

Calibration date: **18/06/2021**

Next calibration due: **17/08/2021**

Multi Parameter Water Meter

Instrument **YSI Quatro Pro Plus**
Serial No. **18G103121**

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 10.00		pH 10.00		370064	pH 9.90
2. pH 7.00		pH 7.00		364212	pH 6.95
3. pH 4.00		pH 4.00		367234	pH 3.97
4. mV		231.8mV		370499/364219	234.9mV
5. EC		2.76mS		350510	2.75mS
6. D.O		0.00ppm		10959	0.01ppm
7. Temp		20.9°C		MultiTherm	21°C

Calibrated by: **Sarah Lian**

Calibration date: **8/07/2021**

Next calibration due: **7/08/2021**

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 13D100015

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
pH 10		pH 10.0		364961	pH 9.90
1. pH 7.00		pH 7.00		372012	pH 7.01
2. pH 4.00		pH 4.00		367234	pH 4.05
3. mV		236.2mV		371922/364219	236.4mV
4. EC		2.76mS		369734	2.74mS
5. D.O		0.00ppm		10959	0.01ppm
6. Temp		19.3°C		MultiTherm	19.5°C

Calibrated by: **Sarah Lian**

Calibration date: **6/08/2021**

Next calibration due: **5/09/2021**

Oil / Water Interface Meter

Instrument **Geotech Interface Meter (60M)**
Serial No. **3911**

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Compartment	✓	
	Capacity above 7.9v	✓	
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
		✓	
Tape Check	Cleaned	✓	
Connectors	Checked for cuts	✓	
Instrument Test	At surface level	✓	

Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by: **Sarah Lian**

Calibration date: **06-Aug-21**

Next calibration due: **05-Oct-21**

Oil / Water Interface Meter

23/9/21

Instrument: **Interface Meter (60M)**
Serial No. **483923**

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Compartment	✓	
	Capacity	✓	
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
Tape Check	Cleaned	✓	
	Checked for cuts	✓	
Instrument Test	At surface level	✓	

Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by: K. Boardman **Kylie Boardman**

Calibration date: **23/09/2021**

Next calibration due: **22/11/2021**

Multi Parameter Water Meter

Instrument **YSI Quatro Pro Plus**
Serial No. **20M100069**

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 10.00		pH 10.00		370064	pH 9.82
2. pH 7.00		pH 7.00		372012	pH 7.02
3. pH 4.00		pH 4.00		367234	pH 3.94
4. mV		231.8mV		371922/367457	231.7mV
5. EC		2.76mS		369734	2.75mS
6. D.O		0.00ppm		1910294760	0.01ppm
7. Temp		20.7°C		MultiTherm	20.4°C

Calibrated by: **Kylie Rawlings**

Calibration date: **27/09/2021**

Next calibration due: **27/10/2021**

Appendix E
Groundwater purging sheets

Purging and Sampling Record

Bore ID: GM_BH02

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / C. Gray
- Date: 27/4/21
- Round: April 2021

Sampling Information
- Purge Method: QED mPTO
- Sample Method: "
- WQ Meter Type: YSI
- Flow Cell: Y / N — Pump Depth: 30 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 26.440 m — Logic Check: /
- Screen: From: /to..... m — Stick Up: ..... m
- NAPL Check: / — Bore Diam.: 50 mm
- Ref.datum: ..... — Well Cap Secure? Yes
- Bore Depth: 33.20 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (%/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
11:03	1	26.87	0.89	925	6.66	75.9	20.5		Orange brown cloudy, no odour/sheen
11:07	2	27.02	1.01	929	5.50	132.5	20.5		"
11:11	3	27.10	1.25	928	5.54	156.0	20.8		"
11:15	4	27.45	1.23	932	5.49	156.0	20.7		"
11:19	5	27.55	1.21	933	5.49	154.6	20.8		"
11:23	6	27.70	1.25	933	5.50	151.2	20.7		"

Field QA Checks:
- Air bubbles in vials? Y (N) Any violent reactions? Y (N)
- Decontamination as per GHD procedure? (Y) / N
- Was sampling equipment pre-cleaned? (Y) / N
- COC updated? (Y) / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles Metals + Fe & filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH04

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / C. Gray
- Date: 27/4/21
- Round: April 2021

Sampling Information
- Purge Method: QED mP10
- Sample Method: "
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 28 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 21.920 m Logic Check: /
- Screen: From: / to: / m Stick Up: / m
- NAPL Check: / Bore Diam.: 50 mm
- Ref.datum: / Well Cap Secure? Yes
- Bore Depth: 33.78 m

Time (..a.m..)	Volume (L)	SWL mbtoc	Dis.Oxygen (..mg/L..)	Elec.Cond (..µS/cm..)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
9:44	0.5	22.14	1.01	530	5.51	92.4	21.0		light brown, ~~tur~~ turbid, high sediment,
9:48	2	22.15	1.78	520	5.32	110.8	21.1		no sheen, no odour
9:51	3	22.18	1.74	510	5.24	122.7	21.1		
9:55	4	22.22	1.81	497.5	5.15	136.0	21.2		
9:58	5	22.23	1.83	492.8	5.13	140.2	21.1		
10:02	6	22.29	1.82	486.1	5.09	146.0	21.2		
10:05	7	22.29	1.94	483.3	5.07	148.0	21.2		

Field QA Checks:
- Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
- Decontamination as per GHD procedure? (Y) / N
- Was sampling equipment pre-cleaned? (Y) / N
- COC updated? (Y) / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles (metals + Fe filtered).

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM-BH06

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / C. Gray
- Date: 27/4/21
- Round April 2021

Sampling Information
- Purge Method: QED MP10
- Sample Method: "
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 32 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 26.60 m Logic Check: ✓
- Screen: From: ✓ to: ..... m Stick Up: ..... m
- NAPL Check: ✓ Bore Diam.: 50 mm
- Ref.datum: ..... Well Cap Secure? Yes
- Bore Depth: 35.82 m

Time (..AM..)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
3:10	0.5	26.70	3.41	988	6.31	119.9	22.6		Brown, cloudy, no odour, no sheen
3:15	2	26.69	1.96	984	5.92	138.7	22.4		"
3:19	3	26.60	1.86	981	5.78	151.4	22.4		"
3:23	4	26.60	2.30	979	5.56	161.5	22.5		"
3:27	5	26.60	2.18	975	5.50	160.2	22.4		"
3:31	6	26.60	2.20	975	5.47	158.5	22.4		"

Field QA Checks:
- Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
- Decontamination as per GHD procedure? (Y) / N
- Was sampling equipment pre-cleaned? (Y) / N
- COC updated? (Y) / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles., Metals + Fe2+ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH08

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / C. Gray
- Date: 27/4/2021
- Round: April 2021

Sampling Information
- Purge Method: QED mp10
- Sample Method: "
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 25 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 18.920 m Logic Check: /
- Screen: From: ..... to: ..... m Stick Up: ..... m
- NAPL Check: / Bore Diam.: 50 mm
- Ref.datum: / Well Cap Secure? Yes
- Bore Depth: 34.95 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
8:16	1	18.93	2.14	640	6.06	53.3	20.7		Orange cloudy, no odour/sheen
8:20	2	18.93	2.05	636	5.40	89.1	20.7		"
8:23	3	18.93	1.93	633	5.25	103.7	20.8		"
8:26	4	18.93	1.77	626	5.14	116.1	20.8		"
8:29	5	18.93	1.73	621	5.10	122.3	20.8		"
8:32	6	18.93	1.75	619	5.07	125.1	20.8		"
8:35	7	18.93	1.81	617	5.06	130.6	20.8		"
8:38	8	18.93	1.76	611	5.04	131.1	20.8		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 + 4 bottles * DUP = QC02

Metals + Fe24 filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH105

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / C. Gray
- Date: 28/4/21
- Round April 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 8 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 4.010 m Logic Check: ✓
- Screen: From: ..... to ..... m Stick Up: ✓ m
- NAPL Check: ✓ Bore Diam.: 50 mm
- Ref.datum: ..... Well Cap Secure? Yes
- Bore Depth: 9.730 m

Time (24hr)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
8:54	0.5	4.17	0.57	248.0	5.85	140.2	20.8		Brown, slightly cloudy, no sheen
8:57	1	4.22	0.51	248.0	5.45	163.7	21.1		no odour
9:00	1.5	4.26	0.60	247.5	5.39	179.0	21.2		"
9:03	2	4.28	0.65	247.2	5.35	187.0	21.2		"
9:06	2.5	4.31	0.67	245.6	5.35	196.7	21.2		"
9:09	3	4.34	0.67	245.3	5.33	199.4	21.3		"
9:12	3.5	4.37	0.67	243.5	5.32	206.9	21.2		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles (metals + Fe filtered). + DUP QC01 (4 bottles).

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH125

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / C. Gray
- Date: 28/4/21
- Round April 2021

Sampling Information
- Purge Method: Pp1
- Sample Method: Pp1
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 6 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 4.905 m Logic Check: /
- Screen: From: ..... to ..... m Stick Up: ..... m
- NAPL Check: / Bore Diam.: 50 mm
- Ref.datum: / Well Cap Secure? Yes
- Bore Depth: 6.51 m No cap, put new cap on

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
12:18	1	4.97	0.15	556	6.98	1.6	20.6		Grey cloudy, no odour/sheen
12:23	2	4.97	0.50	554	6.27	23.6	20.6		"
12:27	3	4.98	0.53	556	6.18	25.0	20.5		"
12:30	4	4.98	0.56	557	6.17	18.6	20.6		"
12:33	5	4.98	0.55	558	6.15	10.2	20.5		"
12:36	6	4.98	0.54	557	6.16	3.5	20.6		"
12:39	7	4.98	0.51	555	6.16	-0.2	20.5		"
12:42	8	4.98	0.47	554	6.16	-4.3	20.6		"
12:46	9	4.98	0.45	552	6.15	-8.0	20.6		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles. Metals + Fe filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW-BH7

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / C. Gray
Date: 27/4/21
Round April 2021

Sampling Information

Purge Method: DRY
Sample Method:
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth:.....m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: DRY m Logic Check: .....
Screen: From:.....to..... m Stick Up: ..... m
NAPL Check:..... Bore Diam.: 50 mm
Ref.datum: ..... Well Cap Secure? Yes
Bore Depth: 6.22 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
	DRY								

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW_BH10

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / C. Gray
Date: 27/4/21
Round April 2021

Sampling Information

Purge Method:
Sample Method: Bailer
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth:.....m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 27.432 m Logic Check: .....
Screen: From:.....to..... m Stick Up: ..... m
NAPL Check:..... Bore Diam.: 50 mm
Ref.datum: ..... Well Cap Secure? Yes
Bore Depth: 24.69 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (uS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
very little water in well, grab sample taken									
			2.65	1347	7.13	-40.8	20.6		Grey, reduced/sand, no odour, H2S odour

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Ferrous filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW_BH11

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / C. Gray
Date: 28/4/21
Round April 2021

Sampling Information

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 8 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 7.175 m Logic Check: .....
Screen: From: ..... to ..... m Stick Up: ..... m
NAPL Check: ..... Bore Diam.: 50 mm
Ref.datum: ..... Well Cap Secure? Yes
Bore Depth: 8.05 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
9.52	—	—	0.70	239.6	6.25	-33.5	20.5		Dam cloudy no odour/sheen
Very little water, grab sample taken									

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe²⁺ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW_BH23

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / C. Gray
- Date: 28/4/21
- Round April 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 3.5 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 3.155 m
- Screen: From: / to: m
- NAPL Check:
- Ref.datum:
- Bore Depth: 3.91 m
- Logic Check:
- Stick Up: m
- Bore Diam.: 50 mm
- Well Cap Secure? Yes

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
10:51	1	3.21	0.10	910	6.94	-153.4	22.1		Grey cloudy fine sand, no sheen, HC odour
10:54	2	3.21	0.07	870	7.02	-172.0	22.0		"
10:57	3	3.21	0.06	807	7.18	-182.6	21.8		"
11:01	4	3.21	0.04	782	7.22	-180.5	21.9		"
11:05	5	3.21	0.04	772	7.22	-178.3	21.8		"
11:09	6	3.21	0.05	770	7.20	-176.2	21.9		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

4 bottles. Metals+Fe as filtered.

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW_BH25A

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / C. Gray
- Date: 28/4/21
- Round April 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri 2.5
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: RNB m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 1.802 m Logic Check: .....
- Screen: From:.....to..... m Stick Up: ..... m
- NAPL Check: NONE Bore Diam.: 50 mm
- Ref.datum: ..... Well Cap Secure?.....
- Bore Depth: 2.945 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
10:14	1	1.98	0.10	451.5	7.27	-228.3	21.3		Grey cloudy, no sheen, HC odour.
10:18	2	2.09	0.05	459.9	7.34	-240.8	21.2		"
10:22	3	2.15	0.03	480.9	7.35	-237.5	21.3		"
10:25	4	2.16	0.08	490.5	7.35	-223.4	21.3		"
10:28	5	2.16	0.07	495.5	7.35	-214.0	21.4		"
10:32	6	2.16	0.08	495.9	7.36	-209.0	21.3		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles (metals + Fe filtered).

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRT_BH047

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / C. Gray
- Date: 29/4/2021
- Round April 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N — Pump Depth: 6.5 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 5.060 m — Logic Check: /
- Screen: From: / to: m — Stick Up: m
- NAPL Check: / — Bore Diam.: 50 mm
- Ref.datum: — Well Cap Secure? Yes
- Bore Depth: 6.99 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
9:31	1	5.62	1.51	261.2	5.96	176.3	20.1		clear, no odour/sheen
9:35	2	5.82	1.58	244.2	5.78	186.0	20.1		"
9:39	3	6.08	2.25	235.1	5.68	193.6	20.1		"

Field QA Checks:
- Air bubbles in vials? Y / N — Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, metals + Fe2+ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRTBH050

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / C. Gray
Date: 29/4/2021
Round April 2021

Sampling Information

Purge Method:
Sample Method: DRY.
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth:.....m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge

Bore Information

SWL: DRY. m
Screen: From:.....to..... m
NAPL Check:.....
Ref.datum:.....
Bore Depth: 2.78 m
Logic Check: /
Stick Up: / m
Bore Diam.: 50 mm
Well Cap Secure? Yes

Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	*-*		
	DRY								

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRT_BH052

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / C. Gray
Date: 29/4/2021
Round April 2021

Sampling Information

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 7.5 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 6.125 m Logic Check: /
Screen: From: ..... to ..... m Stick Up: ..... m
NAPL Check: / Bore Diam.: 50 mm
Ref.datum: ..... Well Cap Secure? Yes
Bore Depth: 7.925 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (uS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
8:46	1	6.47	4.36	326.5	6.72	143.2	20.1		clear, no odour/sheen
8:50	2	6.71	3.81	302.1	6.12	161.2	20.2		"
8:54	3	6.87	3.92	311.3	6.12	160.5	20.2		"
8:58	4	7.09	3.91	312.2	6.14	161.5	20.1		"
9:02	5	7.33	3.99	312.4	6.12	162.8	20.1		"

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, metals + Fe2+ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_DH02

Job Information	Sampling Information	Bore Information
Client: Laing O'Rourke / Sydney Metro	Purge Method: 050 mPID	SWL: 26.62 m — Logic Check: .....
Project: Central Station Main Works	Sample Method: U	Screen: From:..... to..... m — Stick Up: ..... m
Proj. No.: 21-27234	WQ Meter Type: YSI	NAPL Check:..... — Bore Diam.: 50 mm
Sampler: T. Nham / C. Gray	Flow Cell: Y / N — Pump Depth: 30 m	Ref.datum: ..... — Well Cap Secure? Yes
Date: 25/5/21	WLevel Meter Type: Dip / Fox / Int.Fce / Gge	Bore Depth: 32.90 m
Round May 2021	Field Filtered? Y / N (filter vessel, disposable filter/syringe)	

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
1:11	1	27.10	1.89	1061	6.30	121.9	20.6		Brown cloudy, sediment, no odour/sheen
1:14	2	27.29	1.77	1061	6.30	114.7	20.6		"
1:17	3	27.46	1.62	1060	6.33	116.0	20.5		"
1:20	4	27.54	1.63	1062	6.33	117.1	20.5		"
1:23	5	27.70	1.66	1064	6.37	121.3	20.5		"
1:26	6	27.89	1.48	1062	6.38	123.4	20.5		"
1:30	7	28.05	1.29	1058	6.38	116.5	20.5		"
1:33	8	28.14	1.15	1056	6.37	109.6	20.5		"
1:36	9	28.25	1.02	1054	6.35	94.5	20.5		"
1:39	10	28.37	0.95	1053	6.35	83.7	20.5		"
1:42	11	28.42	0.90	1052	6.33	75.1	20.5		
1:45	12	28.50	0.87	1052	6.33	69.4	20.5		

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N

Decontamination as per GHD procedure? Y / N

Was sampling equipment pre-cleaned? Y / N

COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe2 filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Datalogger string reset approx 3.5m added 1:30pm 25/5/2021

Purging and Sampling Record

Bore ID: CSM_BH04

Job Information	Sampling Information	Bore Information
Client: Laing O'Rourke / Sydney Metro	**Purge Method:** QED MP10	**SWL:** 21.88 m — **Logic Check:** ✓
Project: Central Station Main Works	**Sample Method:** "	**Screen:** From: ✓ to: m — **Stick Up:** m
Proj. No.: 21-27234	**WQ Meter Type:** YSI	**NAPL Check:** — **Bore Diam.:** 50 mm
Sampler: T. Nham / C. Gray	**Flow Cell:** Y / N — **Pump Depth:** 28 m	**Ref.datum:** — **Well Cap Secure?** Yes
Date: 25/5/21	**WLevel Meter Type:** Dip / Fox / Int.Fce / Gge	**Bore Depth:** 33.73 m
Round May 2021	**Field Filtered?** Y / N (filter vessel, disposable filter/syringe)	

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
8:46	1	22.03	0.88	534	6.25	-25.4	20.2		Brown cloudy, no odour/sheen
8:49	2	22.04	0.44	540	6.17	-29.1	20.4		"
8:52	3	22.08	0.40	530	6.08	-20.0	20.5		"
8:55	4	22.12	0.25	518	6.02	-10.6	20.5		"
8:58	5	22.03	0.28	516	5.98	-5.6	20.4		"
9:02	6	21.96	0.27	513	5.95	-1.6	20.3		"
9:05	7	21.98	0.44	490.3	5.89	8.4	18.7		"
9:08	8	22.00	0.50	500	5.91	10.1	19.9		"
9:11	9	22.02	0.54	501	5.93	11.2	20.0		"
9:14	10	22.03	0.56	500	5.94	13.8	20.0		"

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N

Decontamination as per GHD procedure? Y / N

Was sampling equipment pre-cleaned? Y / N

COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, metals + Fe^{2+} filtered DUP = QC02

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

GHD | MANAGEMENT ENGINEERING ENVIRONMENT

Purging and Sampling Record

Bore ID: CSM-BH106

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / C. Gray
- Date: 25/5/2021
- Round May 2021

Sampling Information
- Purge Method: ~~GTO~~ MP10
- Sample Method: LL
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 31 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 26.84 m Logic Check: /
- Screen: From: ..... to ..... m Stick Up: ..... m
- NAPL Check: ..... Bore Diam.: 50 mm
- Ref.datum: ..... Well Cap Secure? Yes
- Bore Depth: 35.85 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L...)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
10:12	1	26.90	5.76	949	6.10	131.1	21.2		Orange-brown, low sediment, no sheen, no odour,
10:17	2	26.90	2.19	953	5.97	132.6	21.2		"
10:22	3	26.91	1.71	955	5.88	127.6	21.3		"
10:27	4	26.91	1.46	957	5.76	128.8	21.3		"
10:30	5	26.91	1.47	958	5.74	126.7	21.4		"
10:33	6	26.91	1.21	957	5.70	127.8	21.4		"
10:36	7	26.91	1.14	957	5.70	123.3	21.4		"
10:39	8	26.91	1.00	956	5.67	123.8	21.4		"
10:42	9	26.91	0.86	954	5.67	117.4	21.4		"
10:45	10	26.91	0.73	952	5.68	111.4	21.4		"
10:48	11	26.91	0.61	948	5.72	101.6	21.4		

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 Labile, Rehdd + Fe(II) filtered DUP = QC01

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Datalogger strip length ~~not to extra~~ 5m at 10:30 on 25/5/2021

GHD | MANAGEMENT ENGINEERING ENVIRONMENT

Purging and Sampling Record

Bore ID: CSM_BH08

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / C. Gray
Date: 21/5/2021
Round May 2021

Sampling Information

Purge Method: GED MP10
Sample Method: "
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 28 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 19.07 m Logic Check: /
Screen: From: / to: m Stick Up: / m
NAPL Check: / Bore Diam.: 50 mm
Ref.datum: / Well Cap Secure? Yes
Bore Depth: 35.40 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
8:25	1	19.06	0.66	685	6.31	0.2	20.3		Brown cloudy, red suspended sediments, no odour/sheen
8:29	2	19.07	0.36	692	6.27	-7.2	20.4		"
8:33	3	19.06	0.31	~~6.24~~ 695	6.24	-10.5	20.5		"
8:36	4	19.06	0.27	697	6.23	-10.7	20.5		"
8:39	5	19.06	0.26	696	6.23	-10.7	20.5		"
8:42	6	19.07	0.27	695	6.21	-9.1	20.6		"

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe2+ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM-BH105

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / C. Gray
- Date: 26/5/2021
- Round May 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 8 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 4.075 m Logic Check: /
- Screen: From: / to: / m Stick Up: / m
- NAPL Check: / Bore Diam.: 50 mm
- Ref.datum: / Well Cap Secure? Yes
- Bore Depth: 9.70 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (uS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
8:50	1	4.36	0.35	249.8	5.27	270.1	21.0		Brown cloudy, no odour/sheen
8:53	2	4.42	0.34	249.3	5.20	276.4	21.0		〃
8:56	3	4.45	0.30	248.1	5.16	282.0	21.0		〃
8:59	4	4.45	0.28	246.8	5.12	284.9	21.0		〃
9:02	5	4.48	0.26	246.7	5.13	285.8	21.0		〃
9:05	6	4.51	0.23	246.9	5.12	286.3	21.0		〃
9:08	7	4.52	0.23	246.9	5.10	288.3	21.0		〃

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe2+ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH125

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 21-27234
- Sampler: T. Nham / C. Gray
- Date: 26/5/2021
- Round May 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 6.0 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 4.90 m Logic Check: ....
- Screen: From: .... to .... m Stick Up: .... m
- NAPL Check: .... Bore Diam.: 50 mm
- Ref.datum: .... Well Cap Secure? Yes
- Bore Depth: 6.455 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (us/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
12:19	1	4.99	0.18	610	5.84	33.3	20.1		Grey cloudy, no odour/sheen
12:23	2	5.00	0.12	601	5.80	31.9	20.1		"
12:26	3	5.00	0.08	595	5.80	32.1	20.2		"
12:29	4	5.00	0.05	596	5.80	32.7	20.2		"
12:32	5	5.00	0.02	590	5.82	32.0	20.2		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe+ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

GHD | MANAGEMENT ENGINEERING ENVIRONMENT

Purging and Sampling Record

Bore ID: GAWLDH7

Job Information	*Sampling Information*	*Bore Information*
Client: Laing O'Rourke / Sydney Metro	**Purge Method:** —	**SWL:** Dry ..... m
Project: Central Station Main Works	**Sample Method:** —	**Logic Check:** .....
Proj. No.: 21-27234	**WQ Meter Type:** YSI	**Screen:** From:..... to..... m
Sampler: T. Nham / C. Gray	**Flow Cell:** Y / N **Pump Depth:**.....m	**Stick Up:** ..... m
Date: 26/5/2021	**WLevel Meter Type:** Dip / Fox / Int.Fce / Gge	**NAPL Check:**..... **Bore Diam.:** 50 mm
Round May 2021	**Field Filtered?** Y / N (filter vessel, disposable filter/syringe)	**Ref.datum:** ..... **Well Cap Secure?** Yes
		Bore Depth: 6.20 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
	Dry								

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASV-BH10

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / C. Gray
Date: 25/5/21
Round May 2021

Sampling Information

Purge Method: Bailer
Sample Method: "
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: ~ m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 23.75 m Logic Check: /
Screen: From: / to m Stick Up: m
NAPL Check: Bore Diam.: 50 mm
Ref.datum: Well Cap Secure? Yes
Bore Depth: 24.74 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
		DRY-							
		very little water, grab sample taken, not enough water for parameters							

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

8 bottles, Metal tube fitted

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW_BH11

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / C. Gray
Date: 26/8/2021
Round May 2021

Sampling Information

Purge Method: —
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 8 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 7.175 m Logic Check: ✓
Screen: From: ..... to ..... m Stick Up: ✓ m
NAPL Check: ..... Bore Diam.: 50 mm
Ref.datum: ✓ Well Cap Secure? Yes
Bore Depth: 8.045 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
	Very little water in well, Grab sample taken								
—	—	Dry	4.10	256.7	5.40	148.7	20.2		Brown cloudy, no odour/sheen

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + TRH filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW-BH23

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / C. Gray
Date: 26/5/2021
Round May 2021

Sampling Information

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 3.85 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 3.065 m Logic Check: ✓
Screen: From: — to: — m Stick Up: ..... m
NAPL Check: ✓ Bore Diam.: 50 mm
Ref.datum: ..... Well Cap Secure? YES
Bore Depth: 3.910 m

Time (AM)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (mS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
10:51	1	3.09	0.08	656	6.88	-138.1	20.0		Grey cloudy, sediments, HC odour / no sheen
10:54	2	3.09	0.01	656	6.88	-150.1	20.0		"
10:57	3	3.09	0.00	640	7.08	-169.5	20.0		"
11:00	4	3.09	0.00	620	7.16	-174.1	20.0		"
11:03	5	3.09	0.00	597	7.17	-173.6	20.0		"
11:06	6	3.09	0.00	577	7.16	-172.2	20.1		"
11:09	7	3.09	0.00	574	7.16	-171.1	20.1		"
11:	8	3.09	0.01	575	7.14	-170.8	20.1		"

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe + filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

Purging and Sampling Record

Bore ID: GAIW-BH25A

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / C. Gray
Date: 26/8/2021
Round May 2021

Sampling Information

Purge Method: Pe1
Sample Method: Pe1
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 2.8 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 1.970 m Logic Check: .....
Screen: From: ..... to ..... m Stick Up: ..... m
NAPL Check: ..... Bore Diam.: 50 mm
Ref.datum: ..... Well Cap Secure? Yes
Bore Depth: 2.94 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (uS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
10:15	1	1.85	0.12	422.6	7.12	-183.9	20.0		very slight sheen
10:19	2	1.87	0.08	424.4	7.20	-189.6	20.0		Grey cloudy sediment, HC odour, ~~moderate~~
10:23	3	1.89	0.01	427.2	7.24	-195.7	20.0		"
10:26	4	1.90	0.08	429.4	7.23	-187.3	20.0		"
10:29	5	1.90	0.10	430.0	7.22	-180.7	20.0		"
10:32	6	1.90	0.10	430.8	7.23	-175.1	20.0		"

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe2+ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

GHD | MANAGEMENT ENGINEERING ENVIRONMENT

Purging and Sampling Record

Bore ID: SCT_BH047

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / C. Gray
Date: 27/5/2021
Round May 2021

Sampling Information

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 6.5 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 4.625 m Logic Check: ✓
Screen: From: ..... to ..... m Stick Up: ✓ m
NAPL Check: ✓ Bore Diam.: 50 mm
Ref.datum: ..... Well Cap Secure? Yes
Bore Depth: 6.96 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
10:19	1	5.09	1.85	228.2	5.25	265.2	19.5		Clear, no odour/tea
10:22	2	5.50	2.00	226.0	5.04	289.5	19.5		"
10:26	3	5.83	2.33	224.8	5.02	297.4	20.0		"
10:30	4	6.13	2.45	224.7	5.06	298.3	20.0		"

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Melbart Est attended

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRT_BH050

Job Information	Sampling Information	Bore Information
Client: Laing O'Rourke / Sydney Metro	Purge Method: —	SWL: DRY m — Logic Check: /
Project: Central Station Main Works	Sample Method: —	Screen: From:.....to..... m — Stick Up: ..... m
Proj. No.: 21-27234	WQ Meter Type: YSI	NAPL Check: / — Bore Diam.: 50 mm
Sampler: T. Nham / C. Gray	Flow Cell: Y / N — Pump Depth:.....m	Ref.datum: ..... — Well Cap Secure? Yes
Date: 27/5/2021	WLevel Meter Type: Dip / Fox / Int.Fce / Gge	Bore Depth: 2.77 m
Round May 2021	Field Filtered? Y / N (filter vessel, disposable filter/syringe)	

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
	DRY								
/									

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRT_BH052

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 21-27234
Sampler: T. Nham / C. Gray
Date: 27/5/2021
Round May 2021

Sampling Information

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 7.5 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 6.225 m Logic Check: /
Screen: From: / to ..... m Stick Up: ..... m
NAPL Check: / Bore Diam.: 50 mm
Ref.datum: ..... Well Cap Secure? Yes
Bore Depth: 7.885 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
9:32	1	6.65	4.95	320.0	6.17	160.8	19.8		Brown cloudy, no odour/sheen
9:36	2	6.74	5.16	314.7	5.86	187.7	19.8		"
9:39	2.5	6.88	5.03	314.1	5.90	197.9	19.8		"
9:42	3	7.08	5.04	316.2	5.87	206.8	19.9		"
9.45	3.5	7.24	5.32	316.0	5.88	210.0	19.8		

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH02

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: T. Nham / C. Gray
Date: 15/6/21
Round June 2021

Sampling Information

Purge Method: QED mP10
Sample Method: WI
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 30 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 26.50 m Logic Check: /
Screen: From: ..... to ..... m Stick Up: ..... m
NAPL Check: / Bore Diam.: 50 mm
Ref.datum: ..... Well Cap Secure? Yes
Bore Depth: 32.65 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µs/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
2:00	1	26.96	1.64	964	5.99	102.1	20.1		Light brown cloudy, some sediment, no odour/sheen
2:03	2	27.15	1.58	966	5.95	110.2	20.1		"
2:06	3	27.30	1.52	967	5.88	126.8	20.0		"
2:09	4	27.43	1.46	966	5.91	130.3	20.0		"
2:12	5	27.50	1.41	966	5.92	130.7	20.0		"
2:15	6	27.60	1.35	968	5.96	129.7	20.0		"
2:18	7	27.69	1.38	967	5.97	129.5	20.0		"

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe2+ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH04

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 15/6/2021
- Round June 2021

Sampling Information
- Purge Method: QED mP10
- Sample Method: "
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 28 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 21.86 m
- Screen: From:.....to..... m
- NAPL Check:.....
- Ref.datum:.....
- Bore Depth: 33.32 m
- Logic Check: /
- Stick Up: / m
- Bore Diam.: 50 mm
- Well Cap Secure? Y

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
10:03	1	22.07	1.19	485	5.53	84.4	20.5		Light brown, cloudy with sediment.
10:07	2	22.11	1.16	470.4	5.30	114.5	20.5		No odour, no sheen.
10:10	3	22.10	1.11	465.1	5.21	125.3	20.5		"
10:14	4	22.15	1.01	463.9	5.14	134.2	20.6		"
10:20	5	22.18	0.77	466.4	5.11	138.2	20.6		"
10:23	6	22.20	0.77	469.6	5.10	139.6	20.6		"
10:26	7	22.19	0.71	472.4	5.10	139.3	20.6		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters / Preservatives	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 1 Alks, Metals + Fe2+ filtered QC01 (5 bottles, metals filtered).

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSMBH06

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 16/6/2021
- Round June 2021

Sampling Information
- Purge Method: QED MP10
- Sample Method: 11
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 31 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 26.705 m Logic Check: /
- Screen: From: / to / m Stick Up: / m
- NAPL Check: / Bore Diam.: 50 mm
- Ref.datum: Well Cap Secure? Yes
- Bore Depth: 35.40 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (ms/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
2:46	1	26.75	2.47	951	6.17	60.1	21.0		Light brown, cloudy, no odour/sheen
2:49	2	26.75	1.65	955	6.10	73.4	21.2		"
2:52	3	26.75	1.47	957	6.05	65.4	21.2		"
2:55	4	26.75	1.37	958	6.02	66.7	21.3		"
2:58	5	26.75	1.32	956	6.00	69.2	21.2		"
3:01	6	26.75	1.23	959	5.92	79.5	21.3		"
3:04	7	26.75	1.16	958	5.89	83.6	21.3		"
3:07	8	26.75	1.07	956	5.86	87.3	21.2		"
3:12	9	26.75	1.02	949	5.84	88.6	21.2		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe2+ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM-BH08

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 15/6/2021
- Round June 2021

Sampling Information
- Purge Method: QED MP16
- Sample Method:
- WQ Meter Type: YSI
- Flow Cell: Y / N — Pump Depth: 28 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 18.935 m — Logic Check: ✓
- Screen: From: ..... to ..... m — Stick Up: ✓ m
- NAPL Check: ✓ — Bore Diam.: 150 mm
- Ref.datum: ..... — Well Cap Secure? ✓
- Bore Depth: 34.93 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (%/ppm)	Elec.Cond (uS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
8:27	1	18.87	2.46	651	5.35	82.8	20.3		Brown dusty, no odour/sheen
8:30	2	18.97	2.30	640	5.30	88.7	20.3		"
8:33	3	18.87	2.00	637	5.26	96.2	20.4		"
8:36	4	18.87	1.90	621	5.33	90.0	20.5		"
8:39	5	18.94	1.90	617	5.51	70.0	20.5		"
8:42	6	18.94	2.00	618	5.62	54.3	20.5		"
8:46	7	18.94	1.75	618	5.71	43.0	20.5		"
8:49	8	18.94	1.62	618	5.74	38.5	20.5		"
8:52	9	18.94	1.50	615	5.76	36.2	20.5		"
8:55	10	18.94	1.44	611	5.78	34.2	20.5		"
8:58	11	18.94	1.36	608	5.78	33.6	20.5		"
9:01	12	18.94	1.32	608	5.78	32.7	20.5		"
9:04	13	18.94	1.25	605	5.78	32.2	20.6		"
9:07	14	18.94	1.21	603	5.78	32.8	20.5		"

Field QA Checks:
Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 + 5 LAHe Metals-Fe Filtered DUP = QC02

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH105

Job Information
Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: T. Nham / C. Gray
Date: 15/6/2021
Round June 2021

Sampling Information
Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 9 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
SWL: 4.16 m Logic Check:
Screen: From: to: m Stick Up: m
NAPL Check: Bore Diam.: 50 mm
Ref.datum: Well Cap Secure? Yes
Bore Depth: 9.71 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
10:46	0.5	4.48	0.83	265.0	5.48	189.0	20.9		Cloudy light brown, no odour no sheen
10:49	1	4.545	0.70	263.6	5.46	199.2	20.9		"
10:52	1.5	4.59	0.71	263.0	5.45	205.5	21.0		"
10:55	2	4.64	0.66	262.3	5.44	210.6	21.0		"
10:58	2.5	4.69	0.64	261.2	5.43	215.2	20.9		"
11:01	3	4.72	0.61	259.9	5.42	219.1	21.0		"
11:04	3.5	4.76	0.60	259.5	5.41	220.8	21.0		"
"									

Field QA Checks:
Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, metals + Fe filtered.

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_DH125

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 17/6/2021
- Round June 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 6.2 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 4.985 m Logic Check: /
- Screen: From: ..... to ..... m Stick Up: ..... m
- NAPL Check: / Bore Diam.: 50 mm
- Ref.datum: ..... Well Cap Secure? Yes
- Bore Depth: 6.51 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
10:36	1	5.06	0.71	592	5.98	39.6	19.7		Grey cloudy, no odour/sheen
10:39	2	5.07	0.21	596	5.98	35.0	19.6		"
10:42	3	5.08	0.16	595	5.99	27.5	19.6		"
10:45	4	5.08	0.12	589	6.02	18.4	19.6		"
10:48	5	5.08	0.10	582	6.05	7.6	19.6		"
10:51	6	5.08	0.09	574	6.07	-1.2	19.6		"
10:54	7	5.08	0.09	568	6.09	-7.5	19.7		"
10:57	8	5.08	0.09	563	6.11	-13.2	19.8		"
11:00	9	5.08	0.08	559	6.12	-16.2	19.7		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

6 bottles, Metals + Fe2+ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

Purging and Sampling Record

Bore ID: GASV_BH7

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: T. Nham / C. Gray
Date: 15/6/21
Round June 2021

Sampling Information

Purge Method: DRY
Sample Method:
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth:.....m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge

Bore Information

SWL: DRY m
Screen: From:.....to..... m
NAPL Check:.....
Ref.datum: .....
Bore Depth: 6.20 m

Logic Check: .....
Stick Up: ..... m
Bore Diam.: 50 mm
Well Cap Secure? Yes

Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
		DRY							

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW_BH10

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: T. Nham / C. Gray
Date: 15/6/21
Round June 2021

Sampling Information

Purge Method: —
Sample Method: Bailer
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: —m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 23.80 m Logic Check: /
Screen: From: /to m Stick Up: / m
NAPL Check: / Bore Diam.: 50 mm
Ref.datum: / Well Cap Secure? Yes
Bore Depth: 24.73 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
	Very little water			grab	sample	taken			Grey, cloudy, fe stained, H2S odour / no sheen

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW_BH11

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: T. Nham / C. Gray
Date: 16/6/2021
Round June 2021

Sampling Information

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 8 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 7.195 m Logic Check: ✓
Screen: From: / to: m Stick Up: / m
NAPL Check: / Bore Diam.: 50 mm
Ref.datum: / Well Cap Secure? Yes
Bore Depth: 8.05 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (uS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
9:45	7.56	1	4.85	234.8	5.91	31.2	17.4		Grey brown, cloudy, no odour/sheen
		Very little water, grab sample taken.							

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe24 filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASV_BH23

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: T. Nham / C. Gray
Date: 16/6/2021
Round June 2021

Sampling Information

Purge Method: Peri
Sample Method: Per
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 3.8 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 3.295 m Logic Check: ✓
Screen: From: ..... to ..... m Stick Up: ..... m
NAPL Check: / Bore Diam.: 50 mm
Ref.datum: / Well Cap Secure? Yes
Bore Depth: 3.915 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
10:24	1	—	0.60	548	7.08	-162.7	18.7		Grey, cloudy, HC odour, no sheen
	Very little water, grab sample taken.								

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Four filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GAWLBH25A

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 15/6/21
- Round June 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 2.90 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 1.84 m Logic Check: /
- Screen: From: / to: / m Stick Up: / m
- NAPL Check: / Bore Diam.: 50 mm
- Ref.datum: / Well Cap Secure? Yes
- Bore Depth: 2.95 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
13:34	0.5	2.10	2.62	409.3	7.37	166.7	18.9		dark grey / black, some sediment, no sheen, hydrocarbon odour.
—		sampled due to SWL							

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, metals + Fe filtered.

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRT_BH047

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: T. Nham / C. Gray
Date: 17/6/2021
Round June 2021

Sampling Information

Purge Method: Peri
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 6.8 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 4.380 m Logic Check: /
Screen: From: / to: / m Stick Up: / m
NAPL Check: / Bore Diam.: 50 mm
Ref.datum: / Well Cap Secure? Y
Bore Depth: 6.98 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
9:14	1	4.90	1.92	241.9	6.09	189.9	19.6		Brown cloudy, no odour/sheen
9:18	2	5.14	1.76	236.8	5.82	211.1	19.6		"
9:22	3	5.48	1.89	231.2	5.59	232.2	19.6		"
9:26	4	5.75	2.02	226.4	5.54	239.3	19.6		"
9:30	5	6.06	1.93	226.3	5.56	243.1	19.7		"

Field QA Checks:

Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
Decontamination as per GHD procedure? (Y) / N
Was sampling equipment pre-cleaned? (Y) / N
COC updated? (Y) / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metal + Ford filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRLDH050

Job Information	Sampling Information	Bore Information
Client: Laing O'Rourke / Sydney Metro	Purge Method:	SWL: DRY m — Logic Check:
Project: Central Station Main Works	Sample Method:	Screen: From: to m — Stick Up: m
Proj. No.: 2127234	WQ Meter Type: YSI	NAPL Check: — Bore Diam.: 50 mm
Sampler: T. Nham / C. Gray	Flow Cell: Y / N — Pump Depth: m	Ref.datum: — Well Cap Secure?
Date: 7/6/2021	WLevel Meter Type: Dip / Fox / Int.Fce / Gge	Bore Depth: 2.78 m
Round June 2021	Field Filtered? Y / N (filter vessel, disposable filter/syringe)	

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
	DRY								

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRT-BH052

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 19/6/2021
- Round June 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 7.5 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 6.245 m
- Screen: From: ..... to ..... m
- NAPL Check: .....
- Ref.datum: .....
- Bore Depth: 7.89 m
- Logic Check: .....
- Stick Up: ..... m
- Bore Diam.: 50 mm
- Well Cap Secure? Yes

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
8:32	1	6.60	4.85	343.3	6.51	159.1	19.3		clear/cloudy, no odour/sheen
8:36	2	6.75	3.62	327.5	6.27	170.7	19.4		"
8:40	3	6.99	3.07	320.8	6.17	178.7	19.4		"
8:44	4	7.25	3.24	324.8	6.14	180.2	19.3		"
—									
	sampled - running out of water.								

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe²⁺ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH02

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 12/7/2021
- Round July 2021

Sampling Information
- Purge Method: QED MP10
- Sample Method:
- WQ Meter Type: YSI
- Flow Cell: Y / N — Pump Depth: 30 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 26.21 m — Logic Check: /
- Screen: From: / to: m — Stick Up: / m
- NAPL Check: / — Bore Diam.: 50 mm
- Ref.datum: / — Well Cap Secure? Yes
- Bore Depth: 32.65 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (%/ppm)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
10:06	1	26.69	4.80	911	9.31	158.3	19.5		Brown orange, cloudy, some sediment, no odour/sheen
10:09	2	26.80	1.82	914	6.68	155.1	19.6		"
10:12	3	27.01	1.95	915	6.61	153.4	19.7		"
10:15	4	27.11	2.12	913	6.70	150.2	19.7		"
10:18	5	27.28	2.34	910	6.73	148.6	19.8		"
10:21	6	27.44	2.34	904	6.74	146.6	19.7		"
10:25	7	27.55	2.30	905	6.72	146.8	19.7		"

Field QA Checks:
Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe^{2+} filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH04

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 12/7/2021
- Round: July 2021

Sampling Information
- Purge Method: QED MP10
- Sample Method:
- WQ Meter Type: YSI
- Flow Cell: Y / N
- Pump Depth: 28 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge

Bore Information
- SWL: 21.93 m
- Screen: From: ..... to ..... m
- NAPL Check: /
- Ref.datum: /
- Bore Depth: 37.20 m
- Logic Check: ✓
- Stick Up: ..... m
- Bore Diam.: 50 mm
- Well Cap Secure? Yes

Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L.....)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
11:16	1	22.10	1.18	410.4	5.87	87.0	20.3		Light brown, no odour/sheen, turbid
11:19	2	22.17	1.07	418.2	5.78	88.3	20.4		"
11:22	3	22.18	0.93	429.8	5.75	84.7	20.6		"
11:25	4	22.21	0.97	433.4	5.80	82.8	20.6		"
11:28	5	22.23	0.90	439.3	5.83	78.8	20.6		"
11:31	6	22.26	0.85	441.5	5.89	73.0	20.6		"
11:34	7	22.29	0.80	448.5	5.92	67.2	20.6		"
11:37	8	22.32	0.75	452.4	5.94	62.5	20.6		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles Metals + Eco filtered DUP = QC01

+5

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH06

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 13/7/2021
- Round July 2021

Sampling Information
- Purge Method: GED MP10
- Sample Method: " "
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 31 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 26.37 m Logic Check: /
- Screen: From:.....to..... m Stick Up: ..... m
- NAPL Check:..... Bore Diam.: 50 mm
- Ref.datum: / Well Cap Secure? YES
- Bore Depth: 35.40 m

Time (hh:mm)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
1:38	1	26.45	1.70	945	6.16	69.2	21.3		Brown, cloudy, no sheen, no odour.
1:40	3	26.45	1.23	954	6.12	84.3	21.7		"
1:43	4	26.45	1.07	954	6.16	84.4	21.7		"
1:47	5	26.45	1.34	952	6.12	88.6	21.6		"
1:50	6	26.45	0.93	953	5.72	88.8	21.6		"
1:53	7	26.45	1.12	953	6.07	89.5	21.6		"
1:56	8	26.45	0.69	953	6.06	94.5	21.7		"
1:59	9	26.45	0.58	953	6.07	80.3	21.7		"
2:02	10	26.45	0.68	947	6.08	74.7	21.6		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles (metals + Fe^{2+} filtered)

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH08

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 12/7/2021
- Round July 2021

Sampling Information
- Purge Method: ~~GD~~ MP10
- Sample Method: "
- WQ Meter Type: YSI
- Flow Cell: Y / N
- Pump Depth: 25 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 18.670 m
- Screen: From:.....to..... m
- NAPL Check:.....
- Ref.datum:.....
- Bore Depth: 35.05 m
- Logic Check:.....
- Stick Up:..... m
- Bore Diam.: 50 mm
- Well Cap Secure? Yes

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (uS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
1:19	1	18.69	0.38	627	6.17	32.1	20.4		Light brown, red suspended peds, no odour/sheen
1:22	2	18.69	1.09	630	6.17	27.4	20.5		"
1:25	3	18.69	1.32	625	6.11	33.1	20.5		"
1:28	4	18.69	1.56	618	6.00	43.3	20.5		"
1:31	5	18.69	1.80	616	5.89	53.8	20.5		"
1:34	6	18.69	1.87	614	5.87	54.1	20.5		"
1:37	7	18.69	1.97	613	5.84	57.8	20.6		"
1:40	8	18.69	1.90	610	5.83	59.4	20.5		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe2+ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH108

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 12/7/21
- Round July 2021

Sampling Information
- Purge Method: QED MP10
- Sample Method: " "
- WQ Meter Type: YSI
- Flow Cell: Y / N — Pump Depth: 9.50 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 4.04 m — Logic Check: /
- Screen: From: /to: / m — Stick Up: / m
- NAPL Check: / — Bore Diam.: 50 mm
- Ref.datum: / — Well Cap Secure? YES
- Bore Depth: 10.68 m

Time (AM)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
12:02	1	4.37	0.58	248.4	5.25	233.8	20.8		Brown, cloudy, no sheen, no odour.
12:07	1.5	4.42	0.44	247.2	5.24	241.9	20.8		"
12:10	2	4.47	0.45	247.3	5.23	247.1	20.9		"
12:13	3	4.52	0.50	247.1	5.23	251.1	20.9		"
12:16	4	4.55	0.53	246.4	5.25	252.3	20.9		"
12:19	5	4.58	0.55	246.0	5.24	252.0	21.0		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters / Preservatives	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles (metals + Fe filtered) - +QC02.

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH125

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 13/7/2021
- Round July 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 5.5 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 4.855 m Logic Check: /
- Screen: From: ..... to ..... m Stick Up: ..... m
- NAPL Check: ..... Bore Diam.: 50 mm
- Ref.datum: ..... Well Cap Secure? YES
- Bore Depth: 6.510 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (uS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
11:17	1	4.88	0.27	615	5.91	44.5	19.5		Grey cloudy, no odour then
11:20	2	4.88	0.67	611	5.88	41.0	19.5		"
11:23	3	4.88	0.69	608	5.91	37.7	19.5		"
11:26	4	4.88	0.77	602	5.92	34.0	19.5		"
11:30	5	4.88	0.73	595	5.94	28.6	19.5		"
11:34	6	4.88	0.62	586	5.97	20.5	19.5		"
11:38	7	4.88	0.60	580	5.99	20.1	19.5		"
11:42	8	4.88	0.58	575	6.01	19.6	19.5		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Free Ferrous

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW_BH7

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: T. Nham / C. Gray
Date: 12/7/2021
Round July 2021

Sampling Information

Purge Method: —
Sample Method: —
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth:.....m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: DRY m
Screen: From:.....to..... m
NAPL Check:.....
Ref.datum: .....
Bore Depth: 6.16 m
Logic Check: .....
Stick Up: ..... m
Bore Diam.: 50 mm
Well Cap Secure? Yes

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
		DRY							

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASV_BH10

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 12/7/2021
- Round July 2021

Sampling Information
- Purge Method: Bailer
- Sample Method: Bailer
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: -m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 23.75 m
- Screen: From: / to: m
- NAPL Check: /
- Ref.datum:
- Bore Depth: 24.77 m
- Logic Check: /
- Stick Up: m
- Bore Diam.: 50 mm
- Well Cap Secure? Yes

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
	Very little	water,	gas sample	taken					

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters / Preservatives	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe 27 + filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASV_BH11

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: T. Nham / C. Gray
Date: 13/7/21 9:00
Round July 2021

Sampling Information

Purge Method: —
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 7.80 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 7.160 m Logic Check: /
Screen: From: /.....to...../..... m Stick Up: ..... m
NAPL Check: /
Ref.datum: /
Bore Depth: 8.05 m
Bore Diam.: 50 mm
Well Cap Secure? YES.

Time (AM/PM)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
—	—	—	5.08	232.7	5.54	180.5	17.9		Very little water, grab sample taken

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles (Metals + Fe^{2+})

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW-BH23

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 13/7/21 10:00
- Round July 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 3.5 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 2.325 m Logic Check: /
- Screen: From: ..... to ..... m Stick Up: ..... m
- NAPL Check: / Bore Diam.: 50 mm
- Ref.datum: / Well Cap Secure? YES
- Bore Depth: 3.910 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (uS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
10:26	1	2.33	0.57	494.3	7.00	-130.0	17.6		Grey cloudy, HC odour, no sheen
10:29	2	2.33	0.25	500	7.00	-136.0	17.6		"
10:32	3	2.33	0.12	492.6	7.02	-139.2	17.7		"
10:36	4	2.33	0.09	462.4	7.03	-05.2	17.7		"
10:39	5	2.33	0.13	457.5	7.04	-133.7	17.7		"
10:42	6	2.33	0.18	452.7	7.04	-132.6	17.7		"
10:45	7	2.33	0.18	450.7	7.05	-130.2	17.7		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe 29 filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: BGASW-BH25A

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 13/7/21
- Round July 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N — Pump Depth: 2.0 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 0.975 m — Logic Check: /
- Screen: From: / to: m — Stick Up: / m
- NAPL Check: / — Bore Diam.: 50 mm
- Ref.datum: — Well Cap Secure? YES
- Bore Depth: 2.940 m

Time (AM)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
9:50	1	0.98	3.28	193.1	7.77	127.3	16.4		Grey cloudy, HC odour, no sheen
9:53	2	0.98	2.92	204.3	7.78	126.9	16.3		"
9:56	3	0.98	2.66	211.3	7.76	127.6	16.3		"
9:59	4	0.98	2.94	213.8	7.77	127.0	16.2		"
10:02	5	0.98	3.11	217.8	7.80	127.8	16.1		"
10:05	6	0.98	2.84	219.7	7.78	128.3	16.2		"

Field QA Checks:
- Air bubbles in vials? Y / N — Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals+Fe* filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRT_BH047

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 14/7/2021
- Round July 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N
- Pump Depth: 6.5 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 3.95 m
- Screen: From:..... to..... m
- NAPL Check:.....
- Ref.datum:.....
- Bore Depth: 7.01 m
- Logic Check: .....
- Stick Up: ..... m
- Bore Diam.: 50 mm
- Well Cap Secure?.....

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (us/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
10:04	1	4.74	2.94	231.9	5.89	197.2	19.4		Brown cloudy, no odour/sheen
10:08	2	4.74	2.75	220.3	5.69	219.0	19.5		"
10:12	3	5.05	2.76	214.5	5.65	232.9	19.5		"
10:16	4	5.31	2.72	211.0	5.37	246.0	19.4		"
10:20	5	5.51	2.73	208.8	5.38	251.5	19.5		"
10:24	6	5.78	2.73	208.9	5.44	250.5	19.5		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metal + Fe* filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRT_BH050

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 14/7/2021
- Round July 2021

Sampling Information
- Purge Method: —
- Sample Method: RCA
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 2.7 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 2.535 m Logic Check: ...
- Screen: From: ... to ... m Stick Up: ... m
- NAPL Check: ... Bore Diam.: 50 mm
- Ref.datum: ... Well Cap Secure? Y/N
- Bore Depth: 2.76 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
	Very little water, grab sample taken.								Light brown, no odour/sheen

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters / Preservatives	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

6 bottles, metals filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRT-BH052

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 14/7/2021
- Round July 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 7.5 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 6.19 m Logic Check: ✓
- Screen: From: ..... to: ..... m Stick Up: ..... m
- NAPL Check: / Bore Diam.: 50 mm
- Ref.datum: ..... Well Cap Secure? Yes
- Bore Depth: 7.92 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (%/mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
9:22	1	6.55	2.67	311.5	5.88	200.4	19.5		clear, no odour/sheen
9:28	2	6.75	3.27	377.4	6.60	190.8	19.5		"
9:32	3	6.93	4.77	360.2	6.37	189.8	19.6		"
9:36	4	7.22	3.91	336.2	6.19	194.5	19.8		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters / Preservatives	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Ee24 filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM-BH02

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 9/8/2021
- Round August 2021

Sampling Information
- Purge Method: QED MP10
- Sample Method: "
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 30 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge

Bore Information
- SWL: 26.225 m Logic Check: /
- Screen: From: / to: / m Stick Up: / m
- NAPL Check: / Bore Diam.: 50 mm
- Ref.datum: / Well Cap Secure? Yes
- Bore Depth: 32.61 m

Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Time (AM)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
12:44	1	26.69	3.63	658	6.64	29.7	19.8		Light brown, suspended sediment,
12:48	2	26.86	3.10	661	6.64	29.1	19.9		no sheen, no odour.
12:51	3	27.03	2.88	659	6.64	29.8	19.9		"
12:54	4	27.16	2.88	639	6.55	32.3	19.9		"
12:57	5	27.27	3.03	613	6.58	32.1	19.9		"
13:00	6	27.38	2.86	585	6.51	33.6	19.9		"
13:03	7	27.49	2.76	589	6.49	34.6	19.9		" sampled.

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters / Preservatives	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles Metals + EDD filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM-BH04

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 9/8/2021
- Round August 2021

Sampling Information
- Purge Method: GEO MP10
- Sample Method: 4
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 28 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 22.025 m
- Screen: From: ..... to ..... m
- NAPL Check: .....
- Ref.datum: .....
- Bore Depth: 34.19 m
- Logic Check: .....
- Stick Up: ..... m
- Bore Diam.: 50 mm
- Well Cap Secure? Yes

Time (AM)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (mS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
11:25	1	22.27	6.00	470.3	6.04	20.4	20.4		~~Big~~ Brown, cloudy, suspended sediment,
11:30	2	22.27	5.23	456.5	6.00	23.6	20.4		no sheen, no odour
11:35	3	22.27	4.66	456.2	5.99	22.8	20.5		"
11:38	4	22.27	4.30	454.3	5.99	22.6	20.5		"
11:41	5	22.27	4.18	453.9	5.99	22.3	20.4		"
11:44	6	22.27	~~3~~ 4.02	455.0	6.00	19.3	20.4		

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals Fe24 filtered + OC01

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_DH06

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 9/8/2021
- Round August 2021

Sampling Information
- Purge Method: QED MP10
- Sample Method: "
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 30 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 26.435 m Logic Check: ...
- Screen: From: ... to ... m Stick Up: ... m
- NAPL Check: ... Bore Diam.: 50 mm
- Ref.datum: ... Well Cap Secure? Yes
- Bore Depth: 35.42 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
8:39	1	26.47	4.35	891	6.35	21.5	19.0		Brown cloudy, no odour/sheen → pump broke.
10:13	1.5	26.50	3.46	925	6.21	49.9	20.9		Brown cloudy, no odour/sheen + new pump
10:16	2	26.50	2.72	929	6.15	61.7	21.0		" "
10:19	3	26.50	1.07	926	6.10	70.3	20.8		"
10:22	4	26.50	1.02	929	6.06	71.9	21.1		"
10:25	5	26.50	0.39	933	6.03	71.6	21.2		"
10:28	6	26.50	0.77	924	5.99	75.3	20.8		"
10:31	7	26.50	0.72	927	5.97	75.2	20.9		"
10:34	8	26.50	0.73	930	5.95	78.1	20.9		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles Mobile + Fe²⁺ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSMDH08

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 10/8/2021
- Round August 2021

Sampling Information
- Purge Method: QED MP10
- Sample Method: "
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 28 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 18.672 m Logic Check: .....
- Screen: From: ..... to ..... m Stick Up: ..... m
- NAPL Check: ..... Bore Diam.: 50 mm
- Ref.datum: ..... Well Cap Secure? Yes
- Bore Depth: 34.9J m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (uS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
8:15	1	18.67	1.09	615	6.34	-23.5	19.2		Orange, cloudy, suspended sediment, no odour/sheen
8:18	2	18.67	0.58	627	6.20	-11.8	19.7		"
8:22	3	18.67	0.44	628	6.21	-11.3	19.8		"
8:25	4	18.67	0.44	626	6.25	-13.5	20.0		"
8:28	5	18.67	0.44	625	6.26	-13.9	20.1		"
8:31	6	18.67	0.45	620	6.28	-13.5	20.1		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 + 5 bottles, metals + Fe* filtered DUP = QC02 (ALS)

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH105

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 10/8/2021
- Round August 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 9 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 4.395 m
- Screen: From: / to: m
- NAPL Check: /
- Ref.datum:
- Bore Depth: 9.675 m
- Logic Check: /
- Stick Up: m
- Bore Diam.: 50 mm
- Well Cap Secure? Ya

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (uS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
12:33	1	4.62	0.47	237.3	5.25	112.9	20.9		Light brown, cloudy, no odour/sheen
12:37	2	4.70	0.38	236.3	5.22	104.5	20.9		"
12:41	3	4.75	0.33	235.7	5.22	99.3	20.9		"
12:44	4	4.77	0.33	235.4	5.23	96.5	20.9		"
12:47	5	4.79	0.35	234.6	5.23	93.7	20.9		"
12:50	6	4.82	0.36	234.5	5.22	91.0	21.0		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metal + Fe24 filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: csm_BH125

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 10/8/2021
- Round August 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N — Pump Depth: 6 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 4.935 m — Logic Check: ✓
- Screen: From: ..... to ..... m — Stick Up: ✓ m
- NAPL Check: ✓ — Bore Diam.: 50 mm
- Ref.datum: ✓ — Well Cap Secure? Yes
- Bore Depth: 6.50 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
9:44	1	5.09	0.35	622	5.83	43.6	19.0		Grey cloudy, sediment, no odour/sheen
9:47	2	5.09	0.35	619	5.82	41.8	19.0		"
9:50	3	5.10	0.27	617	5.82	37.7	19.0		"
9:53	4	5.10	0.25	614	5.82	33.2	19.1		"
9:56	5	5.10	0.25	610	5.86	25.8	19.1		"
9:59	6	5.10	0.25	606	5.87	24.2	19.1		"

Field QA Checks:
- Air bubbles in vials? Y / (N) Any violent reactions? Y / (N)
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 Labile, Metals + Fe2+ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW-BH7

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: T. Nham / C. Gray
Date: 10/8/2021
Round August 2021

Sampling Information

Purge Method: —
Sample Method: —
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth:.....m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: DRY m Logic Check: .....
Screen: From:.....to..... m Stick Up: ..... m
NAPL Check:..... Bore Diam.: 50 mm
Ref.datum: ..... Well Cap Secure? YES
Bore Depth: 6.18 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
									DRY

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters / Preservatives	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

NONE

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASV_BH10

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 10/8/2021
- Round August 2021

Sampling Information
- Purge Method: Bailer
- Sample Method: "
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth:.....m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 23.77 m
- Screen: From:..... to..... m
- NAPL Check:.....
- Ref.datum: .....
- Bore Depth: 24.72 m
- Logic Check: .....
- Stick Up: ..... m
- Bore Diam.: 50 mm
- Well Cap Secure? Yes

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
	Very little water, grab sample taken								
			1.61	1156	6.57	-84.7	18.6		Grey clay, sediment/sand, organic H2S odour no sheen

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe2+ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW_BH11

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: T. Nham / C. Gray
Date: 10/8/21
Round August 2021

Sampling Information

Purge Method: —
Sample Method: Peri
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 8 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 7.201 m Logic Check: /
Screen: From: ..... to ..... m Stick Up: ..... m
NAPL Check: / Bore Diam.: 50 mm
Ref.datum: / Well Cap Secure? YES
Bore Depth: 8.05 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (%/ppm)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
	Very little water, grab sample taken								
	—		3.93	284.0	6.12	82.5	18.1		Brown cloudy, no odour/sheen

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASV-BH23

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: T. Nham / C. Gray
Date: 10/8/2021
Round August 2021

Sampling Information

Purge Method: Peri
Sample Method: Bor
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 3.8 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 3.470 m Logic Check: /
Screen: From: /.....to..... m Stick Up: ..... m
NAPL Check: / Bore Diam.: 50 mm
Ref.datum: / Well Cap Secure? Yes
Bore Depth: 3.91 m

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (uS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
		Very little water, grab sample taken							
									Grey/dk grey cloudy, sediment, HC odour, no sheen

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters / Preservatives	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

8 bottles, Metals + Fe2O + filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW_BH25A

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 10/8/2021
- Round August 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N
- Pump Depth: 2.8 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 1.845 m
- Screen: From:.....to..... m
- NAPL Check:.....
- Ref.datum:.....
- Bore Depth: 2.94 m
- Logic Check: /
- Stick Up:..... m
- Bore Diam.: 50 mm
- Well Cap Secure? Yes

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
11:17	1	2.13	0.33	363.2	7.46	-187.0	16.9		Grey cloudy clear, HC odour, no sheen
11:20	2	2.22	0.24	366.9	7.53	-184.9	16.5		"
11:23	3	2.27	0.36	359.5	7.55	-173.8	16.9		"
11:26	4	2.31	0.70	350.2	7.55	-153.3	17.0		"
11:29	5	2.36	1.15	347.7	7.55	-135.5	17.0		"
11:32	6	2.42	1.53	345.1	7.55	-124.6	17.0		"
11:36	7	2.53	1.95	342.6	7.62	-113.0	16.9		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles, Metals + Fe2+ filtered

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRT-BH047

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 11/8/2021
- Round August 2021

Sampling Information
- Purge Method: Peri
- Sample Method: Peri
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 1 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 5.180 m Logic Check: ✓
- Screen: From: ~~to~~ m Stick Up: m
- NAPL Check: / Bore Diam.: 50 mm
- Ref.datum: Well Cap Secure? Yes
- Bore Depth: 7.045 m

Time (AM)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
9:10	0.5	5.60	0	214.8	5.49	53.0	19.5		Clear, no sheen, no odour.
9:15	1	5.96	0	208.2	5.33	57.9	19.5		"
9:18	1.5	6.06	0	208.1	5.32	54.7	19.5		Sampled – low water level

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles (metals + Fe filtered)

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRT_BH056

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: T. Nham / C. Gray
Date: 11/8/2021
Round August 2021

Sampling Information

Purge Method: DRY
Sample Method:
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth:.....m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: DRY m
Screen: From:.....to..... m
NAPL Check:.....
Ref.datum: .....
Bore Depth: 2.77 m
Logic Check: .....
Stick Up: ..... m
Bore Diam.: 50 mm
Well Cap Secure? Yes

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
		DRY							

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRT_BH052

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: T. Nham / C. Gray
- Date: 11/8/2021
- Round August 2021

Sampling Information
- Purge Method: Pen
- Sample Method: Pen
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 7.5 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 6.33 m Logic Check: /
- Screen: From: ..... to ..... m Stick Up: ..... m
- NAPL Check: / Bore Diam.: 50 mm
- Ref.datum: / Well Cap Secure? Yes
- Bore Depth: 7.82 m

Time (AM....)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L....)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
8:26	1	6.60	6.79	317.5	6.34	26.5	19.4		Clear, no sheen, no odour.
8:29	1.5	6.75	6.13	317.2	6.27	28.4	19.5		"
8:32	2	6.86	5.21	317.1	6.23	29.8	19.4		"
8:35	2.5	6.96	4.84	318.5	6.22	30.0	19.6		"

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters / Preservatives	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles (metals + Fe filtered)

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH02

Job Information		Sampling Information		Bore Information	
Client: Laing O'Rourke / Sydney Metro		Purge Method: Micropurge		SWL: 26.09 m	Logic Check: /
Project: Central Station Main Works		Sample Method: Low Flow		Screen: From: ~ to: ~ m	Stick Up: -0.10 m
Proj. No.: 2127234		WQ Meter Type: YSI		NAPL Check: ~	Bore Diam.: 50 mm
Sampler: C. Gray & C. Allen		Flow Cell: Y / N	Pump Depth: 31.0 m	Ref.datum: TOC	Well Cap Secure? Y
Date: 28/9/21		WLevel Meter Type:	Dip / Fox / Int.Fce / Gge	Bore Depth: 32.81 m	
Round September 2021		Field Filtered? Y / N (filter vessel, disposable filter/syringe)			

Time (2:25)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
2:29	0.5	26.29	2.49	425.9	5.96	125.1	20.0		Light brown, high sediment load,
2:32	~~extra~~	26.39	2.53	426.5	5.89	138.1	19.9		no odour or sheen
2:35	1.5	26.52	2.43	427.3	5.90	144.5	19.9		
2:38	1.75	26.62	2.37	428.3	5.95	147.6	19.9		
2:41	2.0	26.64	2.53	428.6	5.97	148.8	19.8		
2:44	2.25	26.67	2.50	428.9	5.97	149.7	19.8		
2:47	2.5	26.70	2.55	429.3	5.97	150.3	19.8		stable - well sampled

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH04

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: C. Grey + C. Allen
Date: 28/9/21
Round September 2021

Sampling Information

Purge Method: Micropurge
Sample Method: low flow
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: ~31.0 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 21.945 m Logic Check: Y
Screen: From: — to: — m Stick Up: -0.10 m
NAPL Check: — Bore Diam.: 50 mm
Ref.datum: TOC Well Cap Secure? Y
Bore Depth: 33.23 m

Time (10:29)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
10:09	0.5	22.11	5.69	459.8	5.99	64.3	20.8		Light brown, cloudy, brown sediment, no sheen/odour
10:12	1.0	22.20	5.46	457.7	5.97	61.4	20.8		
10:15	1.5	22.23	5.97	457.8	5.97	58.4	20.8		
10:18	2.0	22.24	4.84	463.7	5.91	62.9	20.8		
10:21	2.5	22.25	4.81	466.8	5.90	63.0	20.8		
10:24	3.0	22.25	4.79	468.3	5.91	61.1	20.8		stable - well sampled

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

SWL updated as did not reflect SWL from data loggers, SWL during purge and previous SWLs

Purging and Sampling Record

SWL: 26.34 **Bore ID:** CSM_BH06

Job Information	Sampling Information	Bore Information
Client: Laing O'Rourke / Sydney Metro	**Purge Method:** Micropurge	**SWL:** ~~25.78~~ 26.34 m **Logic Check:** —
Project: Central Station Main Works	**Sample Method:** Low flow	**Screen:** From: — to: — m **Stick Up:** ~0.10 m
Proj. No.: 2127234	**WQ Meter Type:** YSI	**NAPL Check:** — **Bore Diam.:** 50 mm
Sampler: C.Cray & C.Allen	**Flow Cell:** Y / N **Pump Depth:** ~34.0 m	**Ref.datum:** TOC **Well Cap Secure?** Y
Date: 29/9/21	**WLevel Meter Type:** Dip / Fox / Int.Fce / Gge	**Bore Depth:** 35.43 m
Round September 2021	**Field Filtered?** Y / N (filter vessel, disposable filter/syringe)	

Time (1:30)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
1:44	0.5	26.34	1.94	907	6.17	33.0	19.4		Light brown, high sediment load, no odour or sheen
1:47	1.0	26.34	2.49	905	6.01	58.7	19.3		
1:50	1.5	26.35	2.68	904	5.95	73.1	19.2		
1:53	2.0	26.35	2.98	903	5.82	93.1	19.3		
1:56	2.5	26.35	3.10	903	5.68	108.7	19.2		
1:59	3.0	26.35	3.15	902	5.63	125.0	19.1		
2:02	3.5	26.35	3.18	902	5.62	129.4	19.1		Stable - sampled

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH08

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: C. Gray & C. Owen
- Date: 28/9/21
- Round: September 2021

Sampling Information
- Purge Method: Micropurge
- Sample Method: low flow
- WQ Meter Type: YSI
- Flow Cell: Y / N — Pump Depth: ~34.0 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 18.435 m — Logic Check: Y
- Screen: From: ~ to ~ m — Stick Up: ~0.15 m
- NAPL Check: — Bore Diam.: 50 mm
- Ref.datum: TOC — Well Cap Secure? Y
- Bore Depth: 35.16 m

Time (8:30)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
8:37	0.5	18.45	2.18	537	6.49	-20.6	18.9		Light brown, cloudy, no odour/sheen, brown sediment
8:40	1.0	18.44	1.56	599	6.37	-17.0	19.3		
8:43	1.5	18.44	0.80	627	6.34	-21.2	19.5		
8:46	2.0	18.44	0.57	635	6.36	-32.8	19.7		
8:49	2.5	18.44	0.77	616	6.34	-23.3	19.8		
8:52	3.0	18.44	0.81	615	6.33	-21.4	19.8		
8:55	3.5	18.44	0.83	615	6.32	-20.0	19.9		Stable - well sampled

Field QA Checks:
Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Inter-lab QC CO2 collected

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM-BH105

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: C. Gray & C Allen
Date: 28/9/21
Round September 2021

Sampling Information

Purge Method: Peri pump
Sample Method: low flow
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: ~8.50 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 4.39 m Logic Check: Y
Screen: From: – to: – m Stick Up: -0.10 m
NAPL Check: – Bore Diam.: 50 mm
Ref.datum: TOC Well Cap Secure? Y
Bore Depth: 9.67 m

Time (10:45)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
10:50	0.5	4.54	0.43	234.1	5.22	167.3	20.4		clear, slightly cloudy, no odour/ sheen
10:53	1.0	4.59	0.41	234.2	5.18	181.4	20.4		
10:56	1.5	4.63	0.43	234.2	5.17	189.7	20.4		
10:59	2.0	4.66	0.52	233.4	5.17	195.5	20.4		
11:02	2.5	4.69	0.53	234.3	5.16	200.1	20.5		stable - well sampled

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

Purging and Sampling Record

Bore ID: CSM_BH12S

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: C. Cray & C. Allen
- Date: 28/9/21
- Round September 2021

Sampling Information
- Purge Method: Peripump
- Sample Method: Low flow
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: 6.0 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 4.815 m Logic Check: Y
- Screen: From: – to: – m Stick Up: -0.15 m
- NAPL Check: – Bore Diam.: 50 mm
- Ref.datum: TOC Well Cap Secure? Y
- Bore Depth: 6.49 m

Time (12:20)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (C Em)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
12:33	0.5	4.85	0.35	663	5.62	109.7	20.0		Brown, cloudy, no sheen, no odour.
12:36	1.0	4.855	0.37	662	5.64	97.9	19.9		"
12:39	1.5	4.860	0.51	656	5.67	82.4	19.8		"
12:42	2	4.86	0.62	655	5.67	79.6	19.8		"
12:45	2.5	4.86	0.70	654	5.68	77.5	19.8		"
12:48	3	4.86	0.78	655	5.68	74.4	19.8		sampled.

Field QA Checks:
Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

Purging and Sampling Record

Bore ID: CSM_BH15

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: C. Gray & C. Allen
Date: 29/9/21
Round September 2021

Sampling Information

Purge Method: Micropurge
Sample Method: low flow
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: 32 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 22.29 m Logic Check: Y
Screen: From: — to: — m Stick Up: -0.05 m
NAPL Check: — Bore Diam.: 50 mm
Ref.datum: TOC Well Cap Secure? Y
Bore Depth: 33.67 m

Time (12:30)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (uS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	( )	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
12:43	1.0	22.63	1.75	1009	7.23	-73.0	21.1		Orange, cloudy, no sheen, no odour
12:46	1.5	22.70	1.55	1012	7.23	-77.5	21.0		"
12:49	2	22.86	1.53	1010	7.25	-82.6	20.9		"
12:52	2.5	22.96	2.07	1006	7.26	-85.8	20.7		"
12:55	3	23.00	2.03	1003	7.26	-85.3	~~23.0~~	20.5	"
12:58	3.5	23.07	1.95	1000	7.24	-84.3	20.5		sampled.

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles (Fe^{2+}, metals filtered)

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: CSM_BH145

Job Information
- Client: Laing O'Rourke / Sydney Metro
- Project: Central Station Main Works
- Proj. No.: 2127234
- Sampler: L. Gray + C. Allen
- Date: 29/9/21
- Round September 2021

Sampling Information
- Purge Method: Peristaltic pump
- Sample Method: Low flow
- WQ Meter Type: YSI
- Flow Cell: Y / N Pump Depth: ~4.5 m
- WLevel Meter Type: Dip / Fox / Int.Fce / Gge
- Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information
- SWL: 2.45 m Logic Check: Y
- Screen: From: — to — m Stick Up: -0.30 m
- NAPL Check: — Bore Diam.: 50 mm
- Ref.datum: TOC Well Cap Secure? Y
- Bore Depth: 5.59 m

Time (2:30)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
2:39	0.5	2.45	3.97	163.9	6.88	58.6	17.6		slightly yellow, no odour or sheen
2:42	1.0	2.45	3.75	162.1	6.80	69.8	17.6		
2:45	1.5	2.45	3.57	160.8	6.73	82.4	17.6		
2:48	2.0	2.45	3.56	160.3	6.68	88.0	17.6		
2:51	2.5	2.45	3.43	160.2	6.67	94.1	17.6		
2:54	3.0	2.45	3.52	160.2	6.67	98.1	17.6		stable - sampled
~~2:57~~	~~3.5~~	~~2.45~~							

Field QA Checks:
- Air bubbles in vials? Y / N Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GASW-BH7

Job Information	Sampling Information	Bore Information
Client: Laing O'Rourke / Sydney Metro	Purge Method:	SWL: ..... m Logic Check: .....
Project: Central Station Main Works	Sample Method:	Screen: From:.....to..... m Stick Up: ..... m
Proj. No.: 2127234	WQ Meter Type: YSI	NAPL Check:..... Bore Diam.: 50 mm
Sampler: C. Craig + C. Allen	Flow Cell: Y / N Pump Depth:.....m	Ref.datum: ..... Well Cap Secure?.....
Date: 28/9/21	WLevel Meter Type: Dip / Fox / Int.Fce / Gge	Bore Depth: ..... m
Round September 2021	Field Filtered? Y / N (filter vessel, disposable filter/syringe)	

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		

** DRY **

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

Purging and Sampling Record

Bore ID: CASW-BH10

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: C. Gray + C. Allen
Date: 29/8/21
Round September 2021

Sampling Information

Purge Method: Bailer
Sample Method: Grab
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: — m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 23.74 m Logic Check: Y
Screen: From: — to: — m Stick Up: 1.0 m
NAPL Check: — Bore Diam.: 50 mm
Ref.datum: TOC Well Cap Secure? Y
Bore Depth: 24.74 m

Time (10:00)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
									Cloudy, hydrocarbon odour, no sheen
									* No readings collected - not enough water. Only sample collected

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

GHD | MANAGEMENT ENGINEERING ENVIRONMENT

Purging and Sampling Record

Bore ID: GASW_BH11

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: C. Grey + C. Allen
Date: 28/9/21
Round September 2021

Sampling Information

Purge Method: Peripump
Sample Method: Low flow
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: ~7.90 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 7.175 m Logic Check: Y
Screen: From: — to: — m Stick Up: -0.10 m
NAPL Check: — Bore Diam.: 50 mm
Ref.datum: TOC Well Cap Secure? Y
Bore Depth: 8.05 m

Time (120)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		stable	+/- 10%	+/- 3%	+/- 0.05 pH	+/- 10 mV	-		
1:35	0.25	7.70	4.16	330.8	5.88	55.6	18.9		* Samples collected prior to readings due to low well volume
1:38	0.5	~7.85	2.23	278.1	5.93	40.8	18.5		Grey, slightly cloudy, hydrocarbon odour, no sheen
									- Not stabilised as purged dry

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: GDSW-BH23

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: C. Gray & C. Allen
Date: 29/9/21
Round September 2021

Sampling Information

Purge Method: Peri pump
Sample Method: Low flow
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: ~3.70 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 2.87 m Logic Check: ✓
Screen: From: ..... to ..... m Stick Up: — m
NAPL Check: / Bore Diam.: 50 mm
Ref.datum: TOC Well Cap Secure? YES
Bore Depth: 3.91 m

Time (11:20.)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (Cdm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
11:09	0-5	2.88	0.20	711	6.93	-105.9	18.4		Slightly grey, clear, no sheen,
11:12	1	2.88	0.16	702	6.96	-114.9	18.3		sulfurous odour.
11:15	1.5	2.88	0.19	689	7.00	-122.5	18.2		"
11:18	2	2.88	0.24	670	7.05	-131.8	18.2		"
11:21	2.5	2.88	0.30	657	7.08	-138.7	18.2		"
11:24	3	2.88	0.35	651	7.10	-142.5	18.2		"
11:27	3.5	2.88	0.38	651	7.11	-144.2	18.2		sampled.

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles (Fe^{2+}, metals filtered)

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

GHD MANAGEMENT ENGINEERING ENVIRONMENT

Purging and Sampling Record

Bore ID: CASW-BH2SA

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: C. Gray + C. Allen
Date: 29/8/21
Round September 2021

Sampling Information

Purge Method: Perpump
Sample Method: Low flow
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: ~2.5 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 1.44 m Logic Check: Y
Screen: From: – to: – m Stick Up: -0.50 m
NAPL Check: – Bore Diam.: 50 mm
Ref.datum: TOC Well Cap Secure? Y
Bore Depth: 2.94 m

Time (24:hr)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
10:34	0.5	1.46	0.26	265.8	7.85	-172.6	17.8		Clear, hydrocarbon to sulfurous odour, no sheen
10:37	1.0	1.47	0.73	257.3	7.83	-179.9	17.7		
10:40	1.5	1.47	2.06	246.3	7.89	-152.1	17.8		
10:43	2.0	1.47	2.25	237.6	7.96	-134.5	17.8		
10:46	2.5	1.47	2.57	222.3	7.98	-124.1	17.8		
10:49	3.0	1.47	2.62	216.6	7.99	-116.0	17.8		
10:52	3.5	1.47	2.64	213.1	7.99	-110.4	17.8		Stable - well sampled

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRTGH047

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: C Cray & C.Gwen
Date: 30/9/21
Round September 2021

Sampling Information

Purge Method: Peri pump
Sample Method: Low flow
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: ~6.0 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 4.43 m Logic Check: Y
Screen: From: - to: - m Stick Up: -0.10 m
NAPL Check: - Bore Diam.: 50 mm
Ref.datum: TOC Well Cap Secure? Y
Bore Depth: 7.03 m

Time (HH:MM)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
10:22	1	4.730	2.34	208.0	5.68	207.2	19.7		Clear, no sheen, no odour.
10:25	1.5	4.815	2.20	207.7	5.64	210.4	19.7		"
10:28	2	4.920	2.24	207.0	5.62	213.3	19.6		"
10:31	2.5	5.04	2.24	206.6	5.61	215.7	19.6		

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

9 bottles (Fe 2+, metals filtered) + QC01 (5 bottles).

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRT_BH050

Job Information	Sampling Information	Bore Information
Client: Laing O'Rourke / Sydney Metro	Purge Method:	SWL: ..... m Logic Check: .....
Project: Central Station Main Works	Sample Method:	Screen: From:.....to..... m Stick Up: ..... m
Proj. No.: 2127234	WQ Meter Type: YSI	NAPL Check:..... Bore Diam.: 50 mm
Sampler: C. Gray & C Allen	Flow Cell: Y / N Pump Depth:.....m	Ref.datum: ..... Well Cap Secure?.....
Date: 30/9/21	WLevel Meter Type: Dip / Fox / Int.Fce / Gge	Bore Depth: 2.75 m
Round September 2021	Field Filtered? Y / N (filter vessel, disposable filter/syringe)	

Time (.....)	Volume (L)	SWL mbtoc	Dis.Oxygen (.....)	Elec.Cond (.....)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
									DRY

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Purging and Sampling Record

Bore ID: SRT_BH052

Job Information

Client: Laing O'Rourke / Sydney Metro
Project: Central Station Main Works
Proj. No.: 2127234
Sampler: C. Gray & C. Allen
Date: 30/9/21
Round September 2021

Sampling Information

Purge Method: Peristaltic pump
Sample Method: Low flow
WQ Meter Type: YSI
Flow Cell: Y / N Pump Depth: ~7.50 m
WLevel Meter Type: Dip / Fox / Int.Fce / Gge
Field Filtered? Y / N (filter vessel, disposable filter/syringe)

Bore Information

SWL: 6.22 m Logic Check: Y
Screen: From: ..... to ..... m Stick Up: -0.10 m
NAPL Check: ..... Bore Diam.: 50 mm
Ref.datum: TOC Well Cap Secure? Y
Bore Depth: ~~8~~ 7.88 m

Time (9:30a)	Volume (L)	SWL mbtoc	Dis.Oxygen (mg/L)	Elec.Cond (µS/cm)	pH (pH units)	Ox-Red Pt. (± mV)	Temp (°C)	(.....)	Comment: Colour, turbidity, sediment load, sheen, odour, flow rate, purged dry?
Stable when (3 consecutive readings):		*stable*	*+/- 10%*	*+/- 3%*	*+/- 0.05 pH*	*+/- 10 mV*	-		
9:36	0.5	6.50	1.93	307.2	5.89	196.0	19.7		Clear, no odour or sheen
9:39	0.75	6.57	2.05	311.8	5.92	195.8	19.7		very poor recharge
9:42	1.0	6.60	3.18	316.8	5.99	195.0	19.8		
9:45	1.25	6.64	3.36	320.4	6.04	193.9	19.8		sampled - not much water left in column

Field QA Checks:

Air bubbles in vials? Y / N Any violent reactions? Y / N
Decontamination as per GHD procedure? Y / N
Was sampling equipment pre-cleaned? Y / N
COC updated? Y / N

Parameters	BTEX	TPH	PAH	CHC	PCB	OCP	OPP	Tot. Metal	Biol.				
Preservatives													

Comment: Duplicate samples collected, bottles used, access, condition of headworks etc

Purge Volumes

Casing Int. Dia (mm)	50	100	150
Vol (L/m of casing)	2.0	7.9	17.7

*Double for gravel pack

Appendix F
Laboratory analytical reports

eurofins | mgt

☑ **Sydney**
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CHAIN OF CUSTODY RECORD

CLIENT DETAILS Page 1 of 1

Company Name : GHD Pty Ltd, Sydney	**Contact Name :** Terry Nham / Charlotte Gray	**Purchase Order :** 2127234	**COC Number :**
Office Address :	**Project Manager :** Henry Luo	**PROJECT Number :** 2127234	**Eurofins | mgt quote ID :** GHD Rates 2020/2021
Level 15, 133 Castlereagh Street, Sydney NSW 2000	**Email for results :** terry.nham@ghd.com henry.luo@ghd.com charlotte.gray@ghd.com	**PROJECT Name :** Central	**Data output format:** ESDAT

Special Directions & Comments :

Eurofins | mgt DI water batch number: 50302

Analytes

	Sample ID	Date	Matrix	TRH, BTEXN, 8 Metals (Dissolved) (Suite B6)	PAH - Trace LOR	Phenols		TRH (with Silica Gel Cleanup)	Cyanide - Trace Level (<0.004 mg/L)	Ammonia	Cation (B11D) and Anion (B11E)		Ferrous Iron	Manganese	pH	TDS	TSS		TRH C6-C10 / BTEX	8 Metals (Total)					
1	CSM_BH02	27/4/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
2	CSM_BH04	27/4/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
3	CSM_BH06	27/4/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
4	CSM_BH08	27/4/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
5	CSM_BH10S	28/4/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
6	CSM_BH12S	28/4/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
7	SRT_BH047	29/4/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
8	SRT_BH052	29/4/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
9	GASW_BH10	27/4/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
10	GASW_BH11	28/4/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
11	GASW_BH23	28/4/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
12	GASW_BH25A	28/4/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
13	QC01	28/4/21	Water	X	X																				
14	RB01	28/4/21	Water																	X					
15	Trip Blank	27/4/21	Water																X						
16	Trip Spike	27/4/21	Water																X						

Some common holding times (with correct preservation).
For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

	500P	250P	60P	1LA	40mL vial	200mL A	Jar	Bag	Sample comments:
1	1		4		2	2			
2	1		4		2	2			
3	1		4		2	2			
4	1		4		2	2			
5	1		4		2	2			
6	1		4		2	2			
7	1		4		2	2			
8	1		4		2	2			
9	1		4		2	2			
10	1		4		2	2			
11	1		4		2	2			
12	1		4		2	2			
13			1		2	1			
14			1						
15					2				
16					2				

Laboratory Staff

Relinquished By: Terry Nham - GHD
Date & Time : 29/4/2021
Signature:

Received By: NC
Date & Time : ~~2014~~ 2914 1:30PM
Signature:

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☒ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☒ Hand Delivered
☐ Postal
Courier Consignment # :

Temperature on arrival: 0.0°C

Report number: 791517

eurofins | Environment Testing

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Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	GHD Pty Ltd NSW
Contact name:	Terry Nham
Project name:	CENTRAL
Project ID:	2127234
Turnaround time:	5 Day
Date/Time received	Apr 29, 2021 1:30 PM
Eurofins reference	791517

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 0.0 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Elvis Dsouza on phone : or by email: ElvisDsouza@eurofins.com

Results will be delivered electronically via email to Terry Nham - Terry.Nham@ghd.com.

Note: A copy of these results will also be delivered to the general GHD Pty Ltd NSW email address.

GHD Pty Ltd NSW
Level 15, 133 Castlereagh Street
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Terry Nham**

Report **791517-W-V2**
Project name CENTRAL
Project ID 2127234
Received Date Apr 29, 2021

Client Sample ID			**CSM_BH02**	**CSM_BH04**	**CSM_BH06**	**CSM_BH08**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**S21-Ap56188**	**S21-Ap56189**	**S21-Ap56190**	**S21-Ap56191**
Date Sampled			**Apr 27, 2021**	**Apr 27, 2021**	**Apr 27, 2021**	**Apr 27, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Volatile Organics						
1.1-Dichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1-Dichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.1-Trichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.1.2-Tetrachloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.2-Trichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.2.2-Tetrachloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dibromoethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2.3-Trichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2.4-Trimethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.3-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.3-Dichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.3.5-Trimethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.4-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Butanone (MEK)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Propanone (Acetone)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
4-Chlorotoluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
4-Methyl-2-pentanone (MIBK)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Allyl chloride	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromochloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromodichloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromoform	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromomethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Carbon disulfide	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Carbon Tetrachloride	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			CSM_BH02	CSM_BH04	CSM_BH06	CSM_BH08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56188	S21-Ap56189	S21-Ap56190	S21-Ap56191
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
Volatile Organics						
Chlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chloroform	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Chloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
cis-1.2-Dichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
cis-1.3-Dichloropropene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibromochloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibromomethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dichlorodifluoromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Iodomethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Isopropyl benzene (Cumene)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Methylene Chloride	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Styrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Tetrachloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
trans-1.2-Dichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
trans-1.3-Dichloropropene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Trichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Trichlorofluoromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Vinyl chloride	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Total MAH*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Vic EPA IWRG 621 CHC (Total)*	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Vic EPA IWRG 621 Other CHC (Total)*	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4-Bromofluorobenzene (surr.)	1	%	116	118	120	120
Toluene-d8 (surr.)	1	%	94	94	95	94
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			CSM_BH02	CSM_BH04	CSM_BH06	CSM_BH08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56188	S21-Ap56189	S21-Ap56190	S21-Ap56191
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol-d6 (surr.)	1	%	29	29	25	23
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00003
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00003
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00014
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00015
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00015
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00011
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00014
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00019
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00026
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00006
Naphthalene	0.00001	mg/L	0.00002	0.00003	0.00001	0.00002
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00004
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00028
Total PAH*	0.00001	mg/L	0.00002	0.00003	0.00001	0.0016
2-Fluorobiphenyl (surr.)	1	%	76	104	70	75
p-Terphenyl-d14 (surr.)	1	%	103	114	93	73
Ammonia (as N)	0.01	mg/L	0.17	0.07	0.04	0.15
Chloride	1	mg/L	160	82	240	110
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.5	mg/L	0.6	3.9	0.9	4.4
pH (at 25 °C)	0.1	pH Units	5.8	5.4	5.7	5.3
Sulphate (as SO4)	2	mg/L	25	33	25	47
Total Dissolved Solids Dried at 180°C ± 2°C	5	mg/L	520	260	330	250

Client Sample ID			CSM_BH02	CSM_BH04	CSM_BH06	CSM_BH08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56188	S21-Ap56189	S21-Ap56190	S21-Ap56191
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
Total Suspended Solids Dried at 103–105°C	5	mg/L	27000	1200	50	38
Hardness mg equivalent CaCO3/L	1	mg/L	410	120	210	110
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	300	100	140	100
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	300	100	140	100
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.001	< 0.001	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	0.004	< 0.001	0.001
Copper (filtered)	0.001	mg/L	< 0.001	0.003	0.006	0.007
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.001
Manganese	0.005	mg/L	4.3	1.2	0.30	0.52
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.019	0.046	0.046	0.087
Zinc (filtered)	0.005	mg/L	0.044	0.084	0.053	0.16
Alkali Metals						
Calcium	0.5	mg/L	61	14	34	15
Magnesium	0.5	mg/L	62	20	31	17
Potassium	0.5	mg/L	13	4.3	4.6	4.0
Sodium	0.5	mg/L	100	64	110	83

Client Sample ID			CSM_BH12S	SRT_BH047	SRT_BH052	GASW_BH10
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56192	S21-Ap56193	S21-Ap56194	S21-Ap56195
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	0.09
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	0.4
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	0.49
Volatile Organics						
1.1-Dichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1-Dichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.1-Trichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.1.2-Tetrachloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.2-Trichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.2.2-Tetrachloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dibromoethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2.3-Trichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2.4-Trimethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.3-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			CSM_BH12S	SRT_BH047	SRT_BH052	GASW_BH10
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56192	S21-Ap56193	S21-Ap56194	S21-Ap56195
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
Volatile Organics						
1.3-Dichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.3.5-Trimethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.4-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Butanone (MEK)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Propanone (Acetone)	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.028
4-Chlorotoluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
4-Methyl-2-pentanone (MIBK)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Allyl chloride	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromochloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromodichloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromoform	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromomethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Carbon disulfide	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Carbon Tetrachloride	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chloroform	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Chloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
cis-1.2-Dichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
cis-1.3-Dichloropropene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibromochloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibromomethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dichlorodifluoromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Iodomethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Isopropyl benzene (Cumene)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Methylene Chloride	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Styrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Tetrachloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
trans-1.2-Dichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
trans-1.3-Dichloropropene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Trichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Trichlorofluoromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Vinyl chloride	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Total MAH*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Vic EPA IWRG 621 CHC (Total)*	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Vic EPA IWRG 621 Other CHC (Total)*	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4-Bromofluorobenzene (surr.)	1	%	121	133	118	122
Toluene-d8 (surr.)	1	%	97	108	92	94

Client Sample ID			CSM_BH12S	SRT_BH047	SRT_BH052	GASW_BH10
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56192	S21-Ap56193	S21-Ap56194	S21-Ap56195
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	0.12
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	0.12
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	0.4
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	0.52
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	0.029
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol-d6 (surr.)	1	%	INT	22	25	27
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Client Sample ID			CSM_BH12S	SRT_BH047	SRT_BH052	GASW_BH10
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56192	S21-Ap56193	S21-Ap56194	S21-Ap56195
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.00001	0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	0.00001	0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	88	67	83	75
p-Terphenyl-d14 (surr.)	1	%	138	109	66	66
Ammonia (as N)	0.01	mg/L	0.24	0.05	0.11	0.04
Chloride	1	mg/L	54	19	39	160
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.5	mg/L	3.5	< 0.5	< 0.5	5.5
pH (at 25 °C)	0.1	pH Units	6.4	6.5	6.7	6.9
Sulphate (as SO4)	2	mg/L	100	11	24	< 2
Total Dissolved Solids Dried at 180°C ± 2°C	5	mg/L	170	270	230	760
Total Suspended Solids Dried at 103–105°C	5	mg/L	920	20	730	3300
Hardness mg equivalent CaCO3/L	1	mg/L	31	77	140	630
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	91	27	93	570
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	91	27	93	570
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.004	< 0.001	< 0.001	0.003
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.001
Copper (filtered)	0.001	mg/L	< 0.001	0.009	< 0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	0.001	< 0.001	< 0.001
Manganese	0.005	mg/L	0.65	0.15	0.43	0.92
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.009	0.008	< 0.001	0.003
Zinc (filtered)	0.005	mg/L	0.033	0.053	< 0.005	0.009
Alkali Metals						
Calcium	0.5	mg/L	3.3	16	45	160
Magnesium	0.5	mg/L	5.5	9.3	7.3	56
Potassium	0.5	mg/L	5.2	0.9	2.5	13
Sodium	0.5	mg/L	110	24	44	130

Client Sample ID			GASW_BH11	GASW_BH23	GASW_BH25A	QC01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56196	S21-Ap56197	S21-Ap56198	S21-Ap56199
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	0.47	3.3	< 0.02
TRH C10-C14	0.05	mg/L	0.09	0.17	0.28	< 0.05
TRH C15-C28	0.1	mg/L	0.2	0.3	0.4	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	0.29	0.47	0.68	< 0.1
Volatile Organics						
1.1-Dichloroethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
1.1-Dichloroethene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
1.1.1-Trichloroethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
1.1.1.2-Tetrachloroethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
1.1.2-Trichloroethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
1.1.2.2-Tetrachloroethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
1.2-Dibromoethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
1.2-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
1.2-Dichloroethane	0.001	mg/L	< 0.001	0.027	0.056	< 0.001
1.2-Dichloropropane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
1.2.3-Trichloropropane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
1.2.4-Trimethylbenzene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
1.3-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
1.3-Dichloropropane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
1.3.5-Trimethylbenzene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
1.4-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
2-Butanone (MEK)	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
2-Propanone (Acetone)	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
4-Chlorotoluene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
4-Methyl-2-pentanone (MIBK)	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Allyl chloride	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Benzene	0.001	mg/L	< 0.001	0.33	1.4	< 0.001
Bromobenzene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Bromochloromethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Bromodichloromethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Bromoform	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Bromomethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Carbon disulfide	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Carbon Tetrachloride	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Chlorobenzene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Chloroethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Chloroform	0.005	mg/L	< 0.005	< 0.025	< 0.05	< 0.005
Chloromethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
cis-1.2-Dichloroethene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
cis-1.3-Dichloropropene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Dibromochloromethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Dibromomethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Dichlorodifluoromethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	0.014	0.049	< 0.001
Iodomethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Isopropyl benzene (Cumene)	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.01	0.073	< 0.002
Methylene Chloride	0.001	mg/L	< 0.001	< 0.05	< 0.1	< 0.001

Client Sample ID			GASW_BH11	GASW_BH23	GASW_BH25A	QC01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56196	S21-Ap56197	S21-Ap56198	S21-Ap56199
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
Volatile Organics						
o-Xylene	0.001	mg/L	< 0.001	< 0.005	0.058	< 0.001
Styrene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Tetrachloroethene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Toluene	0.001	mg/L	< 0.001	0.007	0.46	< 0.001
trans-1.2-Dichloroethene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
trans-1.3-Dichloropropene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Trichloroethene	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Trichlorofluoromethane	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Vinyl chloride	0.001	mg/L	< 0.001	< 0.005	< 0.01	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.015	0.13	< 0.003
Total MAH*	0.003	mg/L	< 0.003	0.351	2.04	< 0.003
Vic EPA IWRG 621 CHC (Total)*	0.005	mg/L	< 0.005	< 0.05	< 0.1	< 0.005
Vic EPA IWRG 621 Other CHC (Total)*	0.005	mg/L	< 0.005	< 0.05	< 0.1	< 0.005
4-Bromofluorobenzene (surr.)	1	%	119	122	119	103
Toluene-d8 (surr.)	1	%	95	98	98	100
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.05	< 0.1	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	0.47	3.4	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	0.12	1.4	< 0.02
TRH >C10-C16	0.05	mg/L	0.17	0.23	0.34	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	0.17	0.23	0.34	< 0.05
TRH >C16-C34	0.1	mg/L	0.1	0.1	0.2	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.27	0.33	0.54	< 0.1
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	0.010	-
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	0.009	-
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Phenol	0.003	mg/L	< 0.003	< 0.003	0.020	-
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Phenol-d6 (surr.)	1	%	44	26	31	-

Client Sample ID			GASW_BH11	GASW_BH23	GASW_BH25A	QC01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56196	S21-Ap56197	S21-Ap56198	S21-Ap56199
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	0.13	< 0.05	-
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	0.1	-
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	0.10	-
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00008	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	0.00003	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	0.00002	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00011	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	0.00007	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	0.00050	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00009	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	0.0009	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	70	83	51	68
p-Terphenyl-d14 (surr.)	1	%	51	51	78	59
Ammonia (as N)	0.01	mg/L	0.27	0.40	0.37	-
Chloride	1	mg/L	36	15	13	-
Cyanide (total)	0.004	mg/L	< 0.004	0.010	0.005	-
Ferrous Iron - Fe2+	0.5	mg/L	< 0.5	4.1	1.4	-
pH (at 25 °C)	0.1	pH Units	6.3	7.3	7.5	-
Sulphate (as SO4)	2	mg/L	37	110	54	-
Total Dissolved Solids Dried at 180°C ± 2°C	5	mg/L	180	490	320	-
Total Suspended Solids Dried at 103–105°C	5	mg/L	260	19	15	-
Hardness mg equivalent CaCO3/L	1	mg/L	63	340	240	-
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	57	290	210	-
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	-
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	-
Total Alkalinity (as CaCO3)	20	mg/L	57	290	210	-
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	0.004	0.004	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.001	< 0.001	< 0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			GASW_BH11	GASW_BH23	GASW_BH25A	QC01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56196	S21-Ap56197	S21-Ap56198	S21-Ap56199
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Manganese	0.005	mg/L	0.27	0.31	0.16	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.002	< 0.001	< 0.001	0.002
Zinc (filtered)	0.005	mg/L	0.051	0.008	< 0.005	< 0.005
Alkali Metals						
Calcium	0.5	mg/L	13	130	84	-
Magnesium	0.5	mg/L	7.5	7.4	6.1	-
Potassium	0.5	mg/L	3.6	11	4.1	-
Sodium	0.5	mg/L	40	27	19	-

Client Sample ID			RB01	TRIP BLANK	TRIP SPIKE	CSM_BH10S
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56200	S21-Ap56201	S21-Ap56202	S21-Ap56245
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	-	< 0.02	-	< 0.02
TRH C10-C14	0.05	mg/L	-	-	-	< 0.05
TRH C15-C28	0.1	mg/L	-	-	-	< 0.1
TRH C29-C36	0.1	mg/L	-	-	-	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	-	-	-	< 0.1
Volatile Organics						
1.1-Dichloroethane	0.001	mg/L	-	-	-	< 0.001
1.1-Dichloroethene	0.001	mg/L	-	-	-	< 0.001
1.1.1-Trichloroethane	0.001	mg/L	-	-	-	< 0.001
1.1.1.2-Tetrachloroethane	0.001	mg/L	-	-	-	< 0.001
1.1.2-Trichloroethane	0.001	mg/L	-	-	-	< 0.001
1.1.2.2-Tetrachloroethane	0.001	mg/L	-	-	-	< 0.001
1.2-Dibromoethane	0.001	mg/L	-	-	-	< 0.001
1.2-Dichlorobenzene	0.001	mg/L	-	-	-	< 0.001
1.2-Dichloroethane	0.001	mg/L	-	-	-	< 0.001
1.2-Dichloropropane	0.001	mg/L	-	-	-	< 0.001
1.2.3-Trichloropropane	0.001	mg/L	-	-	-	< 0.001
1.2.4-Trimethylbenzene	0.001	mg/L	-	-	-	< 0.001
1.3-Dichlorobenzene	0.001	mg/L	-	-	-	< 0.001
1.3-Dichloropropane	0.001	mg/L	-	-	-	< 0.001
1.3.5-Trimethylbenzene	0.001	mg/L	-	-	-	< 0.001
1.4-Dichlorobenzene	0.001	mg/L	-	-	-	< 0.001
2-Butanone (MEK)	0.001	mg/L	-	-	-	< 0.001
2-Propanone (Acetone)	0.001	mg/L	-	-	-	< 0.001
4-Chlorotoluene	0.001	mg/L	-	-	-	< 0.001
4-Methyl-2-pentanone (MIBK)	0.001	mg/L	-	-	-	< 0.001
Allyl chloride	0.001	mg/L	-	-	-	< 0.001
Benzene	0.001	mg/L	-	-	-	< 0.001
Bromobenzene	0.001	mg/L	-	-	-	< 0.001
Bromochloromethane	0.001	mg/L	-	-	-	< 0.001
Bromodichloromethane	0.001	mg/L	-	-	-	< 0.001
Bromoform	0.001	mg/L	-	-	-	< 0.001

Client Sample ID			RB01	TRIP BLANK	TRIP SPIKE	CSM_BH10S
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56200	S21-Ap56201	S21-Ap56202	S21-Ap56245
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
Volatile Organics						
Bromomethane	0.001	mg/L	-	-	-	< 0.001
Carbon disulfide	0.001	mg/L	-	-	-	< 0.001
Carbon Tetrachloride	0.001	mg/L	-	-	-	< 0.001
Chlorobenzene	0.001	mg/L	-	-	-	< 0.001
Chloroethane	0.001	mg/L	-	-	-	< 0.001
Chloroform	0.005	mg/L	-	-	-	< 0.005
Chloromethane	0.001	mg/L	-	-	-	< 0.001
cis-1.2-Dichloroethene	0.001	mg/L	-	-	-	< 0.001
cis-1.3-Dichloropropene	0.001	mg/L	-	-	-	< 0.001
Dibromochloromethane	0.001	mg/L	-	-	-	< 0.001
Dibromomethane	0.001	mg/L	-	-	-	< 0.001
Dichlorodifluoromethane	0.001	mg/L	-	-	-	< 0.001
Ethylbenzene	0.001	mg/L	-	-	-	< 0.001
Iodomethane	0.001	mg/L	-	-	-	< 0.001
Isopropyl benzene (Cumene)	0.001	mg/L	-	-	-	< 0.001
m&p-Xylenes	0.002	mg/L	-	-	-	< 0.002
Methylene Chloride	0.001	mg/L	-	-	-	< 0.001
o-Xylene	0.001	mg/L	-	-	-	< 0.001
Styrene	0.001	mg/L	-	-	-	< 0.001
Tetrachloroethene	0.001	mg/L	-	-	-	< 0.001
Toluene	0.001	mg/L	-	-	-	< 0.001
trans-1.2-Dichloroethene	0.001	mg/L	-	-	-	< 0.001
trans-1.3-Dichloropropene	0.001	mg/L	-	-	-	< 0.001
Trichloroethene	0.001	mg/L	-	-	-	< 0.001
Trichlorofluoromethane	0.001	mg/L	-	-	-	< 0.001
Vinyl chloride	0.001	mg/L	-	-	-	< 0.001
Xylenes - Total*	0.003	mg/L	-	-	-	< 0.003
Total MAH*	0.003	mg/L	-	-	-	< 0.003
Vic EPA IWRG 621 CHC (Total)*	0.005	mg/L	-	-	-	< 0.005
Vic EPA IWRG 621 Other CHC (Total)*	0.005	mg/L	-	-	-	< 0.005
4-Bromofluorobenzene (surr.)	1	%	-	-	-	120
Toluene-d8 (surr.)	1	%	-	-	-	93
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	-	< 0.01	-	< 0.01
TRH C6-C10	0.02	mg/L	-	< 0.02	-	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	-	< 0.02	-	< 0.02
TRH >C10-C16	0.05	mg/L	-	-	-	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	-	-	-	< 0.05
TRH >C16-C34	0.1	mg/L	-	-	-	< 0.1
TRH >C34-C40	0.1	mg/L	-	-	-	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	-	-	-	< 0.1
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	-	-	-	< 0.003
2.4-Dichlorophenol	0.003	mg/L	-	-	-	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	-	-	-	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	-	-	-	< 0.01
2.6-Dichlorophenol	0.003	mg/L	-	-	-	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	-	-	-	< 0.01
Pentachlorophenol	0.01	mg/L	-	-	-	< 0.01

Client Sample ID			RB01	TRIP BLANK	TRIP SPIKE	CSM_BH10S
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56200	S21-Ap56201	S21-Ap56202	S21-Ap56245
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
Tetrachlorophenols - Total	0.03	mg/L	-	-	-	< 0.03
Total Halogenated Phenol*	0.01	mg/L	-	-	-	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	-	-	-	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	-	-	-	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	-	-	-	< 0.003
2-Nitrophenol	0.01	mg/L	-	-	-	< 0.01
2.4-Dimethylphenol	0.003	mg/L	-	-	-	< 0.003
2.4-Dinitrophenol	0.03	mg/L	-	-	-	< 0.03
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	-	-	-	< 0.006
4-Nitrophenol	0.03	mg/L	-	-	-	< 0.03
Dinoseb	0.1	mg/L	-	-	-	< 0.1
Phenol	0.003	mg/L	-	-	-	< 0.003
Total Non-Halogenated Phenol*	0.1	mg/L	-	-	-	< 0.1
Phenol-d6 (surr.)	1	%	-	-	-	34
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	-	-	-	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	-	-	-	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	-	-	-	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	-	-	-	< 0.00001
Acenaphthylene	0.00001	mg/L	-	-	-	< 0.00001
Anthracene	0.00001	mg/L	-	-	-	< 0.00001
Benz(a)anthracene	0.00001	mg/L	-	-	-	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	-	-	-	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	-	-	-	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	-	-	-	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	-	-	-	< 0.00001
Chrysene	0.00001	mg/L	-	-	-	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	-	-	-	< 0.00001
Fluoranthene	0.00001	mg/L	-	-	-	< 0.00001
Fluorene	0.00001	mg/L	-	-	-	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	-	-	-	< 0.00001
Naphthalene	0.00001	mg/L	-	-	-	0.00001
Phenanthrene	0.00001	mg/L	-	-	-	< 0.00001
Pyrene	0.00001	mg/L	-	-	-	< 0.00001
Total PAH*	0.00001	mg/L	-	-	-	0.00001
2-Fluorobiphenyl (surr.)	1	%	-	-	-	64
p-Terphenyl-d14 (surr.)	1	%	-	-	-	75
Ammonia (as N)	0.01	mg/L	-	-	-	0.13
Chloride	1	mg/L	-	-	-	21
Cyanide (total)	0.004	mg/L	-	-	-	< 0.004
Ferrous Iron - Fe2+	0.5	mg/L	-	-	-	< 0.5

Client Sample ID			RB01	TRIP BLANK	TRIP SPIKE	CSM_BH10S
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56200	S21-Ap56201	S21-Ap56202	S21-Ap56245
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
pH (at 25 °C)	0.1	pH Units	-	-	-	5.8
Sulphate (as SO4)	2	mg/L	-	-	-	51
Total Dissolved Solids Dried at 180°C ± 2°C	5	mg/L	-	-	-	150
Total Suspended Solids Dried at 103–105°C	5	mg/L	-	-	-	150
Hardness mg equivalent CaCO3/L	1	mg/L	-	-	-	38
TRH C6-C10	1	%	-	-	58	-
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	-	-	-	21
Carbonate Alkalinity (as CaCO3)	10	mg/L	-	-	-	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	-	-	-	< 20
Total Alkalinity (as CaCO3)	20	mg/L	-	-	-	21
Heavy Metals						
Arsenic	0.001	mg/L	< 0.001	-	-	-
Arsenic (filtered)	0.001	mg/L	-	-	-	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	-	-	-
Cadmium (filtered)	0.0002	mg/L	-	-	-	< 0.0002
Chromium	0.001	mg/L	< 0.001	-	-	-
Chromium (filtered)	0.001	mg/L	-	-	-	< 0.001
Copper	0.001	mg/L	< 0.001	-	-	-
Copper (filtered)	0.001	mg/L	-	-	-	0.001
Lead	0.001	mg/L	< 0.001	-	-	-
Lead (filtered)	0.001	mg/L	-	-	-	< 0.001
Manganese	0.005	mg/L	-	-	-	0.56
Mercury	0.0001	mg/L	< 0.0001	-	-	-
Mercury (filtered)	0.0001	mg/L	-	-	-	< 0.0001
Nickel	0.001	mg/L	< 0.001	-	-	-
Nickel (filtered)	0.001	mg/L	-	-	-	0.002
Zinc	0.005	mg/L	< 0.005	-	-	-
Zinc (filtered)	0.005	mg/L	-	-	-	< 0.005
Alkali Metals						
Calcium	0.5	mg/L	-	-	-	5.0
Magnesium	0.5	mg/L	-	-	-	6.1
Potassium	0.5	mg/L	-	-	-	3.0
Sodium	0.5	mg/L	-	-	-	34
BTEX						
Benzene	0.001	mg/L	-	< 0.001	-	-
Toluene	0.001	mg/L	-	< 0.001	-	-
Ethylbenzene	0.001	mg/L	-	< 0.001	-	-
m&p-Xylenes	0.002	mg/L	-	< 0.002	-	-
o-Xylene	0.001	mg/L	-	< 0.001	-	-
Xylenes - Total*	0.003	mg/L	-	< 0.003	-	-
4-Bromofluorobenzene (surr.)	1	%	-	105	-	-
Total Recoverable Hydrocarbons						
Naphthalene	1	%	-	-	88	-
TRH C6-C9	1	%	-	-	60	-

Client Sample ID			RB01	TRIP BLANK	TRIP SPIKE	CSM_BH10S
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap56200	S21-Ap56201	S21-Ap56202	S21-Ap56245
Date Sampled			Apr 27, 2021	Apr 27, 2021	Apr 27, 2021	Apr 27, 2021
Test/Reference	LOR	Unit				
BTEX						
Benzene	1	%	-	-	95	-
Ethylbenzene	1	%	-	-	87	-
m&p-Xylenes	1	%	-	-	94	-
o-Xylene	1	%	-	-	84	-
Toluene	1	%	-	-	89	-
Xylenes - Total	1	%	-	-	87	-
4-Bromofluorobenzene (surr.)	1	%	-	-	102	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 05, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 05, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Sydney	Apr 30, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Apr 30, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Volatile Organics	Melbourne	May 05, 2021	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices			
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices (USEPA 8260)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 05, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8 filtered	Sydney	May 06, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (Halogenated)	Sydney	Apr 30, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Sydney	Apr 30, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
TRH - 2013 NEPM Fractions (after silica gel clean-up)	Sydney	Apr 30, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Sydney	Apr 30, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	May 04, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Ammonia (as N)	Sydney	May 02, 2021	28 Days
- Method: LTM-INO-4200 Ammonia by Discrete Analyser			
Cyanide (total)	Sydney	May 02, 2021	14 Days
- Method: E054 Total Cyanide			
Ferrous Iron - Fe2+	Sydney	May 02, 2021	7 Days
- Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser			
pH (at 25 °C)	Sydney	May 02, 2021	1 Days
- Method: LTM-GEN-7090 pH in water by ISE			
Total Suspended Solids Dried at 103–105°C	Sydney	May 02, 2021	7 Days
- Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry			
Metals M8	Sydney	May 06, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Heavy Metals	Sydney	May 06, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11E: Cl/SO4/Alkalinity			
Chloride	Sydney	Apr 30, 2021	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Sulphate (as SO4)	Sydney	Apr 30, 2021	28 Days
- Method: E045 Anions by Ion Chromatography			
Alkalinity (speciated)	Melbourne	May 04, 2021	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Total Dissolved Solids Dried at 180°C ± 2°C	Sydney	Apr 30, 2021	7 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			
Eurofins Suite B11D: Na/K/Ca/Mg and Hardness			
Hardness mg equivalent CaCO3/L	Sydney	May 06, 2021	28 Days
- Method: E020.1 Hardness in water			

Description	Testing Site	Extracted	Holding Time
Alkali Metals	Sydney	May 06, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

eurofins | Environment Testing

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Company Name:	GHD Pty Ltd NSW	**Order No.:**	2127234
Address:	Level 15, 133 Castlereagh Street Sydney NSW 2000	**Report #:**	791517
		Phone:	02 9239 7100
		Fax:	02 9239 7199
Project Name:	CENTRAL		
Project ID:	2127234		

Received:	Apr 29, 2021 1:30 PM
Due:	May 6, 2021
Priority:	5 Day
Contact Name:	Terry Nham

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Ammonia (as N)	Cyanide (total)	Ferrous Iron - Fe2+	Manganese	pH (at 25 °C)	Total Suspended Solids Dried at 103–105°C	Metals M8	Phenols (IWRG 621)	TRH (after Silica Gel cleanup)	Eurofins Suite B8 (filtered metals)	BTEXN and Volatile TRH	Eurofins Suite B11D: Na/K/Ca/Mg and Hardness	Eurofins Suite B11E: Cl/SO4/Alkalinity	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	Total Dissolved Solids Dried at 180°C ± 2°C
Melbourne Laboratory - NATA Site # 1254 & 14271															X	X		X		X	
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
Brisbane Laboratory - NATA Site # 20794																					
Perth Laboratory - NATA Site # 23736																					
Mayfield Laboratory - NATA Site # 25079																					
External Laboratory																					
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**																
1	CSM_BH02	Apr 27, 2021		Water	S21-Ap56188	X	X	X	X	X	X		X	X	X		X	X		X	X
2	CSM_BH04	Apr 27, 2021		Water	S21-Ap56189	X	X	X	X	X	X		X	X	X		X	X		X	X
3	CSM_BH06	Apr 27, 2021		Water	S21-Ap56190	X	X	X	X	X	X		X	X	X		X	X		X	X
4	CSM_BH08	Apr 27, 2021		Water	S21-Ap56191	X	X	X	X	X	X		X	X	X		X	X		X	X
5	CSM_BH12S	Apr 27, 2021		Water	S21-Ap56192	X	X	X	X	X	X		X	X	X		X	X		X	X
6	SRT_BH047	Apr 27, 2021		Water	S21-Ap56193	X	X	X	X	X	X		X	X	X		X	X		X	X
7	SRT_BH052	Apr 27, 2021		Water	S21-Ap56194	X	X	X	X	X	X		X	X	X		X	X		X	X
8	GASW_BH10	Apr 27, 2021		Water	S21-Ap56195	X	X	X	X	X	X		X	X	X		X	X		X	X
9	GASW_BH11	Apr 27, 2021		Water	S21-Ap56196	X	X	X	X	X	X		X	X	X		X	X		X	X

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NSW 2000

Project Name: CENTRAL
Project ID: 2127234

Order No.: 2127234
Report #: 791517
Phone: 02 9239 7100
Fax: 02 9239 7199

Received: Apr 29, 2021 1:30 PM
Due: May 6, 2021
Priority: 5 Day
Contact Name: Terry Nham

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Ammonia (as N)	Cyanide (total)	Ferrous Iron - Fe2+	Manganese	pH (at 25 °C)	Total Suspended Solids Dried at 103–105°C	Metals M8	Phenols (IWRG 621)	TRH (after Silica Gel cleanup)	Eurofins Suite B8 (filtered metals)	BTEXN and Volatile TRH	Eurofins Suite B11D: Na/K/Ca/Mg and Hardness	Eurofins Suite B11E: Cl/SO4/Alkalinity	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	Total Dissolved Solids Dried at 180°C ± 2°C
Melbourne Laboratory - NATA Site # 1254 & 14271															X	X		X		X	
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
Brisbane Laboratory - NATA Site # 20794																					
Perth Laboratory - NATA Site # 23736																					
Mayfield Laboratory - NATA Site # 25079																					
External Laboratory																					
10	GASW_BH23	Apr 27, 2021		Water	S21-Ap56197	X	X	X	X	X	X		X	X	X		X	X		X	X
11	GASW_BH25A	Apr 27, 2021		Water	S21-Ap56198	X	X	X	X	X	X		X	X	X		X	X		X	X
12	QC01	Apr 27, 2021		Water	S21-Ap56199										X					X	
13	RB01	Apr 27, 2021		Water	S21-Ap56200							X									
14	TRIP BLANK	Apr 27, 2021		Water	S21-Ap56201											X					
15	TRIP SPIKE	Apr 27, 2021		Water	S21-Ap56202														X		
16	CSM_BH10S	Apr 27, 2021		Water	S21-Ap56245	X	X	X	X	X	X		X	X	X		X	X		X	X
Test Counts						12	12	12	12	12	12	1	12	12	13	1	12	12	1	13	12

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1.1-Dichloroethene	mg/L	< 0.001			0.001	Pass	
1.1.1-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.1.2-Tetrachloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2.2-Tetrachloroethane	mg/L	< 0.001			0.001	Pass	
1.2-Dibromoethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.2-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.3-Trichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.4-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.3.5-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.4-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
2-Butanone (MEK)	mg/L	< 0.001			0.001	Pass	
2-Propanone (Acetone)	mg/L	< 0.001			0.001	Pass	
4-Chlorotoluene	mg/L	< 0.001			0.001	Pass	
4-Methyl-2-pentanone (MIBK)	mg/L	< 0.001			0.001	Pass	
Allyl chloride	mg/L	< 0.001			0.001	Pass	
Benzene	mg/L	< 0.001			0.001	Pass	
Bromobenzene	mg/L	< 0.001			0.001	Pass	
Bromochloromethane	mg/L	< 0.001			0.001	Pass	
Bromodichloromethane	mg/L	< 0.001			0.001	Pass	
Bromoform	mg/L	< 0.001			0.001	Pass	
Bromomethane	mg/L	< 0.001			0.001	Pass	
Carbon disulfide	mg/L	< 0.001			0.001	Pass	
Carbon Tetrachloride	mg/L	< 0.001			0.001	Pass	
Chlorobenzene	mg/L	< 0.001			0.001	Pass	
Chloroethane	mg/L	< 0.001			0.001	Pass	
Chloroform	mg/L	< 0.005			0.005	Pass	
Chloromethane	mg/L	< 0.001			0.001	Pass	
cis-1.2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
cis-1.3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Dibromochloromethane	mg/L	< 0.001			0.001	Pass	
Dibromomethane	mg/L	< 0.001			0.001	Pass	
Dichlorodifluoromethane	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
Iodomethane	mg/L	< 0.001			0.001	Pass	
Isopropyl benzene (Cumene)	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
Methylene Chloride	mg/L	< 0.001			0.001	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Styrene	mg/L	< 0.001			0.001	Pass	
Tetrachloroethene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
trans-1.2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
trans-1.3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Trichloroethene	mg/L	< 0.001			0.001	Pass	
Trichlorofluoromethane	mg/L	< 0.001			0.001	Pass	
Vinyl chloride	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Total PAH*	mg/L	-			0.00001	N/A	
Method Blank							
Chloride	mg/L	< 1			1	Pass	
Cyanide (total)	mg/L	< 0.004			0.004	Pass	
Sulphate (as SO4)	mg/L	< 2			2	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	mg/L	< 5			5	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Carbonate Alkalinity (as CaCO3)	mg/L	< 10			10	Pass	
Hydroxide Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Total Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese	mg/L	< 0.005			0.005	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	90			70-130	Pass	
TRH C10-C14	%	77			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethene	%	108			70-130	Pass	
1.1.1-Trichloroethane	%	103			70-130	Pass	
1.2-Dichlorobenzene	%	95			70-130	Pass	
1.2-Dichloroethane	%	113			70-130	Pass	
Benzene	%	123			70-130	Pass	
Ethylbenzene	%	117			70-130	Pass	
m&p-Xylenes	%	121			70-130	Pass	
o-Xylene	%	118			70-130	Pass	
Toluene	%	115			70-130	Pass	
Trichloroethene	%	100			70-130	Pass	
Xylenes - Total*	%	120			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	96			70-130	Pass	
TRH C6-C10	%	87			70-130	Pass	
TRH >C10-C16	%	78			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	88			30-130	Pass	
2.4-Dichlorophenol	%	102			30-130	Pass	
2.4.5-Trichlorophenol	%	93			30-130	Pass	
2.4.6-Trichlorophenol	%	105			30-130	Pass	
2.6-Dichlorophenol	%	95			30-130	Pass	
4-Chloro-3-methylphenol	%	118			30-130	Pass	
Pentachlorophenol	%	96			30-130	Pass	
Tetrachlorophenols - Total	%	102			30-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	126			30-130	Pass	
2-Methyl-4.6-dinitrophenol	%	126			30-130	Pass	
2-Methylphenol (o-Cresol)	%	74			30-130	Pass	
2-Nitrophenol	%	108			30-130	Pass	
2.4-Dimethylphenol	%	73			30-130	Pass	
2.4-Dinitrophenol	%	109			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	%	89			30-130	Pass	
4-Nitrophenol	%	62			30-130	Pass	
Dinoseb	%	119			30-130	Pass	
Phenol	%	70			30-130	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	104			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	105			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	109			70-130	Pass	
Acenaphthylene	%	94			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Anthracene	%	90			70-130	Pass	
Benz(a)anthracene	%	109			70-130	Pass	
Benzo(a)pyrene	%	77			70-130	Pass	
Benzo(b&j)fluoranthene	%	122			70-130	Pass	
Benzo(g.h.i)perylene	%	106			70-130	Pass	
Benzo(k)fluoranthene	%	117			70-130	Pass	
Chrysene	%	128			70-130	Pass	
Dibenz(a.h)anthracene	%	84			70-130	Pass	
Fluoranthene	%	128			70-130	Pass	
Fluorene	%	128			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	96			70-130	Pass	
Naphthalene	%	100			70-130	Pass	
Phenanthrene	%	121			70-130	Pass	
Pyrene	%	129			70-130	Pass	
LCS - % Recovery							
Chloride	%	89			70-130	Pass	
Cyanide (total)	%	92			70-130	Pass	
Sulphate (as SO4)	%	101			70-130	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	%	98			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Carbonate Alkalinity (as CaCO3)	%	106			70-130	Pass	
Total Alkalinity (as CaCO3)	%	115			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	100			80-120	Pass	
Arsenic (filtered)	%	98			80-120	Pass	
Cadmium	%	98			80-120	Pass	
Cadmium (filtered)	%	97			80-120	Pass	
Chromium	%	99			80-120	Pass	
Chromium (filtered)	%	97			80-120	Pass	
Copper	%	96			80-120	Pass	
Copper (filtered)	%	98			80-120	Pass	
Lead	%	93			80-120	Pass	
Lead (filtered)	%	98			80-120	Pass	
Manganese	%	99			80-120	Pass	
Mercury	%	96			80-120	Pass	
Mercury (filtered)	%	97			80-120	Pass	
Nickel	%	98			80-120	Pass	
Nickel (filtered)	%	102			80-120	Pass	
Zinc	%	96			80-120	Pass	
Zinc (filtered)	%	94			80-120	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	112			80-120	Pass	
Magnesium	%	100			80-120	Pass	
Potassium	%	96			80-120	Pass	
Sodium	%	103			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Alkalinity (speciated)				Result 1					
Carbonate Alkalinity (as CaCO3)	M21-My02680	NCP	%	83			70-130	Pass	
Spike - % Recovery									
				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cyanide (total)	S21-Ap56245	CP	%	89			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Ap56245	CP	%	94			75-125	Pass	
Arsenic (filtered)	S21-Ap56245	CP	%	95			75-125	Pass	
Cadmium	S21-Ap56245	CP	%	92			75-125	Pass	
Cadmium (filtered)	S21-Ap56245	CP	%	94			75-125	Pass	
Chromium	S21-Ap56245	CP	%	94			75-125	Pass	
Chromium (filtered)	S21-Ap56245	CP	%	93			75-125	Pass	
Copper	S21-Ap56245	CP	%	91			75-125	Pass	
Copper (filtered)	S21-Ap56245	CP	%	94			75-125	Pass	
Lead	S21-Ap56245	CP	%	87			75-125	Pass	
Lead (filtered)	S21-Ap56245	CP	%	94			75-125	Pass	
Manganese	S21-Ap56245	CP	%	95			75-125	Pass	
Mercury	S21-Ap56245	CP	%	91			75-125	Pass	
Mercury (filtered)	S21-Ap56245	CP	%	88			75-125	Pass	
Nickel	S21-Ap56245	CP	%	91			75-125	Pass	
Nickel (filtered)	S21-Ap56245	CP	%	97			75-125	Pass	
Zinc	S21-Ap56245	CP	%	94			75-125	Pass	
Zinc (filtered)	S21-Ap56245	CP	%	93			75-125	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	S21-Ap56245	CP	%	100			75-125	Pass	
Magnesium	S21-Ap56245	CP	%	94			75-125	Pass	
Potassium	S21-Ap56245	CP	%	85			75-125	Pass	
Sodium	S21-Ap56245	CP	%	96			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S21-Ap57930	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	S21-Ap57930	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	S21-Ap57930	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S21-Ap57930	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	S21-Ap57930	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	S21-Ap57930	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	S21-My01625	NCP	mg/L	0.01	0.02	13	30%	Pass	
Hardness mg equivalent CaCO3/L	S21-My02219	NCP	mg/L	47	48	2.0	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M21-My00681	NCP	mg/L	740	790	6.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M21-My00681	NCP	mg/L	< 10	< 10	<1	30%	Pass	
Hydroxide Alkalinity (as CaCO3)	M21-My00681	NCP	mg/L	< 20	< 20	<1	30%	Pass	
Total Alkalinity (as CaCO3)	M21-My00681	NCP	mg/L	740	790	6.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Ap56188	CP	mg/L	0.062	0.063	1.0	30%	Pass	
Arsenic (filtered)	S21-Ap56188	CP	mg/L	0.001	0.001	4.0	30%	Pass	
Cadmium	S21-Ap56188	CP	mg/L	0.0020	0.0019	8.0	30%	Pass	
Cadmium (filtered)	S21-Ap56188	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	S21-Ap56188	CP	mg/L	0.49	0.49	2.0	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Chromium (filtered)	S21-Ap56188	CP	mg/L	< 0.001	0.001	11	30%	Pass	
Copper	S21-Ap56188	CP	mg/L	0.29	0.29	2.0	30%	Pass	
Copper (filtered)	S21-Ap56188	CP	mg/L	< 0.001	0.001	13	30%	Pass	
Lead	S21-Ap56188	CP	mg/L	0.54	0.52	4.0	30%	Pass	
Lead (filtered)	S21-Ap56188	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese	S21-Ap56188	CP	mg/L	4.3	4.5	5.0	30%	Pass	
Mercury	S21-Ap56188	CP	mg/L	0.0008	0.0008	2.0	30%	Pass	
Mercury (filtered)	S21-Ap56188	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S21-Ap56188	CP	mg/L	0.17	0.17	2.0	30%	Pass	
Nickel (filtered)	S21-Ap56188	CP	mg/L	0.019	0.021	11	30%	Pass	
Zinc	S21-Ap56188	CP	mg/L	1.0	1.1	2.0	30%	Pass	
Zinc (filtered)	S21-Ap56188	CP	mg/L	0.044	0.048	10	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	S21-Ap56188	CP	mg/L	61	62	2.0	30%	Pass	
Magnesium	S21-Ap56188	CP	mg/L	62	63	2.0	30%	Pass	
Potassium	S21-Ap56188	CP	mg/L	13	13	3.0	30%	Pass	
Sodium	S21-Ap56188	CP	mg/L	100	100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Ap56189	CP	mg/L	0.005	0.005	12	30%	Pass	
Arsenic (filtered)	S21-Ap56189	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	S21-Ap56189	CP	mg/L	0.0003	0.0003	6.0	30%	Pass	
Cadmium (filtered)	S21-Ap56189	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	S21-Ap56189	CP	mg/L	0.052	0.048	8.0	30%	Pass	
Chromium (filtered)	S21-Ap56189	CP	mg/L	0.004	0.001	92	30%	Fail	Q15
Copper	S21-Ap56189	CP	mg/L	0.055	0.050	10	30%	Pass	
Copper (filtered)	S21-Ap56189	CP	mg/L	0.003	0.003	2.0	30%	Pass	
Lead	S21-Ap56189	CP	mg/L	0.024	0.022	9.0	30%	Pass	
Lead (filtered)	S21-Ap56189	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese	S21-Ap56189	CP	mg/L	1.2	1.2	2.0	30%	Pass	
Mercury	S21-Ap56189	CP	mg/L	0.0002	0.0001	17	30%	Pass	
Mercury (filtered)	S21-Ap56189	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S21-Ap56189	CP	mg/L	0.10	0.10	3.0	30%	Pass	
Nickel (filtered)	S21-Ap56189	CP	mg/L	0.046	0.046	1.0	30%	Pass	
Zinc	S21-Ap56189	CP	mg/L	0.19	0.19	3.0	30%	Pass	
Zinc (filtered)	S21-Ap56189	CP	mg/L	0.084	0.083	1.0	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	S21-Ap56189	CP	mg/L	14	14	1.0	30%	Pass	
Magnesium	S21-Ap56189	CP	mg/L	20	20	<1	30%	Pass	
Potassium	S21-Ap56189	CP	mg/L	4.3	4.3	<1	30%	Pass	
Sodium	S21-Ap56189	CP	mg/L	64	66	4.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Suspended Solids Dried at 103–105°C	S21-Ap56193	CP	mg/L	20	22	7.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Dissolved Solids Dried at 180°C ± 2°C	S21-Ap56194	CP	mg/L	230	240	6.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	S21-Ap56195	CP	mg/L	160	160	<1	30%	Pass	
Sulphate (as SO4)	S21-Ap56195	CP	mg/L	< 2	< 2	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-My04883	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	S21-My04883	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	S21-My04883	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	S21-My04883	NCP	mg/L	0.002	0.002	3.0	30%	Pass	
Lead	S21-My04883	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	S21-My04883	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S21-My04883	NCP	mg/L	0.001	< 0.001	9.0	30%	Pass	
Zinc	S21-My04883	NCP	mg/L	0.014	0.014	6.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	S21-Ap56245	CP	mg/L	< 0.004	< 0.004	<1	30%	Pass	
Ferrous Iron - Fe2+	S21-Ap56245	CP	mg/L	< 0.5	< 0.5	<1	30%	Pass	

Comments

This report has been revised (V2) to exclude PAH standard LORs.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Elvis Dsouza	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Charl Du Preez	Senior Analyst-Inorganic (NSW)
John Nguyen	Senior Analyst-Metal (NSW)
Joseph Edouard	Senior Analyst-Organic (VIC)
Roopesh Rangarajan	Senior Analyst-Volatile (NSW)
Scott Beddoes	Senior Analyst-Inorganic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : GHD Pty Ltd, Sydney	**Contact Name :** Terry Nham / Charlotte Gray	**Purchase Order :** 2127234	**COC Number :**
Office Address : Level 15, 133 Castlereagh Street, Sydney NSW 2000	**Project Manager :** Henry Luo	**PROJECT Number :** 2127234	**Eurofins | mgt quote ID :** GHD Rates 2020/2021
	Email for results : terry.nham@ghd.com henry.luo@ghd.com charlotte.gray@ghd.com	**PROJECT Name :** Central	**Data output format:** ESDAT

Special Directions & Comments :

Eurofins | mgt DI water batch number: S320

Analytes

	Sample ID	Date	Matrix	TRH, BTEXN, 8 Metals (Dissolved) (Suite B6)	PAH - Trace LOR	Phenols		TRH (with Silica Gel Cleanup)	Cyanide - Trace Level (<0.004 mg/L)	Ammonia	Cation (B11D) and Anion (B11E)		Ferrous Iron	Manganese (Dissolved)	pH	TDS	TSS		TRH C6-C10 / BTEX	8 Metals (Total)					
1	CSM_BH02	25/5	Water	X	X	X		X	X	X	X		X	X	X	X	X								
2	CSM_BH04	25/5	Water	X	X	X		X	X	X	X		X	X	X	X	X								
3	CSM_BH06	25/5	Water	X	X	X		X	X	X	X		X	X	X	X	X								
4	CSM_BH08	27/5	Water	X	X	X		X	X	X	X		X	X	X	X	X								
5	CSM_BH10S	26/5	Water	X	X	X		X	X	X	X		X	X	X	X	X								
6	CSM_BH12S	26/5	Water	X	X	X		X	X	X	X		X	X	X	X	X								
7	SRT_BH047	27/5	Water	X	X	X		X	X	X	X		X	X	X	X	X								
8	SRT_BH052	27/5	Water	X	X	X		X	X	X	X		X	X	X	X	X								
9	GASW_BH10	25/5	Water	X	X	X		X	X	X	X		X	X	X	X	X								
10	GASW_BH11	26/5	Water	X	X	X		X	X	X	X		X	X	X	X	X								
11	GASW_BH23	26/5	Water	X	X	X		X	X	X	X		X	X	X	X	X								
12	GASW_BH25A	26/5	Water	X	X	X		X	X	X	X		X	X	X	X	X								
13	QC01	25/5	Water	X	X																				
14	RB01	26/5	Water																	X					
15	Trip Blank	25/5	Water																X						
16	Trip Spike	25/5	Water																X						

Some common holding times (with correct preservation).
For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

500P	250P	60P	1LA	40mL vial	200mL A	Jar	Bag
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	1		
1		4		2	2		
1		4		2	2		
1		4		2	2		
		1		2	2		
		1					
				2			
				2			

Sample comments:

Laboratory Staff

Relinquished By: Terry Nham - GHD
Date & Time : 27/5/2021
Signature:

Received By: Lina D
Date & Time: 27/05/21 3:10 PM
Signature:

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☒ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☒ Hand Delivered
☐ Postal
Courier Consignment # :

Temperature on arrival: 0,15°C

Report number: 799115

eurofins | Environment Testing

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	GHD Pty Ltd NSW
Contact name:	Terry Nham
Project name:	CENTRAL
Project ID:	2127234
Turnaround time:	5 Day
Date/Time received	May 27, 2021 3:10 PM
Eurofins reference	799115

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : .2 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Elvis Dsouza on phone : or by email: ElvisDsouza@eurofins.com

Results will be delivered electronically via email to Terry Nham - Terry.Nham@ghd.com.

Note: A copy of these results will also be delivered to the general GHD Pty Ltd NSW email address.

GHD Pty Ltd NSW
Level 15, 133 Castlereagh Street
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Terry Nham**

Report **799115-W**
Project name CENTRAL
Project ID 2127234
Received Date May 27, 2021

Client Sample ID			**CSM_BH02**	**CSM_BH04**	**CSM_BH06**	**CSM_BH08**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-My59588**	**M21-My59589**	**M21-My59590**	**M21-My59591**
Date Sampled			**May 25, 2021**	**May 25, 2021**	**May 25, 2021**	**May 27, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	82	59	91	87
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			CSM_BH02	CSM_BH04	CSM_BH06	CSM_BH08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-My59588	M21-My59589	M21-My59590	M21-My59591
Date Sampled			May 25, 2021	May 25, 2021	May 25, 2021	May 27, 2021
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol-d6 (surr.)	1	%	54	46	63	53
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00010
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00008
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00007
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00004
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00007
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00008
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00011
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00014
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00071
2-Fluorobiphenyl (surr.)	1	%	84	74	91	95
p-Terphenyl-d14 (surr.)	1	%	53	80	55	61
Ammonia (as N)	0.01	mg/L	0.06	0.08	0.02	0.13
Chloride	1	mg/L	190	94	220	130
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.05	mg/L	0.33	5.3	2.7	1.2
pH (at 25 °C)	0.1	pH Units	7.3	6.8	6.7	7.2
Sulphate (as SO4)	5	mg/L	31	32	28	46
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	580	280	560	380

Client Sample ID			CSM_BH02	CSM_BH04	CSM_BH06	CSM_BH08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-My59588	M21-My59589	M21-My59590	M21-My59591
Date Sampled			May 25, 2021	May 25, 2021	May 25, 2021	May 27, 2021
Test/Reference	LOR	Unit				
Total Suspended Solids Dried at 103–105°C	1	mg/L	7700	1200	130	50
Hardness mg equivalent CaCO3/L	5	mg/L	280	84	190	110
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	360	98	150	140
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	360	98	150	140
Alkali Metals						
Calcium	0.5	mg/L	45	8.6	26	13
Magnesium	0.5	mg/L	41	15	30	19
Potassium	0.5	mg/L	< 5	< 5	< 5	< 5
Sodium	0.5	mg/L	120	66	110	94
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.004	< 0.001	0.018	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.37	0.40	0.44	0.40
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.010	0.057	0.012	0.004
Zinc (filtered)	0.005	mg/L	0.020	0.064	0.066	0.023

Client Sample ID			CSM_BH10S	CSM_BH12S	SRT_BH047	SRT_BH052
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-My59592	M21-My59593	M21-My59594	M21-My59595
Date Sampled			May 26, 2021	May 26, 2021	May 27, 2021	May 27, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	0.10	0.06	< 0.05	0.12
TRH C15-C28	0.1	mg/L	0.7	0.5	0.5	0.5
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	0.8	0.56	0.5	0.62
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	87	92	90	92
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	0.11	0.06	< 0.05	0.11

Client Sample ID			CSM_BH10S	CSM_BH12S	SRT_BH047	SRT_BH052
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-My59592	M21-My59593	M21-My59594	M21-My59595
Date Sampled			May 26, 2021	May 26, 2021	May 27, 2021	May 27, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	0.11	0.06	< 0.05	0.11
TRH >C16-C34	0.1	mg/L	0.7	0.6	0.5	0.5
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.81	0.66	0.5	0.61
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol-d6 (surr.)	1	%	55	30	32	67
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	0.07
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	0.1	< 0.1	0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	0.1	< 0.1	0.1	< 0.1
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	0.08
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	0.1	< 0.1	0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Client Sample ID			CSM_BH10S	CSM_BH12S	SRT_BH047	SRT_BH052
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-My59592	M21-My59593	M21-My59594	M21-My59595
Date Sampled			May 26, 2021	May 26, 2021	May 27, 2021	May 27, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	85	62	54	109
p-Terphenyl-d14 (surr.)	1	%	55	57	96	99
Ammonia (as N)	0.01	mg/L	0.03	0.06	< 0.01	0.15
Chloride	1	mg/L	23	67	21	45
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.05	mg/L	< 0.05	5.5	< 0.05	< 0.05
pH (at 25 °C)	0.1	pH Units	6.3	6.9	7.1	7.0
Sulphate (as SO4)	5	mg/L	52	110	11	34
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	190	370	250	230
Total Suspended Solids Dried at 103–105°C	1	mg/L	140	100	13	52
Hardness mg equivalent CaCO3/L	5	mg/L	38	22	120	31
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	24	100	48	47
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	24	100	48	47
Alkali Metals						
Calcium	0.5	mg/L	< 5	< 5	33	12
Magnesium	0.5	mg/L	6.3	< 5	8.2	< 5
Potassium	0.5	mg/L	< 5	< 5	< 5	< 5
Sodium	0.5	mg/L	36	110	26	49
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	0.003	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.55	0.48	0.009	< 0.005
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.001	0.016	< 0.001	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005	0.052	< 0.005	< 0.005

Client Sample ID			GASW_BH10	GASW_BH11	GASW_BH23	GASW_BH25A
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-My59596	M21-My59597	M21-My59598	M21-My59599
Date Sampled			May 25, 2021	May 26, 2021	May 26, 2021	May 26, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	0.18	1.0
TRH C10-C14	0.05	mg/L	0.13	0.18	0.19	0.32
TRH C15-C28	0.1	mg/L	0.6	0.7	0.8	0.9
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	0.1
TRH C10-C36 (Total)	0.1	mg/L	0.73	0.88	0.99	1.32
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	0.12	0.50
Toluene	0.001	mg/L	< 0.001	< 0.001	0.002	0.20
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	0.006	0.028
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	0.030
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.027
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	0.057
4-Bromofluorobenzene (surr.)	1	%	95	87	95	86
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	0.18	1.0
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	0.05	0.22
TRH >C10-C16	0.05	mg/L	0.16	0.30	0.26	0.37
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	0.16	0.3	0.26	0.37
TRH >C16-C34	0.1	mg/L	0.6	0.6	0.8	0.9
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.76	0.9	1.06	1.27
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	0.015	< 0.006	< 0.006	< 0.006
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol-d6 (surr.)	1	%	38	26	39	41
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	0.09	0.10	0.24
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	0.2	0.1	0.1	0.3
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			GASW_BH10	GASW_BH11	GASW_BH23	GASW_BH25A
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-My59596	M21-My59597	M21-My59598	M21-My59599
Date Sampled			May 25, 2021	May 26, 2021	May 26, 2021	May 26, 2021
Test/Reference	LOR	Unit				
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	0.1	0.27	0.27	0.64
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	0.07	0.07	0.24
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	0.1	0.2	0.2	0.4
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00007	0.00012
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00008	0.00014
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	0.00015	0.00026
2-Fluorobiphenyl (surr.)	1	%	54	55	95	83
p-Terphenyl-d14 (surr.)	1	%	92	69	50	50
Ammonia (as N)	0.01	mg/L	0.03	0.16	0.57	0.33
Chloride	1	mg/L	170	42	23	11
Cyanide (total)	0.004	mg/L	0.004	< 0.004	0.009	0.005
Ferrous Iron - Fe2+	0.05	mg/L	0.59	0.33	6.1	1.0
pH (at 25 °C)	0.1	pH Units	7.5	6.8	7.9	8.2
Sulphate (as SO4)	5	mg/L	< 5	39	89	54
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	810	210	410	310
Total Suspended Solids Dried at 103–105°C	1	mg/L	49	360	10	4.1
Hardness mg equivalent CaCO3/L	5	mg/L	380	32	280	220
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	600	74	260	220
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	600	74	260	220
Alkali Metals						
Calcium	0.5	mg/L	83	4.6	100	77
Magnesium	0.5	mg/L	42	4.9	6.9	6.2
Potassium	0.5	mg/L	11	1.4	9.0	3.8
Sodium	0.5	mg/L	130	36	25	18
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	0.003	0.003
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	0.001	< 0.001	< 0.001

Client Sample ID			GASW_BH10	GASW_BH11	GASW_BH23	GASW_BH25A
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-My59596	M21-My59597	M21-My59598	M21-My59599
Date Sampled			May 25, 2021	May 26, 2021	May 26, 2021	May 26, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.11	0.13	0.28	0.13
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.002	0.002	< 0.001	< 0.001
Zinc (filtered)	0.005	mg/L	0.014	0.044	0.016	< 0.005

Client Sample ID			QC01	RB01	TRIP BLANK	TRIP SPIKE
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-My59600	M21-My59601	M21-My59602	M21-My59603
Date Sampled			May 25, 2021	May 26, 2021	May 25, 2021	May 25, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	-	< 0.02	71
TRH C10-C14	0.05	mg/L	< 0.05	-	-	-
TRH C15-C28	0.1	mg/L	0.1	-	-	-
TRH C29-C36	0.1	mg/L	< 0.1	-	-	-
TRH C10-C36 (Total)	0.1	mg/L	0.1	-	-	-
BTEX						
Benzene	0.001	mg/L	< 0.001	-	< 0.001	73
Toluene	0.001	mg/L	< 0.001	-	< 0.001	70
Ethylbenzene	0.001	mg/L	< 0.001	-	< 0.001	81
m&p-Xylenes	0.002	mg/L	< 0.002	-	< 0.002	72
o-Xylene	0.001	mg/L	< 0.001	-	< 0.001	77
Xylenes - Total*	0.003	mg/L	< 0.003	-	< 0.003	73
4-Bromofluorobenzene (surr.)	1	%	89	-	87	87
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	-	< 0.01	79
TRH C6-C10	0.02	mg/L	< 0.02	-	< 0.02	83
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	-	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-	-	-
TRH >C16-C34	0.1	mg/L	0.1	-	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	-	-	-
TRH >C10-C40 (total)*	0.1	mg/L	0.1	-	-	-
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	-	-	-
Acenaphthylene	0.00001	mg/L	< 0.00001	-	-	-
Anthracene	0.00001	mg/L	< 0.00001	-	-	-
Benz(a)anthracene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Chrysene	0.00001	mg/L	< 0.00001	-	-	-
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	-	-	-
Fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Fluorene	0.00001	mg/L	< 0.00001	-	-	-
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	-	-	-

Client Sample ID			QC01	RB01	TRIP BLANK	TRIP SPIKE
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-My59600	M21-My59601	M21-My59602	M21-My59603
Date Sampled			May 25, 2021	May 26, 2021	May 25, 2021	May 25, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Naphthalene	0.00001	mg/L	< 0.00001	-	-	-
Phenanthrene	0.00001	mg/L	< 0.00001	-	-	-
Pyrene	0.00001	mg/L	< 0.00001	-	-	-
Total PAH*	0.00001	mg/L	< 0.00001	-	-	-
2-Fluorobiphenyl (surr.)	1	%	62	-	-	-
p-Terphenyl-d14 (surr.)	1	%	75	-	-	-
Heavy Metals						
Arsenic	0.001	mg/L	-	< 0.001	-	-
Arsenic (filtered)	0.001	mg/L	< 0.001	-	-	-
Cadmium	0.0002	mg/L	-	< 0.0002	-	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	-	-	-
Chromium	0.001	mg/L	-	< 0.001	-	-
Chromium (filtered)	0.001	mg/L	< 0.001	-	-	-
Copper	0.001	mg/L	-	< 0.001	-	-
Copper (filtered)	0.001	mg/L	0.019	-	-	-
Lead	0.001	mg/L	-	< 0.001	-	-
Lead (filtered)	0.001	mg/L	< 0.001	-	-	-
Mercury	0.0001	mg/L	-	< 0.0001	-	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	-	-	-
Nickel	0.001	mg/L	-	< 0.001	-	-
Nickel (filtered)	0.001	mg/L	0.012	-	-	-
Zinc	0.005	mg/L	-	< 0.005	-	-
Zinc (filtered)	0.005	mg/L	0.069	-	-	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 05, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	May 31, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 31, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	May 31, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Eurofins Suite B6 (filtered metals)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 05, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8 filtered	Melbourne	May 31, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (IWRG 621)			
Phenols (Halogenated)	Melbourne	May 31, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	May 31, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
TRH - 2013 NEPM Fractions (after silica gel clean-up)	Melbourne	Jun 05, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Melbourne	Jun 05, 2021	7 Days
- Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	May 31, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Ammonia (as N)	Melbourne	May 31, 2021	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Cyanide (total)	Melbourne	May 31, 2021	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Ferrous Iron - Fe2+	Melbourne	May 31, 2021	7 Days
- Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser			
pH (at 25 °C)	Melbourne	May 31, 2021	0 Hours
- Method: LTM-GEN-7090 pH in water by ISE			
Total Suspended Solids Dried at 103–105°C	Melbourne	May 31, 2021	7 Days
- Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry			
Metals M8	Melbourne	May 31, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Heavy Metals (filtered)	Melbourne	May 31, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11E: Cl/SO4/Alkalinity			
Chloride	Melbourne	May 31, 2021	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Sulphate (as SO4)	Melbourne	May 31, 2021	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Alkalinity (speciated)	Melbourne	May 31, 2021	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Total Dissolved Solids Dried at 180°C ± 2°C	Melbourne	May 31, 2021	7 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			
Eurofins Suite B11D: Na/K/Ca/Mg and Hardness			
Hardness mg equivalent CaCO3/L	Melbourne	May 31, 2021	28 Days
- Method: APHA 2340B Hardness by Calculation			
Alkali Metals	Melbourne	May 31, 2021	180 Days
- Method: LTM-MET-3010 Alkali Metals Sulfur Silicon Phosphorus by ICP-AES			

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Project Name: CENTRAL
Project ID: 2127234

Order No.: 2127234
Report #: 799115
Phone: 02 9239 7100
Fax: 02 9239 7199

Received: May 27, 2021 3:10 PM
Due: Jun 3, 2021
Priority: 5 Day
Contact Name: Terry Nham

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Ammonia (as N)	Cyanide (total)	Ferrous Iron - Fe2+	Manganese (filtered)	pH (at 25 °C)	Total Suspended Solids Dried at 103–105°C	Metals M8	Phenols (IWRG 621)	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B6 (filtered metals)	BTEXN and Volatile TRH	Eurofins Suite B11D: Na/K/Ca/Mg and Hardness	Eurofins Suite B11E: Cl/SO4/Alkalinity	Polycyclic Aromatic Hydrocarbons (Trace level)	Total Dissolved Solids Dried at 180°C ± 2°C
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217																					
Brisbane Laboratory - NATA Site # 20794																					
Perth Laboratory - NATA Site # 23736																					
Mayfield Laboratory - NATA Site # 25079																					
External Laboratory																					
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**																
1	CSM_BH02	May 25, 2021		Water	M21-My59588	X	X	X	X	X	X		X	X	X	X		X	X	X	X
2	CSM_BH04	May 25, 2021		Water	M21-My59589	X	X	X	X	X	X		X	X	X	X		X	X	X	X
3	CSM_BH06	May 25, 2021		Water	M21-My59590	X	X	X	X	X	X		X	X	X	X		X	X	X	X
4	CSM_BH08	May 27, 2021		Water	M21-My59591	X	X	X	X	X	X		X	X	X	X		X	X	X	X
5	CSM_BH10S	May 26, 2021		Water	M21-My59592	X	X	X	X	X	X		X	X	X	X		X	X	X	X
6	CSM_BH12S	May 26, 2021		Water	M21-My59593	X	X	X	X	X	X		X	X	X	X		X	X	X	X
7	SRT_BH047	May 27, 2021		Water	M21-My59594	X	X	X	X	X	X		X	X	X	X		X	X	X	X
8	SRT_BH052	May 27, 2021		Water	M21-My59595	X	X	X	X	X	X		X	X	X	X		X	X	X	X
9	GASW_BH10	May 25, 2021		Water	M21-My59596	X	X	X	X	X	X		X	X	X	X		X	X	X	X

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Project Name: CENTRAL
Project ID: 2127234

Order No.: 2127234
Report #: 799115
Phone: 02 9239 7100
Fax: 02 9239 7199

Received: May 27, 2021 3:10 PM
Due: Jun 3, 2021
Priority: 5 Day
Contact Name: Terry Nham

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Ammonia (as N)	Cyanide (total)	Ferrous Iron - Fe2+	Manganese (filtered)	pH (at 25 °C)	Total Suspended Solids Dried at 103–105°C	Metals M8	Phenols (IWRG 621)	TRH (after Silica Gel cleanup)	Total Recoverable Hydrocarbons	Eurofins Suite B6 (filtered metals)	BTEXN and Volatile TRH	Eurofins Suite B11D: Na/K/Ca/Mg and Hardness	Eurofins Suite B11E: Cl/SO4/Alkalinity	Polycyclic Aromatic Hydrocarbons (Trace level)	Total Dissolved Solids Dried at 180°C ± 2°C
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217																					
Brisbane Laboratory - NATA Site # 20794																					
Perth Laboratory - NATA Site # 23736																					
Mayfield Laboratory - NATA Site # 25079																					
External Laboratory																					
10	GASW_BH11	May 26, 2021		Water	M21-My59597	X	X	X	X	X	X		X	X	X	X		X	X	X	X
11	GASW_BH23	May 26, 2021		Water	M21-My59598	X	X	X	X	X	X		X	X	X	X		X	X	X	X
12	GASW_BH25 A	May 26, 2021		Water	M21-My59599	X	X	X	X	X	X		X	X	X	X		X	X	X	X
13	QC01	May 25, 2021		Water	M21-My59600											X				X	
14	RB01	May 26, 2021		Water	M21-My59601							X									
15	TRIP BLANK	May 25, 2021		Water	M21-My59602												X				
16	TRIP SPIKE	May 25, 2021		Water	M21-My59603												X				
Test Counts						12	12	12	12	12	12	1	12	12	12	13	2	12	12	13	12

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Cyanide (total)	mg/L	< 0.004			0.004	Pass	
Ferrous Iron - Fe2+	mg/L	< 0.05			0.05	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	mg/L	< 10			10	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Carbonate Alkalinity (as CaCO3)	mg/L	< 10			10	Pass	
Hydroxide Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Total Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	82			70-130	Pass	
TRH C10-C14	%	122			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	85			70-130	Pass	
Toluene	%	80			70-130	Pass	
Ethylbenzene	%	78			70-130	Pass	
m&p-Xylenes	%	104			70-130	Pass	
Xylenes - Total*	%	96			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	106			70-130	Pass	
Naphthalene	%	106			70-130	Pass	
TRH C6-C10	%	80			70-130	Pass	
TRH C6-C10	%	80			70-130	Pass	
TRH >C10-C16	%	125			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	94			30-130	Pass	
2.4-Dichlorophenol	%	71			30-130	Pass	
2.4.5-Trichlorophenol	%	109			30-130	Pass	
2.4.6-Trichlorophenol	%	129			30-130	Pass	
2.6-Dichlorophenol	%	78			30-130	Pass	
4-Chloro-3-methylphenol	%	66			30-130	Pass	
Pentachlorophenol	%	98			30-130	Pass	
Tetrachlorophenols - Total	%	89			30-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	75			30-130	Pass	
2-Methyl-4.6-dinitrophenol	%	113			30-130	Pass	
2-Methylphenol (o-Cresol)	%	78			30-130	Pass	
2-Nitrophenol	%	95			30-130	Pass	
2.4-Dimethylphenol	%	97			30-130	Pass	
2.4-Dinitrophenol	%	36			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	%	79			30-130	Pass	
4-Nitrophenol	%	103			30-130	Pass	
Dinoseb	%	122			30-130	Pass	
Phenol	%	51			30-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	98			70-130	Pass	
Acenaphthylene	%	76			70-130	Pass	
Anthracene	%	86			70-130	Pass	
Benz(a)anthracene	%	100			70-130	Pass	
Benzo(a)pyrene	%	72			70-130	Pass	
Benzo(b&j)fluoranthene	%	96			70-130	Pass	
Benzo(g.h.i)perylene	%	85			70-130	Pass	
Benzo(k)fluoranthene	%	104			70-130	Pass	
Chrysene	%	103			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dibenz(a.h)anthracene	%	99			70-130	Pass	
Fluoranthene	%	97			70-130	Pass	
Fluorene	%	102			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	99			70-130	Pass	
Naphthalene	%	90			70-130	Pass	
Phenanthrene	%	96			70-130	Pass	
Pyrene	%	101			70-130	Pass	
LCS - % Recovery							
Ammonia (as N)	%	92			70-130	Pass	
Chloride	%	110			70-130	Pass	
Cyanide (total)	%	119			70-130	Pass	
Ferrous Iron - Fe2+	%	102			70-130	Pass	
Sulphate (as SO4)	%	110			70-130	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	%	91			70-130	Pass	
Total Suspended Solids Dried at 103–105°C	%	95			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Carbonate Alkalinity (as CaCO3)	%	123			70-130	Pass	
Total Alkalinity (as CaCO3)	%	125			70-130	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	93			80-120	Pass	
Magnesium	%	93			80-120	Pass	
Potassium	%	87			80-120	Pass	
Sodium	%	104			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	103			80-120	Pass	
Arsenic (filtered)	%	101			80-120	Pass	
Cadmium	%	104			80-120	Pass	
Cadmium (filtered)	%	97			80-120	Pass	
Chromium	%	108			80-120	Pass	
Chromium (filtered)	%	101			80-120	Pass	
Copper	%	105			80-120	Pass	
Copper (filtered)	%	101			80-120	Pass	
Lead	%	99			80-120	Pass	
Lead (filtered)	%	94			80-120	Pass	
Manganese (filtered)	%	105			80-120	Pass	
Mercury	%	102			80-120	Pass	
Mercury (filtered)	%	93			80-120	Pass	
Nickel	%	105			80-120	Pass	
Nickel (filtered)	%	101			80-120	Pass	
Zinc	%	105			80-120	Pass	
Zinc (filtered)	%	106			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M21-Jn01774	NCP	%	72			70-130	Pass	
TRH C10-C14	B21-Jn07270	NCP	%	119			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-Jn01774	NCP	%	82			70-130	Pass	
Toluene	M21-Jn01774	NCP	%	80			70-130	Pass	
Ethylbenzene	M21-Jn01774	NCP	%	77			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
m&p-Xylenes	M21-Jn01774	NCP	%	97			70-130	Pass	
o-Xylene	M21-Jn01774	NCP	%	73			70-130	Pass	
Xylenes - Total*	M21-Jn01774	NCP	%	128			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M21-Jn01774	NCP	%	107			70-130	Pass	
TRH C6-C10	M21-Jn01774	NCP	%	97			70-130	Pass	
TRH >C10-C16	B21-Jn07270	NCP	%	123			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M21-Jn07912	NCP	%	80			30-130	Pass	
2.4-Dichlorophenol	M21-Jn07912	NCP	%	80			30-130	Pass	
2.4.5-Trichlorophenol	M21-Jn07912	NCP	%	90			30-130	Pass	
2.4.6-Trichlorophenol	M21-Jn07912	NCP	%	76			30-130	Pass	
2.6-Dichlorophenol	M21-Jn07912	NCP	%	77			30-130	Pass	
4-Chloro-3-methylphenol	M21-Jn07912	NCP	%	89			30-130	Pass	
Pentachlorophenol	M21-Jn07912	NCP	%	41			30-130	Pass	
Tetrachlorophenols - Total	M21-Jn07912	NCP	%	124			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M21-Jn07912	NCP	%	70			30-130	Pass	
2-Methylphenol (o-Cresol)	M21-Jn07912	NCP	%	76			30-130	Pass	
2-Nitrophenol	M21-Jn07912	NCP	%	78			30-130	Pass	
2.4-Dimethylphenol	M21-Jn07912	NCP	%	41			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M21-Jn07912	NCP	%	96			30-130	Pass	
4-Nitrophenol	M21-Jn07912	NCP	%	31			30-130	Pass	
Dinoseb	M21-Jn07912	NCP	%	72			30-130	Pass	
Phenol	M21-Jn07912	NCP	%	102			30-130	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	B21-My54249	NCP	%	87			70-130	Pass	
Chloride	M21-My57610	NCP	%	97			70-130	Pass	
Sulphate (as SO4)	P21-My57019	NCP	%	119			70-130	Pass	
Total Suspended Solids Dried at 103–105°C	M21-My57877	NCP	%	129			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	M21-My59596	CP	%	104			75-125	Pass	
Magnesium	M21-My59596	CP	%	100			75-125	Pass	
Potassium	M21-My59596	CP	%	87			75-125	Pass	
Sodium	M21-My59596	CP	%	98			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	M21-My59596	CP	%	100			75-125	Pass	
Cadmium (filtered)	M21-My59596	CP	%	96			75-125	Pass	
Chromium (filtered)	M21-My59596	CP	%	115			75-125	Pass	
Copper (filtered)	M21-My59596	CP	%	96			75-125	Pass	
Lead (filtered)	M21-My59596	CP	%	90			75-125	Pass	
Manganese (filtered)	M21-My59596	CP	%	89			75-125	Pass	
Mercury (filtered)	M21-My59596	CP	%	90			75-125	Pass	
Nickel (filtered)	M21-My59596	CP	%	102			75-125	Pass	
Zinc (filtered)	M21-My59596	CP	%	111			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-My58818	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M21-Jn04681	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-Jn04681	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-Jn04681	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-My58818	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-My58818	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-My58818	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-My58818	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-My58818	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-My58818	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-My58818	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-My58818	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M21-Jn04681	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-Jn04681	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-Jn04681	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M21-Jn08165	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M21-Jn08165	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M21-Jn08165	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M21-Jn08165	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M21-Jn08165	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M21-Jn08165	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M21-Jn08165	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M21-Jn08165	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M21-Jn08165	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M21-Jn08165	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M21-Jn08165	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2-Nitrophenol	M21-Jn08165	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M21-Jn08165	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M21-Jn08165	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M21-Jn08165	NCP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M21-Jn08165	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M21-Jn08165	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M21-Jn08165	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Acenaphthylene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Anthracene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benz(a)anthracene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(a)pyrene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(g.h.i)perylene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(k)fluoranthene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Chrysene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Dibenz(a.h)anthracene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluoranthene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluorene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Naphthalene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Phenanthrene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Pyrene	M21-Jn07896	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Dissolved Solids Dried at 180°C ± 2°C	M21-My59588	CP	mg/L	580	610	5.1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M21-My59589	CP	mg/L	< 0.004	< 0.004	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M21-My59592	CP	mg/L	0.03	0.03	4.0	30%	Pass	
pH (at 25 °C)	M21-My59592	CP	pH Units	6.3	6.3	pass	30%	Pass	
Total Suspended Solids Dried at 103–105°C	M21-My59592	CP	mg/L	140	150	6.0	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M21-My59592	CP	mg/L	24	24	2.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M21-My59592	CP	mg/L	< 10	< 10	<1	30%	Pass	
Hydroxide Alkalinity (as CaCO3)	M21-My59592	CP	mg/L	< 20	< 20	<1	30%	Pass	
Total Alkalinity (as CaCO3)	M21-My59592	CP	mg/L	24	24	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
pH (at 25 °C)	M21-My59593	CP	pH Units	6.9	7.0	pass	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M21-My59593	CP	mg/L	100	100	2.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M21-My59593	CP	mg/L	< 10	< 10	<1	30%	Pass	
Hydroxide Alkalinity (as CaCO3)	M21-My59593	CP	mg/L	< 20	< 20	<1	30%	Pass	
Total Alkalinity (as CaCO3)	M21-My59593	CP	mg/L	100	100	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ferrous Iron - Fe2+	M21-My59594	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M21-My59596	CP	mg/L	83	99	18	30%	Pass	
Magnesium	M21-My59596	CP	mg/L	42	54	24	30%	Pass	
Potassium	M21-My59596	CP	mg/L	11	12	6.0	30%	Pass	
Sodium	M21-My59596	CP	mg/L	130	130	2.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M21-My59596	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	M21-My59596	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M21-My59596	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M21-My59596	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	M21-My59596	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	M21-My59596	CP	mg/L	0.11	0.11	<1	30%	Pass	
Mercury (filtered)	M21-My59596	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M21-My59596	CP	mg/L	0.002	0.002	<1	30%	Pass	
Zinc (filtered)	M21-My59596	CP	mg/L	0.014	0.014	<1	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
Chloride	M21-My59598	CP	mg/L	23	20	17	30%	Pass	
Sulphate (as SO4)	M21-My59598	CP	mg/L	89	89	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Dissolved Solids Dried at 180°C ± 2°C	M21-My59599	CP	mg/L	310	320	2.5	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised by:

Andrew Black	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Scott Beddoes	Senior Analyst-Inorganic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : GHD Pty Ltd, Sydney
Office Address : Level 15, 133 Castlereagh Street, Sydney NSW 2000
Contact Name : Terry Nham / Charlotte Gray
Project Manager : Henry Luo
Email for results : terry.nham@ghd.com henry.luo@ghd.com charlotte.gray@ghd.com
Purchase Order : 2127234
PROJECT Number : 2127234
PROJECT Name : Central
COC Number :
Eurofins | mgt quote ID : GHD Rates 2020/2021
Data output format: ESDAT

Special Directions & Comments :

Eurofins | mgt DI water batch number: S0325

	Sample ID	Date	Matrix	TRH, BTEXN, 8 Metals (Dissolved) (Suite B6)	PAH - Trace LOR	Phenols		TRH (with Silica Gel Cleanup)	Cyanide - Trace Level (<0.004 mg/L)	Ammonia	Cation (B11D) and Anion (B11E)		Ferrous Iron	Manganese	pH	TDS	TSS		TRH C6-C10 / BTEX	8 Metals (Total)					
1	CSM_BH02	15/6/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
2	CSM_BH04	15/6/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
3	CSM_BH06	16/6/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
4	CSM_BH08	15/6/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
5	CSM_BH10S	15/6/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
6	CSM_BH12S	17/6/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
7	SRT_BH047	17/6/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
8	SRT_BH052	17/6/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
9	GASW_BH10	15/6/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
10	GASW_BH11	16/6/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
11	GASW_BH23	16/6/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
12	GASW_BH25A	15/6/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
13	QC01	15/6/21	Water	X	X																				
14	RB01	16/6/21	Water																	X					
15	Trip Blank	15/6/21	Water																X						
16	Trip Spike	15/6/21	Water																X						

Analytes

Some common holding times (with correct preservation).
For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

500P	250P	60P	1LA	40mL vial	200mL A	Jar	Bag
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
		1		2	2		
		1					
				2			
				2			

Sample comments:

Laboratory Staff

Relinquished By: Terry Nham - GHD
Date & Time : 17/6/2021
Signature:

Received By: Jeremy
Date & Time : 1:57pm 17/6/21
Signature:

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☒ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☒ Hand Delivered
☐ Postal
Courier Consignment # :

Temperature on arrival: 3.0Z

Report number: 803914

Jake

eurofins | Environment Testing

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Phone : +64 9 526 45 51
IANZ # 1327

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43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	GHD Pty Ltd NSW
Contact name:	Henry Luo
Project name:	CENTRAL
Project ID:	2127234
Turnaround time:	5 Day
Date/Time received	Jun 17, 2021 1:57 PM
Eurofins reference	803914

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 3 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Elvis Dsouza on phone : or by email: ElvisDsouza@eurofins.com

Results will be delivered electronically via email to Henry Luo - henry.luo@ghd.com.

Note: A copy of these results will also be delivered to the general GHD Pty Ltd NSW email address.

GHD Pty Ltd NSW
Level 15, 133 Castlereagh Street
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Henry Luo**

Report **803914-W**
Project name CENTRAL
Project ID 2127234
Received Date Jun 17, 2021

Client Sample ID			**CSM_BH02**	**CSM_BH04**	**CSM_BH06**	**CSM_BH08**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Jn36301**	**M21-Jn36302**	**M21-Jn36303**	**M21-Jn36304**
Date Sampled			**Jun 15, 2021**	**Jun 15, 2021**	**Jun 16, 2021**	**Jun 15, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	0.06	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	0.16	< 0.1	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	0.15	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	91	98	95	95
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			CSM_BH02	CSM_BH04	CSM_BH06	CSM_BH08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Jn36301	M21-Jn36302	M21-Jn36303	M21-Jn36304
Date Sampled			Jun 15, 2021	Jun 15, 2021	Jun 16, 2021	Jun 15, 2021
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.002	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	57	51	66	44
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	0.1	< 0.1	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	79	94	90	67
p-Terphenyl-d14 (surr.)	1	%	99	94	94	86
Ammonia (as N)	0.01	mg/L	0.13	0.03	0.02	0.06
Chloride	1	mg/L	160	74	240	100
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.05	mg/L	< 0.05	6.2	1.5	6.3
pH (at 25 °C)	0.1	pH Units	7.6	6.6	7.1	6.9

Client Sample ID			CSM_BH02	CSM_BH04	CSM_BH06	CSM_BH08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Jn36301	M21-Jn36302	M21-Jn36303	M21-Jn36304
Date Sampled			Jun 15, 2021	Jun 15, 2021	Jun 16, 2021	Jun 15, 2021
Test/Reference	LOR	Unit				
Sulphate (as SO4)	5	mg/L	31	43	29	46
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	560	290	580	360
Total Suspended Solids Dried at 103–105°C	1	mg/L	1200	1300	200	11
Hardness mg equivalent CaCO3/L	5	mg/L	340	85	210	120
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	290	100	140	99
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	290	100	140	99
Alkali Metals						
Calcium	0.5	mg/L	63	8.2	32	15
Magnesium	0.5	mg/L	43	16	32	20
Potassium	0.5	mg/L	7.7	2.7	4.5	4.0
Sodium	0.5	mg/L	130	68	110	82
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	0.008	0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.10	0.40	0.37	0.33
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.019	0.025	0.055	0.028
Zinc (filtered)	0.005	mg/L	0.020	0.054	0.063	0.031

Client Sample ID			CSM_BH10S	CSM_BH12S	SRT_BH047	SRT_BH052
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Jn36305	M21-Jn36306	M21-Jn36307	M21-Jn36308
Date Sampled			Jun 15, 2021	Jun 17, 2021	Jun 17, 2021	Jun 17, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			CSM_BH10S	CSM_BH12S	SRT_BH047	SRT_BH052
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Jn36305	M21-Jn36306	M21-Jn36307	M21-Jn36308
Date Sampled			Jun 15, 2021	Jun 17, 2021	Jun 17, 2021	Jun 17, 2021
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	95	97	96	96
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.002	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	61	48	54	58
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Client Sample ID			CSM_BH10S	CSM_BH12S	SRT_BH047	SRT_BH052
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Jn36305	M21-Jn36306	M21-Jn36307	M21-Jn36308
Date Sampled			Jun 15, 2021	Jun 17, 2021	Jun 17, 2021	Jun 17, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	93	65	57	51
p-Terphenyl-d14 (surr.)	1	%	95	70	84	58
Ammonia (as N)	0.01	mg/L	0.15	0.09	0.04	< 0.01
Chloride	1	mg/L	24	55	21	48
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.05	mg/L	< 0.05	7.9	< 0.05	< 0.05
pH (at 25 °C)	0.1	pH Units	6.7	7.5	6.9	7.1
Sulphate (as SO4)	5	mg/L	57	110	12	39
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	180	370	190	230
Total Suspended Solids Dried at 103–105°C	1	mg/L	160	390	34	110
Hardness mg equivalent CaCO3/L	5	mg/L	47	29	88	62
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	25	85	< 20	47
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	25	85	< 20	47
Alkali Metals						
Calcium	0.5	mg/L	6.8	2.6	18	16
Magnesium	0.5	mg/L	7.3	5.4	10	5.3
Potassium	0.5	mg/L	2.7	2.4	0.9	1.6
Sodium	0.5	mg/L	34	100	26	47
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	0.003	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.52	0.36	0.021	< 0.005
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.002	0.009	0.004	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005	0.025	0.024	< 0.005

Client Sample ID			GASW_BH10	GASW_BH11	GASW_BH23	GASW_BH25A
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Jn36309	M21-Jn36310	M21-Jn36311	M21-Jn36312
Date Sampled			Jun 15, 2021	Jun 16, 2021	Jun 16, 2021	Jun 15, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	0.03	< 0.02	0.80	2.4
TRH C10-C14	0.05	mg/L	0.09	0.17	0.14	0.20
TRH C15-C28	0.1	mg/L	0.5	0.2	0.2	0.3
TRH C29-C36	0.1	mg/L	0.7	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	1.29	0.37	0.34	0.5
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.1	< 0.25
TRH C6-C10	0.02	mg/L	0.03	< 0.02	0.80	2.4
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	0.03	< 0.02	0.18	0.45
TRH >C10-C16	0.05	mg/L	0.07	0.21	0.15	0.25
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	0.07	0.21	0.15	0.25
TRH >C16-C34	0.1	mg/L	1.0	0.2	0.1	0.3
TRH >C34-C40	0.1	mg/L	0.3	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	1.37	0.41	0.25	0.55
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	0.58	1.0
Toluene	0.001	mg/L	< 0.001	< 0.001	0.019	0.56
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	0.017	0.12
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.02	0.14
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.01	0.13
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.03	0.26
4-Bromofluorobenzene (surr.)	1	%	96	100	100	104
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.002	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	78	62	28	68
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	0.2	< 0.1	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	0.2	< 0.1	< 0.1	< 0.1

Client Sample ID			GASW_BH10	GASW_BH11	GASW_BH23	GASW_BH25A
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Jn36309	M21-Jn36310	M21-Jn36311	M21-Jn36312
Date Sampled			Jun 15, 2021	Jun 16, 2021	Jun 16, 2021	Jun 15, 2021
Test/Reference	LOR	Unit				
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	58	60	61	60
p-Terphenyl-d14 (surr.)	1	%	67	83	77	68
Ammonia (as N)	0.01	mg/L	0.13	0.24	0.61	0.30
Chloride	1	mg/L	170	38	28	16
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	0.005
Ferrous Iron - Fe2+	0.05	mg/L	5.0	0.22	6.5	1.1
pH (at 25 °C)	0.1	pH Units	8.1	7.3	8.1	8.3
Sulphate (as SO4)	5	mg/L	< 5	41	33	54
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	760	220	380	310
Total Suspended Solids Dried at 103–105°C	1	mg/L	8700	2700	430	19
Hardness mg equivalent CaCO3/L	5	mg/L	450	38	270	220
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	610	71	270	170
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	610	71	270	170
Alkali Metals						
Calcium	0.5	mg/L	98	5.7	93	79
Magnesium	0.5	mg/L	49	5.7	8.7	6.2
Potassium	0.5	mg/L	12	1.7	17	3.9
Sodium	0.5	mg/L	130	36	40	20
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	0.003	0.002
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			GASW_BH10	GASW_BH11	GASW_BH23	GASW_BH25A
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Jn36309	M21-Jn36310	M21-Jn36311	M21-Jn36312
Date Sampled			Jun 15, 2021	Jun 16, 2021	Jun 16, 2021	Jun 15, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.11	0.13	0.18	0.10
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.002	0.002	< 0.001	< 0.001
Zinc (filtered)	0.005	mg/L	0.061	0.034	< 0.005	< 0.005

Client Sample ID			QC01	RB01	TRIP BLANK	TRIP SPIKE
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Jn36313	M21-Jn36314	M21-Jn36315	M21-Jn36316
Date Sampled			Jun 15, 2021	Jun 16, 2021	Jun 15, 2021	Jun 15, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	-	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	-	-	-
TRH C15-C28	0.1	mg/L	< 0.1	-	-	-
TRH C29-C36	0.1	mg/L	< 0.1	-	-	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	-	-	-
Naphthalene[N02]	0.01	mg/L	< 0.01	-	< 0.01	-
TRH C6-C10	0.02	mg/L	< 0.02	-	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	-	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-	-	-
TRH >C16-C34	0.1	mg/L	< 0.1	-	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	-	-	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	-	-	-
BTEX						
Benzene	0.001	mg/L	< 0.001	-	< 0.001	-
Toluene	0.001	mg/L	< 0.001	-	< 0.001	-
Ethylbenzene	0.001	mg/L	< 0.001	-	< 0.001	-
m&p-Xylenes	0.002	mg/L	< 0.002	-	< 0.002	-
o-Xylene	0.001	mg/L	< 0.001	-	< 0.001	-
Xylenes - Total*	0.003	mg/L	< 0.003	-	< 0.003	-
4-Bromofluorobenzene (surr.)	1	%	100	-	95	-
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	-	-	-
Acenaphthylene	0.00001	mg/L	< 0.00001	-	-	-
Anthracene	0.00001	mg/L	< 0.00001	-	-	-
Benz(a)anthracene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Chrysene	0.00001	mg/L	< 0.00001	-	-	-
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	-	-	-
Fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Fluorene	0.00001	mg/L	< 0.00001	-	-	-
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	-	-	-
Naphthalene	0.00001	mg/L	< 0.00001	-	-	-

Client Sample ID			QC01	RB01	TRIP BLANK	TRIP SPIKE
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Jn36313	M21-Jn36314	M21-Jn36315	M21-Jn36316
Date Sampled			Jun 15, 2021	Jun 16, 2021	Jun 15, 2021	Jun 15, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Phenanthrene	0.00001	mg/L	< 0.00001	-	-	-
Pyrene	0.00001	mg/L	< 0.00001	-	-	-
Total PAH*	0.00001	mg/L	< 0.00001	-	-	-
2-Fluorobiphenyl (surr.)	1	%	69	-	-	-
p-Terphenyl-d14 (surr.)	1	%	94	-	-	-
Heavy Metals						
Arsenic	0.001	mg/L	-	< 0.001	-	-
Arsenic (filtered)	0.001	mg/L	< 0.001	-	-	-
Cadmium	0.0002	mg/L	-	< 0.0002	-	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	-	-	-
Chromium	0.001	mg/L	-	< 0.001	-	-
Chromium (filtered)	0.001	mg/L	< 0.001	-	-	-
Copper	0.001	mg/L	-	< 0.001	-	-
Copper (filtered)	0.001	mg/L	< 0.001	-	-	-
Lead	0.001	mg/L	-	< 0.001	-	-
Lead (filtered)	0.001	mg/L	< 0.001	-	-	-
Mercury	0.0001	mg/L	-	< 0.0001	-	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	-	-	-
Nickel	0.001	mg/L	-	< 0.001	-	-
Nickel (filtered)	0.001	mg/L	0.026	-	-	-
Zinc	0.005	mg/L	-	< 0.005	-	-
Zinc (filtered)	0.005	mg/L	0.057	-	-	-
Total Recoverable Hydrocarbons						
Naphthalene	1	%	-	-	-	91
TRH C6-C10	1	%	-	-	-	84
TRH C6-C9	1	%	-	-	-	85
BTEX						
Benzene	1	%	-	-	-	93
Ethylbenzene	1	%	-	-	-	88
m&p-Xylenes	1	%	-	-	-	94
o-Xylene	1	%	-	-	-	86
Toluene	1	%	-	-	-	90
Xylenes - Total	1	%	-	-	-	89
4-Bromofluorobenzene (surr.)	1	%	-	-	-	99

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 23, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 21, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jun 21, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 21, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Eurofins Suite B6 (filtered metals)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 23, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8 filtered	Melbourne	Jun 21, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	Jun 23, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jun 23, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
TRH - 2013 NEPM Fractions (after silica gel clean-up)	Melbourne	Jun 21, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Melbourne	Jun 21, 2021	7 Days
- Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Jun 23, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Ammonia (as N)	Melbourne	Jun 21, 2021	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Cyanide (total)	Melbourne	Jun 21, 2021	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Ferrous Iron - Fe2+	Melbourne	Jun 21, 2021	7 Days
- Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser			
pH (at 25 °C)	Melbourne	Jun 21, 2021	0 Hours
- Method: LTM-GEN-7090 pH in water by ISE			
Total Suspended Solids Dried at 103–105°C	Melbourne	Jun 21, 2021	7 Days
- Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry			
Metals M8	Melbourne	Jun 21, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Heavy Metals (filtered)	Melbourne	Jun 21, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11E: Cl/SO4/Alkalinity			
Chloride	Melbourne	Jun 21, 2021	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Sulphate (as SO4)	Melbourne	Jun 21, 2021	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Alkalinity (speciated)	Melbourne	Jun 21, 2021	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Total Dissolved Solids Dried at 180°C ± 2°C	Melbourne	Jun 21, 2021	7 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			
Eurofins Suite B11D: Na/K/Ca/Mg and Hardness			
Hardness mg equivalent CaCO3/L	Melbourne	Jun 21, 2021	28 Days
- Method: APHA 2340B Hardness by Calculation			
Alkali Metals	Melbourne	Jun 21, 2021	180 Days
- Method: LTM-MET-3010 Alkali Metals Sulfur Silicon Phosphorus by ICP-AES			

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Company Name: GHD Pty Ltd NSW
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Project Name: CENTRAL
Project ID: 2127234

Order No.: 2127234
Report #: 803914
Phone: 02 9239 7100
Fax: 02 9239 7199

Received: Jun 17, 2021 1:57 PM
Due: Jun 24, 2021
Priority: 5 Day
Contact Name: Henry Luo

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Ammonia (as N)	Cyanide (total)	Ferrous Iron - Fe2+	Manganese (filtered)	pH (at 25 °C)	Total Suspended Solids Dried at 103–105°C	Metals M8	Phenols (Speciated)	TRH (after Silica Gel cleanup)	Eurofins Suite B6 (filtered metals)	BTEXN and Volatile TRH	Eurofins Suite B11D: Na/K/Ca/Mg and Hardness	Eurofins Suite B11E: Cl/SO4/Alkalinity	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	Total Dissolved Solids Dried at 180°C ± 2°C
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217																					
Brisbane Laboratory - NATA Site # 20794																					
Perth Laboratory - NATA Site # 23736																					
Mayfield Laboratory - NATA Site # 25079																					
External Laboratory																					
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**																
1	CSM_BH02	Jun 15, 2021		Water	M21-Jn36301	X	X	X	X	X	X		X	X	X		X	X		X	X
2	CSM_BH04	Jun 15, 2021		Water	M21-Jn36302	X	X	X	X	X	X		X	X	X		X	X		X	X
3	CSM_BH06	Jun 16, 2021		Water	M21-Jn36303	X	X	X	X	X	X		X	X	X		X	X		X	X
4	CSM_BH08	Jun 15, 2021		Water	M21-Jn36304	X	X	X	X	X	X		X	X	X		X	X		X	X
5	CSM_BH10S	Jun 15, 2021		Water	M21-Jn36305	X	X	X	X	X	X		X	X	X		X	X		X	X
6	CSM_BH12S	Jun 17, 2021		Water	M21-Jn36306	X	X	X	X	X	X		X	X	X		X	X		X	X
7	SRT_BH047	Jun 17, 2021		Water	M21-Jn36307	X	X	X	X	X	X		X	X	X		X	X		X	X
8	SRT_BH052	Jun 17, 2021		Water	M21-Jn36308	X	X	X	X	X	X		X	X	X		X	X		X	X
9	GASW_BH10	Jun 15, 2021		Water	M21-Jn36309	X	X	X	X	X	X		X	X	X		X	X		X	X

eurofins | Environment Testing

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Sample Detail						Ammonia (as N)	Cyanide (total)	Ferrous Iron - Fe2+	Manganese (filtered)	pH (at 25 °C)	Total Suspended Solids Dried at 103–105°C	Metals M8	Phenols (Speciated)	TRH (after Silica Gel cleanup)	Eurofins Suite B6 (filtered metals)	BTEXN and Volatile TRH	Eurofins Suite B11D: Na/K/Ca/Mg and Hardness	Eurofins Suite B11E: Cl/SO4/Alkalinity	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	Total Dissolved Solids Dried at 180°C ± 2°C
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217																					
Brisbane Laboratory - NATA Site # 20794																					
Perth Laboratory - NATA Site # 23736																					
Mayfield Laboratory - NATA Site # 25079																					
External Laboratory																					
10	GASW_BH11	Jun 16, 2021		Water	M21-Jn36310	X	X	X	X	X	X		X	X	X		X	X		X	X
11	GASW_BH23	Jun 16, 2021		Water	M21-Jn36311	X	X	X	X	X	X		X	X	X		X	X		X	X
12	GASW_BH25A	Jun 15, 2021		Water	M21-Jn36312	X	X	X	X	X	X		X	X	X		X	X		X	X
13	QC01	Jun 15, 2021		Water	M21-Jn36313										X					X	
14	RB01	Jun 16, 2021		Water	M21-Jn36314							X									
15	TRIP BLANK	Jun 15, 2021		Water	M21-Jn36315											X					
16	TRIP SPIKE	Jun 15, 2021		Water	M21-Jn36316														X		
Test Counts						12	12	12	12	12	12	1	12	12	13	1	12	12	1	13	12

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
Total cresols*	mg/L	-			0.002	N/A	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Total Non-Halogenated Phenol*	mg/L	< 0			0.1	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Total PAH*	mg/L	-			0.00001	N/A	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Cyanide (total)	mg/L	< 0.004			0.004	Pass	
Ferrous Iron - Fe2+	mg/L	< 0.05			0.05	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	mg/L	< 10			10	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Carbonate Alkalinity (as CaCO3)	mg/L	< 10			10	Pass	
Hydroxide Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Total Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel	mg/L	< 0.001			0.001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	78			70-130	Pass	
TRH C10-C14	%	126			70-130	Pass	
Naphthalene	%	114			70-130	Pass	
TRH C6-C10	%	78			70-130	Pass	
TRH >C10-C16	%	129			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	93			70-130	Pass	
Toluene	%	82			70-130	Pass	
Ethylbenzene	%	88			70-130	Pass	
m&p-Xylenes	%	88			70-130	Pass	
Xylenes - Total*	%	88			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	108			30-130	Pass	
2.4-Dichlorophenol	%	109			30-130	Pass	
2.4.5-Trichlorophenol	%	127			30-130	Pass	
2.4.6-Trichlorophenol	%	120			30-130	Pass	
2.6-Dichlorophenol	%	120			30-130	Pass	
4-Chloro-3-methylphenol	%	126			30-130	Pass	
Pentachlorophenol	%	122			30-130	Pass	
Tetrachlorophenols - Total	%	101			30-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	110			30-130	Pass	
2-Methyl-4.6-dinitrophenol	%	104			30-130	Pass	
2-Nitrophenol	%	128			30-130	Pass	
2.4-Dimethylphenol	%	64			30-130	Pass	
2.4-Dinitrophenol	%	111			30-130	Pass	
2-Methylphenol (o-Cresol)	%	92			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	%	120			30-130	Pass	
4-Nitrophenol	%	102			30-130	Pass	
Dinoseb	%	84			30-130	Pass	
Phenol	%	80			30-130	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	129			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	126			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	109			70-130	Pass	
Acenaphthylene	%	108			70-130	Pass	
Anthracene	%	83			70-130	Pass	
Benz(a)anthracene	%	95			70-130	Pass	
Benzo(a)pyrene	%	84			70-130	Pass	
Benzo(b&j)fluoranthene	%	81			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(g.h.i)perylene	%	88			70-130	Pass	
Benzo(k)fluoranthene	%	109			70-130	Pass	
Chrysene	%	109			70-130	Pass	
Dibenz(a.h)anthracene	%	85			70-130	Pass	
Fluoranthene	%	107			70-130	Pass	
Fluorene	%	109			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	84			70-130	Pass	
Naphthalene	%	99			70-130	Pass	
Phenanthrene	%	106			70-130	Pass	
Pyrene	%	119			70-130	Pass	
LCS - % Recovery							
Ammonia (as N)	%	100			70-130	Pass	
Chloride	%	113			70-130	Pass	
Cyanide (total)	%	92			70-130	Pass	
Ferrous Iron - Fe2+	%	103			70-130	Pass	
Sulphate (as SO4)	%	110			70-130	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	%	93			70-130	Pass	
Total Suspended Solids Dried at 103–105°C	%	92			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Carbonate Alkalinity (as CaCO3)	%	97			70-130	Pass	
Total Alkalinity (as CaCO3)	%	101			70-130	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	105			80-120	Pass	
Magnesium	%	89			80-120	Pass	
Potassium	%	92			80-120	Pass	
Sodium	%	84			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	95			80-120	Pass	
Cadmium	%	96			80-120	Pass	
Chromium	%	101			80-120	Pass	
Copper	%	97			80-120	Pass	
Lead	%	95			80-120	Pass	
Mercury	%	101			80-120	Pass	
Nickel	%	99			80-120	Pass	
Zinc	%	98			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M21-Jn40455	NCP	%	81			70-130	Pass	
TRH C10-C14	S21-Jn38529	NCP	%	94			70-130	Pass	
Naphthalene	M21-Jn40455	NCP	%	87			70-130	Pass	
TRH C6-C10	M21-Jn40455	NCP	%	76			70-130	Pass	
TRH >C10-C16	S21-Jn38529	NCP	%	94			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M21-Jn40455	NCP	%	80			70-130	Pass	
Toluene	M21-Jn40455	NCP	%	72			70-130	Pass	
Ethylbenzene	M21-Jn40455	NCP	%	78			70-130	Pass	
m&p-Xylenes	M21-Jn40455	NCP	%	77			70-130	Pass	
o-Xylene	M21-Jn40455	NCP	%	77			70-130	Pass	
Xylenes - Total*	M21-Jn40455	NCP	%	77			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	B21-Jn20659	NCP	%	84			30-130	Pass	
2.4-Dichlorophenol	B21-Jn20659	NCP	%	103			30-130	Pass	
2.4.5-Trichlorophenol	B21-Jn20659	NCP	%	84			30-130	Pass	
2.4.6-Trichlorophenol	B21-Jn20659	NCP	%	106			30-130	Pass	
2.6-Dichlorophenol	B21-Jn20659	NCP	%	94			30-130	Pass	
4-Chloro-3-methylphenol	B21-Jn20659	NCP	%	80			30-130	Pass	
Pentachlorophenol	B21-Jn20659	NCP	%	128			30-130	Pass	
Tetrachlorophenols - Total	B21-Jn20659	NCP	%	119			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	B21-Jn20659	NCP	%	126			30-130	Pass	
2-Methyl-4.6-dinitrophenol	B21-Jn20659	NCP	%	119			30-130	Pass	
2-Nitrophenol	B21-Jn20659	NCP	%	105			30-130	Pass	
2.4-Dinitrophenol	B21-Jn20659	NCP	%	90			30-130	Pass	
2-Methylphenol (o-Cresol)	B21-Jn20659	NCP	%	44			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	B21-Jn20659	NCP	%	88			30-130	Pass	
4-Nitrophenol	B21-Jn20659	NCP	%	60			30-130	Pass	
Dinoseb	B21-Jn20659	NCP	%	117			30-130	Pass	
Phenol	B21-Jn20659	NCP	%	20			30-130	Fail	Q08
Spike - % Recovery									
				Result 1					
Total Suspended Solids Dried at 103–105°C	M21-Jn32052	NCP	%	100			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Potassium	B21-Jn35787	NCP	%	93			75-125	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	M21-Jn36303	CP	%	99			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	M21-Jn36303	CP	%	107			75-125	Pass	
Magnesium	M21-Jn36303	CP	%	103			75-125	Pass	
Sodium	M21-Jn36303	CP	%	109			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	M21-Jn36308	CP	%	92			75-125	Pass	
Cadmium (filtered)	M21-Jn36308	CP	%	96			75-125	Pass	
Chromium (filtered)	M21-Jn36308	CP	%	97			75-125	Pass	
Copper (filtered)	M21-Jn36308	CP	%	93			75-125	Pass	
Lead (filtered)	M21-Jn36308	CP	%	91			75-125	Pass	
Manganese (filtered)	M21-Jn36308	CP	%	95			75-125	Pass	
Mercury (filtered)	M21-Jn36308	CP	%	95			75-125	Pass	
Nickel (filtered)	M21-Jn36308	CP	%	93			75-125	Pass	
Zinc (filtered)	M21-Jn36308	CP	%	97			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M21-Jn37913	NCP	%	92			75-125	Pass	
Cadmium	M21-Jn37913	NCP	%	93			75-125	Pass	
Chromium	M21-Jn37913	NCP	%	89			75-125	Pass	
Copper	M21-Jn37913	NCP	%	93			75-125	Pass	
Lead	M21-Jn37913	NCP	%	93			75-125	Pass	
Mercury	M21-Jn37913	NCP	%	98			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel	M21-Jn37913	NCP	%	90			75-125	Pass	
Zinc	M21-Jn37913	NCP	%	78			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S21-Jn36188	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	S21-Jn38525	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	S21-Jn38525	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	S21-Jn38525	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Naphthalene	M21-Jn40876	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	S21-Jn36188	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	S21-Jn38525	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	S21-Jn38525	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	S21-Jn38525	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Jn40876	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-Jn40876	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Jn40876	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Jn40876	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Jn40876	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Jn40876	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M21-Jn38926	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M21-Jn38926	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M21-Jn38926	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M21-Jn38926	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M21-Jn38926	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M21-Jn38926	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M21-Jn38926	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M21-Jn38926	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M21-Jn38926	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M21-Jn38926	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M21-Jn38926	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M21-Jn38926	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M21-Jn38926	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M21-Jn38926	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M21-Jn38926	NCP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M21-Jn38926	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M21-Jn38926	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M21-Jn38926	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Acenaphthylene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Anthracene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benz(a)anthracene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(a)pyrene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(b&j)fluoranthene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(g.h.i)perylene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(k)fluoranthene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Chrysene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Dibenz(a.h)anthracene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluoranthene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluorene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Naphthalene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Phenanthrene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Pyrene	B21-Jn41813	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Dissolved Solids Dried at 180°C ± 2°C	M21-Jn36135	NCP	mg/L	260	300	16	30%	Pass	
Total Suspended Solids Dried at 103–105°C	M21-Jn36137	NCP	mg/L	280	380	29	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Potassium	B21-Jn35787	NCP	mg/L	37	38	3.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M21-Jn36303	CP	mg/L	0.02	0.02	15	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M21-Jn36306	CP	mg/L	< 0.004	< 0.004	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
pH (at 25 °C)	M21-Jn36308	CP	pH Units	7.1	7.1	pass	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M21-Jn36308	CP	mg/L	47	46	2.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M21-Jn36308	CP	mg/L	< 10	< 10	<1	30%	Pass	
Hydroxide Alkalinity (as CaCO3)	M21-Jn36308	CP	mg/L	< 20	< 20	<1	30%	Pass	
Total Alkalinity (as CaCO3)	M21-Jn36308	CP	mg/L	47	46	2.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M21-Jn36308	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	M21-Jn36308	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M21-Jn36308	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M21-Jn36308	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	M21-Jn36308	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	M21-Jn36308	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Mercury (filtered)	M21-Jn36308	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M21-Jn36308	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc (filtered)	M21-Jn36308	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
pH (at 25 °C)	M21-Jn36309	CP	pH Units	8.1	8.2	pass	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M21-Jn36309	CP	mg/L	610	630	4.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M21-Jn36309	CP	mg/L	< 10	< 10	<1	30%	Pass	
Hydroxide Alkalinity (as CaCO3)	M21-Jn36309	CP	mg/L	< 20	< 20	<1	30%	Pass	
Total Alkalinity (as CaCO3)	M21-Jn36309	CP	mg/L	610	630	4.0	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
Chloride	M21-Jn36310	CP	mg/L	38	42	11	30%	Pass	
Ferrous Iron - Fe2+	M21-Jn36310	CP	mg/L	0.22	0.19	14	30%	Pass	
Sulphate (as SO4)	M21-Jn36310	CP	mg/L	41	42	1.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M21-Jn37913	NCP	mg/L	0.011	0.011	5.0	30%	Pass	
Cadmium	M21-Jn37913	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M21-Jn37913	NCP	mg/L	0.074	0.075	1.0	30%	Pass	
Copper	M21-Jn37913	NCP	mg/L	0.007	0.007	4.0	30%	Pass	
Lead	M21-Jn37913	NCP	mg/L	0.024	0.024	2.0	30%	Pass	
Mercury	M21-Jn37913	NCP	mg/L	0.0002	0.0003	11	30%	Pass	
Nickel	M21-Jn37913	NCP	mg/L	0.023	0.022	2.0	30%	Pass	
Zinc	M21-Jn37913	NCP	mg/L	0.23	0.23	1.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised by:

Elvis Dsouza	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Scott Beddoes	Senior Analyst-Inorganic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : GHD Pty Ltd, Sydney	**Contact Name :** Terry Nham / Charlotte Gray	**Purchase Order :** 2127234	**COC Number :**
Office Address :	**Project Manager :** Henry Luo	**PROJECT Number :** 2127234	**Eurofins | mgt quote ID :** GHD Rates 2020/2021
Level 15, 133 Castlereagh Street, Sydney NSW 2000	**Email for results :** terry.nham@ghd.com henry.luo@ghd.com charlotte.gray@ghd.com	**PROJECT Name :** Central	**Data output format:** ESDAT

Special Directions & Comments :

Eurofins | mgt DI water batch number: 50329

Analytes

	Sample ID	Date	Matrix	TRH, BTEXN, 8 Metals (Dissolved) (Suite B6)	PAH - Trace LOR	Phenols		TRH (with Silica Gel Cleanup)	Cyanide - Trace Level (<0.004 mg/L)	Ammonia	Cation (B11D) and Anion (B11E)		Ferrous Iron	Manganese	pH	TDS	TSS		TRH C6-C10 / BTEX	8 Metals (Total)					
1	CSM_BH02	12/7/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
2	CSM_BH04	12/7/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
3	CSM_BH06	13/7/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
4	CSM_BH08	12/7/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
5	CSM_BH10S	12/7/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
6	CSM_BH12S	13/7/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
7	SRT_BH047	14/7/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
8	SRT_BH052	14/7/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
9	GASW_BH10	12/7/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
10	GASW_BH11	13/7/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
11	GASW_BH23	13/7/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
12	GASW_BH25A	13/7/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
13	QC01	12/7/21	Water	X	X																				
14	RB01	13/7/21	Water																X						
15	Trip Blank	12/7/21	Water															X							
16	Trip Spike	12/7/21	Water															X							

Some common holding times (with correct preservation).
For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

	500P	250P	60P	1LA	40mL vial	200mL A	Jar	Bag	Sample comments:
1	1		4		2	2			
2	1		4		2	2			
3	1		4		2	2			
4	1		4		2	2			
5	1		4		2	2			
6	1		4		2	2			
7	1		4		2	2			
8	1		4		2	2			
9	1		4		2	2			
10	1		4		2	2			
11	1		4		2	2			
12	1		4		2	2			
13			1		2	2			
14			1						
15					2				
16					2				

Laboratory Staff

Relinquished By: Terry Nham - GHD
Date & Time : 14/07/2021
Signature:

Received By:
Date & Time :
Signature:

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☒ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☒ Hand Delivered
☐ Postal
Courier Consignment # :

M-H
14,7,21
12:36pm

Temperature on arrival: 2.6

Report number: 810513

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CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : GHD Pty Ltd, Sydney	**Contact Name :** Terry Nham / Charlotte Gray	**Purchase Order :** 2127234	**COC Number :**
Office Address :	**Project Manager :** Henry Luo	**PROJECT Number :** 2127234	**Eurofins | mgt quote ID :** GHD Rates 2020/2021
Level 15, 133 Castlereagh Street, Sydney NSW 2000	**Email for results :** terry.nham@ghd.com henry.luo@ghd.com charlotte.gray@ghd.com	**PROJECT Name :** Central	**Data output format:** ESDAT

Special Directions & Comments :

Eurofins | mgt DI water batch number: 50325

Analytes

	Sample ID	Date	Matrix	TRH, BTEXN, 8 Metals (Dissolved) (Suite B6)	PAH - Trace LOR	Phenols		TRH (with Silica Gel Cleanup)	Cyanide - Trace Level (<0.004 mg/L)	Ammonia	Sulfide (B11D) and Sulfite (B11E)		Ferrous Iron	Manganese	pH	TDS	TSS		TRH C6-C10 / BTEX	8 Metals (Total)					
1	SRT_BH050	14/7/21	Water	X	X	X		X	X	X	X		X	X	X	X	X		X	X					
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									
13																									
14																									
15																									
16																									

Some common holding times (with correct preservation).
For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

500P	250P	60P	1LA	40mL vial	200mL A	Jar	Bag
		3		2	1		

Sample comments:

Laboratory Staff

Relinquished By: Terry Nham - GHD
Date & Time : 14/07/2021
Signature:

Received By:
Date & Time :
Signature:

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☑ Hand Delivered
☐ Postal
Courier Consignment # :

M.H
14/7/21
12:36pm

Temperature on arrival: 2-6

Report number: 810513

eurofins | Environment Testing

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IANZ # 1327

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43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	GHD Pty Ltd NSW
Contact name:	Henry Luo
Project name:	CENTRAL
Project ID:	2127234
Turnaround time:	5 Day
Date/Time received	Jul 14, 2021 12:36 PM
Eurofins reference	810513

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 2.7 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Preserve container not received for sample GASW-BH23, subsampled from Plastic Bottle into preserved bottle.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Elvis Dsouza on phone : or by email: ElvisDsouza@eurofins.com

Results will be delivered electronically via email to Henry Luo - henry.luo@ghd.com.

Note: A copy of these results will also be delivered to the general GHD Pty Ltd NSW email address.

GHD Pty Ltd NSW
Level 15, 133 Castlereagh Street
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Henry Luo**

Report **810513-W-V2**
Project name CENTRAL
Project ID 2127234
Received Date Jul 14, 2021

Client Sample ID			**CSM-BH02**	**CSM-BH04**	**CSM-BH06**	**CSM-BH08**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**S21-Jl26222**	**S21-Jl26223**	**S21-Jl26224**	**S21-Jl26225**
Date Sampled			**Jul 12, 2021**	**Jul 12, 2021**	**Jul 12, 2021**	**Jul 12, 2021**
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	88	94	92	89
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			CSM-BH02	CSM-BH04	CSM-BH06	CSM-BH08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-JI26222	S21-JI26223	S21-JI26224	S21-JI26225
Date Sampled			Jul 12, 2021	Jul 12, 2021	Jul 12, 2021	Jul 12, 2021
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.002	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	88	64	52	54
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00009
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00003
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00018
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00039
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00028
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00018
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00026
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00022
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00004
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00027
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00022
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00003
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00004
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00037
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00625
2-Fluorobiphenyl (surr.)	1	%	51	54	51	51
p-Terphenyl-d14 (surr.)	1	%	55	67	55	60
Ammonia (as N)	0.01	mg/L	0.02	0.10	< 0.01	0.05
Chloride	1	mg/L	150	66	300	110
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.05	mg/L	< 0.05	10	2.2	5.7
pH (at 25 °C)	0.1	pH Units	8.4	7.8	8.3	6.7

Client Sample ID			CSM-BH02	CSM-BH04	CSM-BH06	CSM-BH08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-JI26222	S21-JI26223	S21-JI26224	S21-JI26225
Date Sampled			Jul 12, 2021	Jul 12, 2021	Jul 12, 2021	Jul 12, 2021
Test/Reference	LOR	Unit				
Sulphate (as SO4)	5	mg/L	30	38	28	44
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	560	280	580	340
Total Suspended Solids Dried at 103–105°C	1	mg/L	3000	350	260	20
Hardness mg equivalent CaCO3/L	5	mg/L	460	79	220	110
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	300	120	150	110
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	300	120	150	110
Alkali Metals						
Calcium	0.5	mg/L	50	8.0	32	13
Magnesium	0.5	mg/L	81	14	34	19
Potassium	0.5	mg/L	4.8	2.8	4.6	3.8
Sodium	0.5	mg/L	110	72	110	86
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	0.006	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.094	0.37	0.45	0.34
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.005	0.041	0.010	0.023
Zinc (filtered)	0.005	mg/L	0.015	0.031	0.042	0.024

Client Sample ID			CSM-BH10S	CSM-BH12S	GASW-BH25A	SRT-BH047
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-JI26226	S21-JI26227	S21-JI26228	S21-JI26229
Date Sampled			Jul 12, 2021	Jul 12, 2021	Jul 12, 2021	Jul 12, 2021
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	0.002	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	89	94	90	92
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	0.15	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	0.06	< 0.05

Client Sample ID			CSM-BH10S	CSM-BH12S	GASW-BH25A	SRT-BH047
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Jl26226	S21-Jl26227	S21-Jl26228	S21-Jl26229
Date Sampled			Jul 12, 2021	Jul 12, 2021	Jul 12, 2021	Jul 12, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	0.06	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	0.16	< 0.1
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.002	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	77	89	56	60
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Client Sample ID			CSM-BH10S	CSM-BH12S	GASW-BH25A	SRT-BH047
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Jl26226	S21-Jl26227	S21-Jl26228	S21-Jl26229
Date Sampled			Jul 12, 2021	Jul 12, 2021	Jul 12, 2021	Jul 12, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	66	69	97	55
p-Terphenyl-d14 (surr.)	1	%	79	87	57	62
Ammonia (as N)	0.01	mg/L	0.18	0.06	0.03	0.21
Chloride	1	mg/L	24	57	5000	5000
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.05	mg/L	< 0.05	6.0	< 0.05	< 0.05
pH (at 25 °C)	0.1	pH Units	6.7	7.7	8.1	6.8
Sulphate (as SO4)	5	mg/L	55	120	660	790
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	170	360	170	180
Total Suspended Solids Dried at 103–105°C	1	mg/L	160	140	4.1	29
Hardness mg equivalent CaCO3/L	5	mg/L	37	27	98	73
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	< 20	78	96	< 20
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	< 20	78	96	< 20
Alkali Metals						
Calcium	0.5	mg/L	4.8	2.5	34	14
Magnesium	0.5	mg/L	6.2	5.0	3.4	9.4
Potassium	0.5	mg/L	2.3	2.1	2.5	0.7
Sodium	0.5	mg/L	31	100	14	20
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	0.003	0.003	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	0.003	0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.49	0.45	< 0.005	0.020
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.001	0.014	< 0.001	0.004
Zinc (filtered)	0.005	mg/L	< 0.005	0.054	< 0.005	0.027

Client Sample ID			SRT-BH052	GASW-BH10	GASW-BH11	GASW-BH23
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Jl26230	S21-Jl26231	S21-Jl26232	S21-Jl26233
Date Sampled			Jul 12, 2021	Jul 12, 2021	Jul 12, 2021	Jul 12, 2021
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.031
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	94	95	89	98
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	0.05
TRH C10-C14	0.05	mg/L	< 0.05	0.09	0.16	0.10
TRH C15-C28	0.1	mg/L	< 0.1	0.2	0.4	0.2
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	0.29	0.56	0.4
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	0.06
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	0.03
TRH >C10-C16	0.05	mg/L	< 0.05	0.10	0.29	0.12
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	0.1	0.29	0.12
TRH >C16-C34	0.1	mg/L	< 0.1	0.2	0.3	0.3
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	0.3	0.59	0.42
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.002	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	46	43	47	57
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	0.14	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	0.1	0.2	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	0.1	0.3	< 0.1

Client Sample ID			SRT-BH052	GASW-BH10	GASW-BH11	GASW-BH23
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Jl26230	S21-Jl26231	S21-Jl26232	S21-Jl26233
Date Sampled			Jul 12, 2021	Jul 12, 2021	Jul 12, 2021	Jul 12, 2021
Test/Reference	LOR	Unit				
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	0.2	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	0.2	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00004
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00003
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	0.00003	< 0.00001	0.00006
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	0.00003
Total PAH*	0.00001	mg/L	< 0.00001	0.00003	< 0.00001	0.00016
2-Fluorobiphenyl (surr.)	1	%	99	71	71	84
p-Terphenyl-d14 (surr.)	1	%	60	88	85	92
Ammonia (as N)	0.01	mg/L	0.03	0.02	0.03	0.32
Chloride	1	mg/L	47	170	39	11
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.05	mg/L	< 0.05	5.2	0.19	5.9
pH (at 25 °C)	0.1	pH Units	7.5	8.2	7.6	8.2
Sulphate (as SO4)	5	mg/L	36	< 5	40	96
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	300	820	390	2300
Total Suspended Solids Dried at 103–105°C	1	mg/L	130	220	1000	16
Hardness mg equivalent CaCO3/L	5	mg/L	62	430	38	220
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	53	490	82	160
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	53	490	82	160
Alkali Metals						
Calcium	0.5	mg/L	17	90	6.6	73
Magnesium	0.5	mg/L	5.0	51	5.1	8.3
Potassium	0.5	mg/L	1.7	10	1.5	5.6
Sodium	0.5	mg/L	46	130	34	17
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			SRT-BH052	GASW-BH10	GASW-BH11	GASW-BH23
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Jl26230	S21-Jl26231	S21-Jl26232	S21-Jl26233
Date Sampled			Jul 12, 2021	Jul 12, 2021	Jul 12, 2021	Jul 12, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	< 0.005	0.097	0.11	0.23
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	0.0002
Nickel (filtered)	0.001	mg/L	< 0.001	0.001	< 0.001	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005	0.009	0.019	0.032

Client Sample ID			QC01	RB01	TRIP SPIKE	TRIP BLANK
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Jl26234	S21-Jl26235	S21-Jl26236	S21-Jl26237
Date Sampled			Jul 12, 2021	Jul 12, 2021	Jul 12, 2021	Jul 12, 2021
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.001	mg/L	< 0.001	-	-	< 0.001
Toluene	0.001	mg/L	< 0.001	-	-	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	-	-	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	-	-	< 0.002
o-Xylene	0.001	mg/L	< 0.001	-	-	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	-	-	< 0.003
4-Bromofluorobenzene (surr.)	1	%	94	-	-	92
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	-	-	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	-	-	-
TRH C15-C28	0.1	mg/L	< 0.1	-	-	-
TRH C29-C36	0.1	mg/L	< 0.1	-	-	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	-	-	-
Naphthalene[N02]	0.01	mg/L	< 0.01	-	-	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	-	-	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-	-	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	-	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-	-	-
TRH >C16-C34	0.1	mg/L	< 0.1	-	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	-	-	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	-	-	-
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	-	-	-
Acenaphthylene	0.00001	mg/L	< 0.00001	-	-	-
Anthracene	0.00001	mg/L	< 0.00001	-	-	-
Benz(a)anthracene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Chrysene	0.00001	mg/L	< 0.00001	-	-	-
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	-	-	-
Fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Fluorene	0.00001	mg/L	< 0.00001	-	-	-
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	-	-	-
Naphthalene	0.00001	mg/L	< 0.00001	-	-	-

Client Sample ID			QC01	RB01	TRIP SPIKE	TRIP BLANK
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-JI26234	S21-JI26235	S21-JI26236	S21-JI26237
Date Sampled			Jul 12, 2021	Jul 12, 2021	Jul 12, 2021	Jul 12, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Phenanthrene	0.00001	mg/L	< 0.00001	-	-	-
Pyrene	0.00001	mg/L	< 0.00001	-	-	-
Total PAH*	0.00001	mg/L	< 0.00001	-	-	-
2-Fluorobiphenyl (surr.)	1	%	79	-	-	-
p-Terphenyl-d14 (surr.)	1	%	50	-	-	-
Heavy Metals						
Arsenic	0.001	mg/L	-	< 0.001	-	-
Arsenic (filtered)	0.001	mg/L	< 0.001	-	-	-
Cadmium	0.0002	mg/L	-	< 0.0002	-	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	-	-	-
Chromium	0.001	mg/L	-	< 0.001	-	-
Chromium (filtered)	0.001	mg/L	< 0.001	-	-	-
Copper	0.001	mg/L	-	< 0.001	-	-
Copper (filtered)	0.001	mg/L	< 0.001	-	-	-
Lead	0.001	mg/L	-	< 0.001	-	-
Lead (filtered)	0.001	mg/L	< 0.001	-	-	-
Mercury	0.0001	mg/L	-	< 0.0001	-	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	-	-	-
Nickel	0.001	mg/L	-	< 0.001	-	-
Nickel (filtered)	0.001	mg/L	0.042	-	-	-
Zinc	0.005	mg/L	-	< 0.005	-	-
Zinc (filtered)	0.005	mg/L	0.030	-	-	-
Total Recoverable Hydrocarbons						
Naphthalene	1	%	-	-	110	-
TRH C6-C10	1	%	-	-	73	-
TRH C6-C9	1	%	-	-	71	-
BTEX						
Benzene	1	%	-	-	98	-
Ethylbenzene	1	%	-	-	120	-
m&p-Xylenes	1	%	-	-	120	-
o-Xylene	1	%	-	-	76	-
Toluene	1	%	-	-	110	-
Xylenes - Total	1	%	-	-	91	-
4-Bromofluorobenzene (surr.)	1	%	-	-	90	-

Client Sample ID			SRT-BH050
Sample Matrix			Water
Eurofins Sample No.			S21-JI26238
Date Sampled			Jul 12, 2021
Test/Reference	LOR	Unit	
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	95

Client Sample ID			SRT-BH050
Sample Matrix			Water
Eurofins Sample No.			S21-JI26238
Date Sampled			Jul 12, 2021
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1
Phenols (Halogenated)			
2-Chlorophenol	0.003	mg/L	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01
Phenols (non-Halogenated)			
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006
Total cresols*	0.002	mg/L	< 0.006
4-Nitrophenol	0.03	mg/L	< 0.03
Dinoseb	0.1	mg/L	< 0.1
Phenol	0.003	mg/L	< 0.003
Phenol-d6 (surr.)	1	%	54
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)			
Acenaphthene	0.00001	mg/L	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001

Client Sample ID			SRT-BH050
Sample Matrix			Water
Eurofins Sample No.			S21-Jl26238
Date Sampled			Jul 12, 2021
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons (Trace level)			
Fluorene	0.00001	mg/L	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	91
p-Terphenyl-d14 (surr.)	1	%	55
Ammonia (as N)	0.01	mg/L	0.02
Cyanide (total)	0.004	mg/L	0.008
Heavy Metals			
Arsenic (filtered)	0.001	mg/L	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001
Copper (filtered)	0.001	mg/L	0.004
Lead (filtered)	0.001	mg/L	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001
Nickel (filtered)	0.001	mg/L	0.001
Zinc (filtered)	0.005	mg/L	0.009

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins Suite B7 (filtered metals/PAH trace level)			
BTEX	Melbourne	Jul 16, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Jul 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jul 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Jul 23, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Metals M8 filtered	Melbourne	Jul 16, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	Jul 16, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jul 16, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
TRH - 2013 NEPM Fractions (after silica gel clean-up)	Melbourne	Jul 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Melbourne	Jul 16, 2021	7 Days
- Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A			
Ammonia (as N)	Melbourne	Jul 16, 2021	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Cyanide (total)	Melbourne	Jul 16, 2021	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Ferrous Iron - Fe2+	Melbourne	Jul 16, 2021	7 Days
- Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser			
pH (at 25 °C)	Melbourne	Jul 16, 2021	0 Hours
- Method: LTM-GEN-7090 pH in water by ISE			
Total Suspended Solids Dried at 103–105°C	Melbourne	Jul 16, 2021	7 Days
- Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry			
Metals M8	Melbourne	Jul 16, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Heavy Metals (filtered)	Melbourne	Jul 16, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11E: Cl/SO4/Alkalinity			
Chloride	Melbourne	Jul 16, 2021	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Sulphate (as SO4)	Melbourne	Jul 16, 2021	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Alkalinity (speciated)	Melbourne	Jul 16, 2021	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Total Dissolved Solids Dried at 180°C ± 2°C	Melbourne	Jul 16, 2021	7 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			
Eurofins Suite B11D: Na/K/Ca/Mg and Hardness			
Hardness mg equivalent CaCO3/L	Melbourne	Jul 16, 2021	28 Days
- Method: APHA 2340B Hardness by Calculation			
Alkali Metals	Melbourne	Jul 16, 2021	180 Days
- Method: LTM-MET-3010 Alkali Metals Sulfur Silicon Phosphorus by ICP-AES			

eurofins | Environment Testing

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Project Name: CENTRAL
Project ID: 2127234

Order No.: 2127234
Report #: 810513
Phone: 02 9239 7100
Fax: 02 9239 7199

Received: Jul 14, 2021 12:36 PM
Due: Jul 21, 2021
Priority: 5 Day
Contact Name: Henry Luo

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Ammonia (as N)	Cyanide (total)	Ferrous Iron - Fe2+	Manganese (filtered)	pH (at 25 °C)	Total Suspended Solids Dried at 103–105°C	Metals M8	Phenols (Speciated)	TRH (after Silica Gel cleanup)	BTEXN and Volatile TRH	Eurofins Suite B11D: Na/K/Ca/Mg and Hardness	Eurofins Suite B11E: Cl/SO4/Alkalinity	BTEXN and Volatile TRH	Eurofins Suite B7 (filtered metals/PAH trace level)	Total Dissolved Solids Dried at 180°C ± 2°C
Melbourne Laboratory - NATA Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217																				
Brisbane Laboratory - NATA Site # 20794																				
Perth Laboratory - NATA Site # 23736																				
Mayfield Laboratory - NATA Site # 25079																				
External Laboratory																				
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**															
1	CSM-BH02	Jul 12, 2021		Water	S21-Jl26222	X	X	X	X	X	X		X	X		X	X		X	X
2	CSM-BH04	Jul 12, 2021		Water	S21-Jl26223	X	X	X	X	X	X		X	X		X	X		X	X
3	CSM-BH06	Jul 12, 2021		Water	S21-Jl26224	X	X	X	X	X	X		X	X		X	X		X	X
4	CSM-BH08	Jul 12, 2021		Water	S21-Jl26225	X	X	X	X	X	X		X	X		X	X		X	X
5	CSM-BH10S	Jul 12, 2021		Water	S21-Jl26226	X	X	X	X	X	X		X	X		X	X		X	X
6	CSM-BH12S	Jul 12, 2021		Water	S21-Jl26227	X	X	X	X	X	X		X	X		X	X		X	X
7	GASW-BH25A	Jul 12, 2021		Water	S21-Jl26228	X	X	X	X	X	X		X	X		X	X		X	X
8	SRT-BH047	Jul 12, 2021		Water	S21-Jl26229	X	X	X	X	X	X		X	X		X	X		X	X
9	SRT-BH052	Jul 12, 2021		Water	S21-Jl26230	X	X	X	X	X	X		X	X		X	X		X	X

eurofins | Environment Testing

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Sydney
NSW 2000

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Order No.: 2127234
Report #: 810513
Phone: 02 9239 7100
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Received: Jul 14, 2021 12:36 PM
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Contact Name: Henry Luo

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Sample Detail						Ammonia (as N)	Cyanide (total)	Ferrous Iron - Fe2+	Manganese (filtered)	pH (at 25 °C)	Total Suspended Solids Dried at 103–105°C	Metals M8	Phenols (Speciated)	TRH (after Silica Gel cleanup)	BTEXN and Volatile TRH	Eurofins Suite B11D: Na/K/Ca/Mg and Hardness	Eurofins Suite B11E: Cl/SO4/Alkalinity	BTEXN and Volatile TRH	Eurofins Suite B7 (filtered metals/PAH trace level)	Total Dissolved Solids Dried at 180°C ± 2°C
Melbourne Laboratory - NATA Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217																				
Brisbane Laboratory - NATA Site # 20794																				
Perth Laboratory - NATA Site # 23736																				
Mayfield Laboratory - NATA Site # 25079																				
External Laboratory																				
10	GASW-BH10	Jul 12, 2021		Water	S21-Jl26231	X	X	X	X	X	X		X	X		X	X		X	X
11	GASW-BH11	Jul 12, 2021		Water	S21-Jl26232	X	X	X	X	X	X		X	X		X	X		X	X
12	GASW-BH23	Jul 12, 2021		Water	S21-Jl26233	X	X	X	X	X	X		X	X		X	X		X	X
13	QC01	Jul 12, 2021		Water	S21-Jl26234														X	
14	RB01	Jul 12, 2021		Water	S21-Jl26235							X								
15	TRIP SPIKE	Jul 12, 2021		Water	S21-Jl26236													X		
16	TRIP BLANK	Jul 12, 2021		Water	S21-Jl26237										X					
17	SRT-BH050	Jul 12, 2021		Water	S21-Jl26238	X	X						X						X	
Test Counts						13	13	12	12	12	12	1	13	12	1	12	12	1	14	12

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Total PAH*	mg/L	-			0.00001	N/A	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Cyanide (total)	mg/L	< 0.004			0.004	Pass	
Ferrous Iron - Fe2+	mg/L	< 0.05			0.05	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	mg/L	< 10			10	Pass	
Total Suspended Solids Dried at 103–105°C	mg/L	1.0			1	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Carbonate Alkalinity (as CaCO3)	mg/L	< 10			10	Pass	
Hydroxide Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Total Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	95			70-130	Pass	
Toluene	%	86			70-130	Pass	
Ethylbenzene	%	95			70-130	Pass	
m&p-Xylenes	%	94			70-130	Pass	
Xylenes - Total*	%	92			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	105			70-130	Pass	
TRH C10-C14	%	123			70-130	Pass	
Naphthalene	%	89			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
TRH C6-C10	%	105			70-130	Pass	
TRH C6-C10	%	99			70-130	Pass	
TRH >C10-C16	%	125			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	119			30-130	Pass	
2.4-Dichlorophenol	%	126			30-130	Pass	
2.4.5-Trichlorophenol	%	114			30-130	Pass	
2.4.6-Trichlorophenol	%	36			30-130	Pass	
2.6-Dichlorophenol	%	103			30-130	Pass	
4-Chloro-3-methylphenol	%	104			30-130	Pass	
Pentachlorophenol	%	108			30-130	Pass	
Tetrachlorophenols - Total	%	114			30-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	110			30-130	Pass	
2-Methyl-4.6-dinitrophenol	%	61			30-130	Pass	
2-Nitrophenol	%	95			30-130	Pass	
2.4-Dimethylphenol	%	70			30-130	Pass	
2.4-Dinitrophenol	%	94			30-130	Pass	
2-Methylphenol (o-Cresol)	%	110			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	%	76			30-130	Pass	
4-Nitrophenol	%	55			30-130	Pass	
Dinoseb	%	84			30-130	Pass	
Phenol	%	47			30-130	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	125			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	123			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	119			70-130	Pass	
Acenaphthylene	%	81			70-130	Pass	
Anthracene	%	72			70-130	Pass	
Benz(a)anthracene	%	103			70-130	Pass	
Benzo(a)pyrene	%	88			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(b&j)fluoranthene	%	129			70-130	Pass	
Benzo(g.h.i)perylene	%	94			70-130	Pass	
Benzo(k)fluoranthene	%	113			70-130	Pass	
Chrysene	%	120			70-130	Pass	
Dibenz(a.h)anthracene	%	95			70-130	Pass	
Fluoranthene	%	91			70-130	Pass	
Fluorene	%	111			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	84			70-130	Pass	
Naphthalene	%	118			70-130	Pass	
Phenanthrene	%	99			70-130	Pass	
Pyrene	%	91			70-130	Pass	
LCS - % Recovery							
Ammonia (as N)	%	107			70-130	Pass	
Chloride	%	90			70-130	Pass	
Cyanide (total)	%	123			70-130	Pass	
Ferrous Iron - Fe2+	%	85			70-130	Pass	
Sulphate (as SO4)	%	112			70-130	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	%	97			70-130	Pass	
Total Suspended Solids Dried at 103–105°C	%	87			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Carbonate Alkalinity (as CaCO3)	%	100			70-130	Pass	
Total Alkalinity (as CaCO3)	%	106			70-130	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	105			80-120	Pass	
Magnesium	%	106			80-120	Pass	
Potassium	%	97			80-120	Pass	
Sodium	%	94			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	98			80-120	Pass	
Cadmium	%	94			80-120	Pass	
Chromium	%	85			80-120	Pass	
Copper	%	83			80-120	Pass	
Lead	%	91			80-120	Pass	
Mercury	%	85			80-120	Pass	
Nickel	%	82			80-120	Pass	
Zinc	%	85			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M21-Jl33166	NCP	%	112			70-130	Pass	
TRH >C10-C16	M21-Jl33166	NCP	%	111			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chloride	M21-Jl24212	NCP	%	103			70-130	Pass	
Sulphate (as SO4)	M21-Jl26459	NCP	%	90			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	S21-Jl26222	CP	%	88			75-125	Pass	
Cadmium (filtered)	S21-Jl26222	CP	%	87			75-125	Pass	
Chromium (filtered)	S21-Jl26222	CP	%	83			75-125	Pass	
Copper (filtered)	S21-Jl26222	CP	%	83			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Lead (filtered)	S21-Jl26222	CP	%	82			75-125	Pass	
Manganese (filtered)	S21-Jl26222	CP	%	71			75-125	Fail	Q08
Mercury (filtered)	S21-Jl26222	CP	%	80			75-125	Pass	
Nickel (filtered)	S21-Jl26222	CP	%	82			75-125	Pass	
Zinc (filtered)	S21-Jl26222	CP	%	81			75-125	Pass	
Spike - % Recovery									
Alkalinity (speciated)				Result 1					
Carbonate Alkalinity (as CaCO3)	W21-Jl25053	NCP	%	54			70-130	Fail	Q08
Total Alkalinity (as CaCO3)	W21-Jl25053	NCP	%	58			70-130	Fail	Q08
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	S21-Jl26228	CP	%	101			75-125	Pass	
Magnesium	S21-Jl26228	CP	%	98			75-125	Pass	
Potassium	S21-Jl26228	CP	%	92			75-125	Pass	
Sodium	S21-Jl26228	CP	%	96			75-125	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	S21-Jl26230	CP	%	110			70-130	Pass	
Total Suspended Solids Dried at 103–105°C	S21-Jl26230	CP	%	96			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	S21-Jl26232	CP	%	89			75-125	Pass	
Cadmium (filtered)	S21-Jl26232	CP	%	89			75-125	Pass	
Chromium (filtered)	S21-Jl26232	CP	%	85			75-125	Pass	
Copper (filtered)	S21-Jl26232	CP	%	85			75-125	Pass	
Lead (filtered)	S21-Jl26232	CP	%	85			75-125	Pass	
Manganese (filtered)	S21-Jl26232	CP	%	73			75-125	Fail	Q08
Mercury (filtered)	S21-Jl26232	CP	%	77			75-125	Pass	
Nickel (filtered)	S21-Jl26232	CP	%	84			75-125	Pass	
Zinc (filtered)	S21-Jl26232	CP	%	86			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M21-Jl32905	NCP	%	85			75-125	Pass	
Cadmium	M21-Jl32905	NCP	%	85			75-125	Pass	
Chromium	M21-Jl32905	NCP	%	89			75-125	Pass	
Copper	M21-Jl32905	NCP	%	89			75-125	Pass	
Lead	M21-Jl32905	NCP	%	89			75-125	Pass	
Mercury	M21-Jl32905	NCP	%	83			75-125	Pass	
Nickel	M21-Jl32905	NCP	%	87			75-125	Pass	
Zinc	M21-Jl32905	NCP	%	85			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M21-Jl33127	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-Jl33127	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-Jl33127	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	M21-Jl33127	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-Jl33127	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-Jl33127	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M21-Jl33347	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M21-Jl33347	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M21-Jl33347	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M21-Jl33347	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	M21-Jl33347	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
4-Chloro-3-methylphenol	M21-Jl33347	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M21-Jl33347	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M21-Jl33347	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M21-Jl33347	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M21-Jl33347	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M21-Jl33347	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M21-Jl33347	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	M21-Jl33347	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M21-Jl33347	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M21-Jl33347	NCP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M21-Jl33347	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M21-Jl33347	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M21-Jl33347	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	B21-Jl12044	NCP	mg/L	2900	3200	8.0	30%	Pass	
Sulphate (as SO4)	B21-Jl12044	NCP	mg/L	500	520	3.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	S21-Jl26222	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	S21-Jl26222	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	S21-Jl26222	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	S21-Jl26222	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	S21-Jl26222	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	S21-Jl26222	CP	mg/L	0.094	0.086	9.0	30%	Pass	
Mercury (filtered)	S21-Jl26222	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	S21-Jl26222	CP	mg/L	0.005	0.005	13	30%	Pass	
Zinc (filtered)	S21-Jl26222	CP	mg/L	0.015	0.014	8.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ferrous Iron - Fe2+	S21-Jl26224	CP	mg/L	2.2	2.2	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Sodium	S21-Jl26228	CP	mg/L	14	14	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	S21-Jl26230	CP	mg/L	0.03	0.01	73	30%	Fail	Q15
Total Dissolved Solids Dried at 180°C ± 2°C	S21-Jl26230	CP	mg/L	300	370	22	30%	Pass	
Total Suspended Solids Dried at 103–105°C	S21-Jl26230	CP	mg/L	130	120	7.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	S21-Jl26231	CP	mg/L	< 0.004	< 0.004	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	S21-Jl26232	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	S21-Jl26232	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	S21-Jl26232	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	S21-Jl26232	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	S21-Jl26232	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	S21-Jl26232	CP	mg/L	0.11	0.12	3.0	30%	Pass	
Mercury (filtered)	S21-Jl26232	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	S21-Jl26232	CP	mg/L	< 0.001	0.001	14	30%	Pass	
Zinc (filtered)	S21-Jl26232	CP	mg/L	0.019	0.021	12	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
pH (at 25 °C)	S21-Jl26233	CP	pH Units	8.2	8.2	pass	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	S21-Jl26233	CP	mg/L	160	150	2.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	S21-Jl26233	CP	mg/L	< 10	< 10	<1	30%	Pass	
Hydroxide Alkalinity (as CaCO3)	S21-Jl26233	CP	mg/L	< 20	< 20	<1	30%	Pass	
Total Alkalinity (as CaCO3)	S21-Jl26233	CP	mg/L	160	150	2.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M21-Jl32905	NCP	mg/L	0.002	0.001	2.0	30%	Pass	
Cadmium	M21-Jl32905	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M21-Jl32905	NCP	mg/L	0.002	0.002	5.0	30%	Pass	
Copper	M21-Jl32905	NCP	mg/L	0.003	0.003	1.0	30%	Pass	
Lead	M21-Jl32905	NCP	mg/L	0.002	0.002	6.0	30%	Pass	
Mercury	M21-Jl32905	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M21-Jl32905	NCP	mg/L	0.001	< 0.001	17	30%	Pass	
Zinc	M21-Jl32905	NCP	mg/L	0.041	0.043	5.0	30%	Pass	

Comments

This report has been revised (V2) following repeat analysis.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Elvis Dsouza	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Scott Beddoes	Senior Analyst-Inorganic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : GHD Pty Ltd, Sydney	**Contact Name :** Terry Nham / Charlotte Gray	**Purchase Order :** 2127234	**COC Number :**
Office Address :	**Project Manager :** Henry Luo	**PROJECT Number :** 2127234	**Eurofins | mgt quote ID :** GHD Rates 2020/2021
Level 15, 133 Castlereagh Street, Sydney NSW 2000	**Email for results :** terry.nham@ghd.com henry.luo@ghd.com charlotte.gray@ghd.com	**PROJECT Name :** Central	**Data output format:** ESDAT

Special Directions & Comments :

Eurofins | mgt DI water batch number: S0332

Analytes

	Sample ID	Date	Matrix	TRH, BTEXN, 8 Metals (Dissolved) (Suite B6)	PAH - Trace LOR	Phenols		TRH (with Silica Gel Cleanup)	Cyanide - Trace Level (<0.004 mg/L)	Ammonia	Cation (B11D) and Anion (B11E)		Ferrous Iron	Manganese	pH	TDS	TSS		TRH C6-C10 / BTEX	8 Metals (Total)				
1	CSM_BH02	9/8/21	Water	X	X	X		X	X	X	X		X	X	X	X	X							
2	CSM_BH04	9/8/21	Water	X	X	X		X	X	X	X		X	X	X	X	X							
3	CSM_BH06	9/8/21	Water	X	X	X		X	X	X	X		X	X	X	X	X							
4	CSM_BH08	10/8/21	Water	X	X	X		X	X	X	X		X	X	X	X	X							
5	CSM_BH10S	10/8/21	Water	X	X	X		X	X	X	X		X	X	X	X	X							
6	CSM_BH12S	10/8/21	Water	X	X	X		X	X	X	X		X	X	X	X	X							
7	SRT_BH047	11/8/21	Water	X	X	X		X	X	X	X		X	X	X	X	X							
8	SRT_BH052	11/8/21	Water	X	X	X		X	X	X	X		X	X	X	X	X							
9	GASW_BH10	10/8/21	Water	X	X	X		X	X	X	X		X	X	X	X	X							
10	GASW_BH11	10/8/21	Water	X	X	X		X	X	X	X		X	X	X	X	X							
11	GASW_BH23	10/8/21	Water	X	X	X		X	X	X	X		X	X	X	X	X							
12	GASW_BH25A	10/8/21	Water	X	X	X		X	X	X	X		X	X	X	X	X							
13	QC01	9/8/21	Water	X	X																			
14	RB01	10/8/21	Water																	X				
15	Trip Blank	9/8/21	Water																X					
16	Trip Spike	9/8/21	Water																X					

Some common holding times (with correct preservation).
For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

	500P	250P	60P	1LA	40mL vial	200mL A	Jar	Bag	Sample comments:
1	1		4		2	2			
2	1		4		2	2			
3	1		4		2	2			
4	1		4		2	2			
5	1		4		2	2			
6	1		4		2	2			
7	1		4		2	2			
8	1		4		2	2			
9	1		4		2	2			
10	1		4		2	2			
11	1		4		2	2			
12	1		4		2	2			
13			1		2	2			
14			1						
15					2				
16					2				

Laboratory Staff

Relinquished By: Terry Nham - GHD
Date & Time : 11/8/2021
Signature:

Received By: GHN
Date & Time : 11/8/21 1:53pm
Signature: GHN

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☒ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☒ Hand Delivered
☐ Postal
Courier Consignment # :

Temperature on arrival: 0-2

Report number: 816445

eurofins | mgt

☑ **Sydney**
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Email: enquiries.melb@mgtlabmark.com.au

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : GHD Pty Ltd, Sydney
Office Address : Level 15, 133 Castlereagh Street, Sydney NSW 2000
Contact Name : Terry Nham / Charlotte Gray
Project Manager : Henry Luo
Email for results : terry.nham@ghd.com henry.luo@ghd.com charlotte.gray@ghd.com
Purchase Order : 2127234
PROJECT Number : 2127234
PROJECT Name : Central
COC Number :
Eurofins | mgt quote ID : GHD Rates 2020/2021
Data output format: ESDAT

Special Directions & Comments :

Eurofins | mgt DI water batch number: 50332

	Sample ID	Date	Matrix	TRH, BTEXN, 8 Metals (Dissolved) (Suite B6)	PAH - Trace LOR	Phenols	TRH (with Silica Gel Cleanup)	Cyanide - Trace Level (<0.004 mg/L)	Ammonia	Cation (B11D) and Anion (B11E)	Ferrous Iron	Manganese	pH	TDS	TSS	TRH C6-C10 / BTEX	8 Metals (Total)
1	~~SRT_BH030~~		~~Water~~	X	X	X	X	X	X	X	X	X	X	X	X		
2	QC02	10/8/21	Water	PLEASE SEND TO ALS WITH ATTACHED COC													
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	

Some common holding times (with correct preservation).
For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

500P	250P	60P	1LA	40mL vial	200mL A	Jar	Bag	Sample comments:
~~1~~		~~4~~		~~2~~	~~2~~			
		1		2	2			

Laboratory Staff

Relinquished By: Terry Nham - GHD
Date & Time : 11/8/2021
Signature:

Received By: [illegible]
Date & Time : 11/8/21 1:53pm
Signature: [illegible]

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☑ Hand Delivered
☐ Postal
Courier Consignment # :

Temperature on arrival: 0-2

Report number: 816445

eurofins | Environment Testing

ABN: 50 005 085 521 www.eurofins.com.au EnviroSales@eurofins.com

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IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	GHD Pty Ltd NSW
Contact name:	Terry Nham
Project name:	CENTRAL
Project ID:	2127234
Turnaround time:	5 Day
Date/Time received	Aug 12, 2021 1:53 PM
Eurofins reference	816445

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : .2 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✓	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Sample ID QC02 forwarded to ALS.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

John Nguyen on phone : or by email: JohnNguyen@eurofins.com

Results will be delivered electronically via email to Terry Nham - Terry.Nham@ghd.com.

Note: A copy of these results will also be delivered to the general GHD Pty Ltd NSW email address.

GHD Pty Ltd NSW
Level 15, 133 Castlereagh Street
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Terry Nham**

Report **816445-W-V2**
Project name CENTRAL
Project ID 2127234
Received Date Aug 12, 2021

Client Sample ID			**CSM_BH02**	**CSM_BH04**	**CSM_BH06**	**CSM_BH08**
Sample Matrix			**Water (Trace)**	**Water (Trace)**	**Water (Trace)**	**Water (Trace)**
Eurofins Sample No.			**S21-Au21204**	**S21-Au21205**	**S21-Au21206**	**S21-Au21207**
Date Sampled			**Aug 09, 2021**	**Aug 09, 2021**	**Aug 09, 2021**	**Aug 10, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	100	102	101	96
Phenols (Halogenated)						
2-Chlorophenol	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	< 0.0006
2.4-Dichlorophenol	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	< 0.0006
2.4.5-Trichlorophenol	0.0015	mg/L	< 0.0015	< 0.0015	< 0.0015	< 0.0015
2.4.6-Trichlorophenol	0.0015	mg/L	< 0.0015	< 0.0015	< 0.0015	< 0.0015
2.6-Dichlorophenol	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	< 0.0006
4-Chloro-3-methylphenol	0.0015	mg/L	< 0.0015	< 0.0015	< 0.0015	< 0.0015
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			CSM_BH02	CSM_BH04	CSM_BH06	CSM_BH08
Sample Matrix			Water (Trace)	Water (Trace)	Water (Trace)	Water (Trace)
Eurofins Sample No.			S21-Au21204	S21-Au21205	S21-Au21206	S21-Au21207
Date Sampled			Aug 09, 2021	Aug 09, 2021	Aug 09, 2021	Aug 10, 2021
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.0015	mg/L	< 0.0015	< 0.0015	< 0.0015	< 0.0015
2.4-Dimethylphenol	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
2.4-Dinitrophenol	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
2-Methylphenol (o-Cresol)	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	< 0.0006
3&4-Methylphenol (m&p-Cresol)	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	< 0.0006
Phenol-d6 (surr.)	1	%	43	30	50	50
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	101	67	101	97
p-Terphenyl-d14 (surr.)	1	%	87	50	81	78
Ammonia (as N)	0.01	mg/L	0.03	0.06	0.02	0.04
Chloride	1	mg/L	92	76	200	120
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.05	mg/L	0.13	3.7	1.6	6.0
pH (at 25 °C)	0.1	pH Units	7.7	7.3	7.0	7.4

Client Sample ID			CSM_BH02	CSM_BH04	CSM_BH06	CSM_BH08
Sample Matrix			Water (Trace)	Water (Trace)	Water (Trace)	Water (Trace)
Eurofins Sample No.			S21-Au21204	S21-Au21205	S21-Au21206	S21-Au21207
Date Sampled			Aug 09, 2021	Aug 09, 2021	Aug 09, 2021	Aug 10, 2021
Test/Reference	LOR	Unit				
Sulphate (as SO4)	5	mg/L	32	38	26	45
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	490	290	560	340
Total Suspended Solids Dried at 103–105°C	1	mg/L	780	390	320	9.0
Hardness mg equivalent CaCO3/L	5	mg/L	180	85	370	120
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	160	88	120	96
Carbonate Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	160	88	120	96
Alkali Metals						
Calcium	0.5	mg/L	37	11	62	15
Magnesium	0.5	mg/L	21	14	52	20
Potassium	0.5	mg/L	3.5	6.2	4.5	4.0
Sodium	0.5	mg/L	92	69	120	88
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.003	< 0.001	0.028	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.068	0.41	0.43	0.39
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.010	0.036	0.011	0.060
Zinc (filtered)	0.005	mg/L	0.021	0.036	0.13	0.032

Client Sample ID			CSM_BH10S	CSM_BH12S	SRT_BH047	SRT_BH052
Sample Matrix			Water (Trace)	Water (Trace)	Water (Trace)	Water (Trace)
Eurofins Sample No.			S21-Au21208	S21-Au21209	S21-Au21210	S21-Au21211
Date Sampled			Aug 10, 2021	Aug 10, 2021	Aug 11, 2021	Aug 11, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			CSM_BH10S	CSM_BH12S	SRT_BH047	SRT_BH052
Sample Matrix			Water (Trace)	Water (Trace)	Water (Trace)	Water (Trace)
Eurofins Sample No.			S21-Au21208	S21-Au21209	S21-Au21210	S21-Au21211
Date Sampled			Aug 10, 2021	Aug 10, 2021	Aug 11, 2021	Aug 11, 2021
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	98	98	103	100
Phenols (Halogenated)						
2-Chlorophenol	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	< 0.0006
2.4-Dichlorophenol	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	< 0.0006
2.4.5-Trichlorophenol	0.0015	mg/L	< 0.0015	< 0.0015	< 0.0015	< 0.0015
2.4.6-Trichlorophenol	0.0015	mg/L	< 0.0015	< 0.0015	< 0.0015	< 0.0015
2.6-Dichlorophenol	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	< 0.0006
4-Chloro-3-methylphenol	0.0015	mg/L	< 0.0015	< 0.0015	< 0.0015	< 0.0015
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.0015	mg/L	< 0.0015	< 0.0015	< 0.0015	< 0.0015
2.4-Dimethylphenol	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
2.4-Dinitrophenol	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
2-Methylphenol (o-Cresol)	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	< 0.0006
3&4-Methylphenol (m&p-Cresol)	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	< 0.0006
Phenol-d6 (surr.)	1	%	36	85	80	59
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Client Sample ID			CSM_BH10S	CSM_BH12S	SRT_BH047	SRT_BH052
Sample Matrix			Water (Trace)	Water (Trace)	Water (Trace)	Water (Trace)
Eurofins Sample No.			S21-Au21208	S21-Au21209	S21-Au21210	S21-Au21211
Date Sampled			Aug 10, 2021	Aug 10, 2021	Aug 11, 2021	Aug 11, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	78	78	94	109
p-Terphenyl-d14 (surr.)	1	%	63	142	68	87
Ammonia (as N)	0.01	mg/L	< 0.01	0.29	0.03	0.26
Chloride	1	mg/L	25	65	21	48
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.05	mg/L	< 0.05	7.4	< 0.05	< 0.05
pH (at 25 °C)	0.1	pH Units	6.4	7.3	7.3	7.4
Sulphate (as SO4)	5	mg/L	54	150	12	36
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	170	400	230	560
Total Suspended Solids Dried at 103–105°C	1	mg/L	100	89	170	650
Hardness mg equivalent CaCO3/L	5	mg/L	36	33	75	58
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	< 20	56	29	84
Carbonate Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	< 20	56	29	84
Alkali Metals						
Calcium	0.5	mg/L	4.3	2.8	15	17
Magnesium	0.5	mg/L	6.3	6.3	9.3	4.2
Potassium	0.5	mg/L	2.5	2.2	0.7	1.6
Sodium	0.5	mg/L	31	120	20	50
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	0.003	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.002	< 0.001	0.001	0.006
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.58	0.68	0.029	< 0.005
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.002	0.025	0.004	< 0.001
Zinc (filtered)	0.005	mg/L	0.005	0.099	0.013	0.006

Client Sample ID			GASW_BH10	GASW_BH11	GASW_BH23	GASW_BH25A
Sample Matrix			Water (Trace)	Water (Trace)	Water (Trace)	Water (Trace)
Eurofins Sample No.			S21-Au21212	S21-Au21213	S21-Au21214	S21-Au21215
Date Sampled			Aug 10, 2021	Aug 10, 2021	Aug 10, 2021	Aug 10, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	1.2	21
TRH C10-C14	0.05	mg/L	0.10	0.12	0.17	0.24
TRH C15-C28	0.1	mg/L	0.2	0.3	0.2	0.3
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	0.3	0.42	0.37	0.54
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.25	< 1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	1.2	21
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	0.35	6.7
TRH >C10-C16	0.05	mg/L	0.11	0.16	0.20	0.25
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	0.11	0.16	< 0.25	< 1
TRH >C16-C34	0.1	mg/L	0.3	0.3	0.2	0.2
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.41	0.46	0.4	0.45
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	0.85	8.9
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.025	4.1
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.025	0.35
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.05	0.59
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.025	0.35
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.075	0.94
4-Bromofluorobenzene (surr.)	1	%	88	97	119	120
Phenols (Halogenated)						
2-Chlorophenol	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	< 0.0006
2.4-Dichlorophenol	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	< 0.0006
2.4.5-Trichlorophenol	0.0015	mg/L	< 0.0015	< 0.0015	< 0.0015	< 0.0015
2.4.6-Trichlorophenol	0.0015	mg/L	< 0.0015	< 0.0015	< 0.0015	< 0.0015
2.6-Dichlorophenol	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	< 0.0006
4-Chloro-3-methylphenol	0.0015	mg/L	< 0.0015	< 0.0015	< 0.0015	< 0.0015
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.0015	mg/L	< 0.0015	< 0.0015	< 0.0015	< 0.0015
2.4-Dimethylphenol	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
2.4-Dinitrophenol	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
2-Methylphenol (o-Cresol)	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	0.0040
3&4-Methylphenol (m&p-Cresol)	0.002	mg/L	0.004	< 0.002	< 0.002	< 0.002
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.0006	mg/L	< 0.0006	< 0.0006	< 0.0006	0.046
Phenol-d6 (surr.)	1	%	100	57	70	51
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			GASW_BH10	GASW_BH11	GASW_BH23	GASW_BH25A
Sample Matrix			Water (Trace)	Water (Trace)	Water (Trace)	Water (Trace)
Eurofins Sample No.			S21-Au21212	S21-Au21213	S21-Au21214	S21-Au21215
Date Sampled			Aug 10, 2021	Aug 10, 2021	Aug 10, 2021	Aug 10, 2021
Test/Reference	LOR	Unit				
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00022	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	0.00010	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	0.00015	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	0.00012	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00006	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	0.00011	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	0.00076	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	66	120	121	128
p-Terphenyl-d14 (surr.)	1	%	100	101	107	104
Ammonia (as N)	0.01	mg/L	0.18	0.14	0.54	0.35
Chloride	1	mg/L	180	41	14	21
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.05	mg/L	5.2	0.07	6.3	0.81
pH (at 25 °C)	0.1	pH Units	7.6	7.5	7.9	7.9
Sulphate (as SO4)	5	mg/L	< 5	38	51	35
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	760	280	240	230
Total Suspended Solids Dried at 103–105°C	1	mg/L	11	2.2	4600	9.2
Hardness mg equivalent CaCO3/L	5	mg/L	400	76	330	170
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	430	150	150	150
Carbonate Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	430	150	150	150
Alkali Metals						
Calcium	0.5	mg/L	90	19	120	61
Magnesium	0.5	mg/L	42	6.9	9.7	4.7
Potassium	0.5	mg/L	11	2.2	15	3.4
Sodium	0.5	mg/L	120	34	32	15
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.001	< 0.001	0.003	0.003
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			GASW_BH10	GASW_BH11	GASW_BH23	GASW_BH25A
Sample Matrix			Water (Trace)	Water (Trace)	Water (Trace)	Water (Trace)
Eurofins Sample No.			S21-Au21212	S21-Au21213	S21-Au21214	S21-Au21215
Date Sampled			Aug 10, 2021	Aug 10, 2021	Aug 10, 2021	Aug 10, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.096	0.17	0.38	0.089
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001	0.002	< 0.001	< 0.001
Zinc (filtered)	0.005	mg/L	0.011	0.10	< 0.005	< 0.005

Client Sample ID			QC01	RB01	TRIP BLANK	TRIP SPIKE
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Au21216	S21-Au21217	S21-Au21218	S21-Au21219
Date Sampled			Aug 09, 2021	Aug 10, 2021	Aug 09, 2021	Aug 09, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	-	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	-	-	-
TRH C15-C28	0.1	mg/L	< 0.1	-	-	-
TRH C29-C36	0.1	mg/L	< 0.1	-	-	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	-	-	-
Naphthalene[N02]	0.01	mg/L	< 0.01	-	< 0.01	-
TRH C6-C10	0.02	mg/L	< 0.02	-	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	-	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-	-	-
TRH >C16-C34	0.1	mg/L	< 0.1	-	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	-	-	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	-	-	-
BTEX						
Benzene	0.001	mg/L	< 0.001	-	< 0.001	-
Toluene	0.001	mg/L	< 0.001	-	< 0.001	-
Ethylbenzene	0.001	mg/L	< 0.001	-	< 0.001	-
m&p-Xylenes	0.002	mg/L	< 0.002	-	< 0.002	-
o-Xylene	0.001	mg/L	< 0.001	-	< 0.001	-
Xylenes - Total*	0.003	mg/L	< 0.003	-	< 0.003	-
4-Bromofluorobenzene (surr.)	1	%	91	-	75	-
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	-	-	-
Acenaphthylene	0.00001	mg/L	< 0.00001	-	-	-
Anthracene	0.00001	mg/L	< 0.00001	-	-	-
Benz(a)anthracene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Chrysene	0.00001	mg/L	< 0.00001	-	-	-
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	-	-	-
Fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Fluorene	0.00001	mg/L	< 0.00001	-	-	-
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	-	-	-
Naphthalene	0.00001	mg/L	< 0.00001	-	-	-

Client Sample ID			QC01	RB01	TRIP BLANK	TRIP SPIKE
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Au21216	S21-Au21217	S21-Au21218	S21-Au21219
Date Sampled			Aug 09, 2021	Aug 10, 2021	Aug 09, 2021	Aug 09, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Phenanthrene	0.00001	mg/L	< 0.00001	-	-	-
Pyrene	0.00001	mg/L	< 0.00001	-	-	-
Total PAH*	0.00001	mg/L	< 0.00001	-	-	-
2-Fluorobiphenyl (surr.)	1	%	66	-	-	-
p-Terphenyl-d14 (surr.)	1	%	100	-	-	-
TRH C6-C10	1	%	-	-	-	78
Heavy Metals						
Arsenic	0.001	mg/L	-	< 0.001	-	-
Arsenic (filtered)	0.001	mg/L	< 0.001	-	-	-
Cadmium	0.0002	mg/L	-	< 0.0002	-	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	-	-	-
Chromium	0.001	mg/L	-	< 0.001	-	-
Chromium (filtered)	0.001	mg/L	< 0.001	-	-	-
Copper	0.001	mg/L	-	< 0.001	-	-
Copper (filtered)	0.001	mg/L	< 0.001	-	-	-
Lead	0.001	mg/L	-	< 0.001	-	-
Lead (filtered)	0.001	mg/L	< 0.001	-	-	-
Mercury	0.0001	mg/L	-	< 0.0001	-	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	-	-	-
Nickel	0.001	mg/L	-	< 0.001	-	-
Nickel (filtered)	0.001	mg/L	0.038	-	-	-
Zinc	0.005	mg/L	-	< 0.005	-	-
Zinc (filtered)	0.005	mg/L	0.041	-	-	-
Total Recoverable Hydrocarbons						
Naphthalene	1	%	-	-	-	110
TRH C6-C9	1	%	-	-	-	81
BTEX						
Benzene	1	%	-	-	-	91
Ethylbenzene	1	%	-	-	-	110
m&p-Xylenes	1	%	-	-	-	110
o-Xylene	1	%	-	-	-	110
Toluene	1	%	-	-	-	120
Xylenes - Total	1	%	-	-	-	110
4-Bromofluorobenzene (surr.)	1	%	-	-	-	84

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Aug 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Aug 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Sydney	Aug 12, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Aug 16, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Eurofins Suite B6 (filtered metals)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Aug 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8 filtered	Melbourne	Aug 25, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	Aug 16, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Aug 16, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
TRH - 2013 NEPM Fractions (after silica gel clean-up)	Melbourne	Aug 16, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Melbourne	Aug 16, 2021	7 Days
- Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Aug 16, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Ammonia (as N)	Melbourne	Aug 16, 2021	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Cyanide (total)	Melbourne	Aug 17, 2021	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Ferrous Iron - Fe2+	Melbourne	Aug 16, 2021	7 Days
- Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser			
pH (at 25 °C)	Melbourne	Aug 16, 2021	0 Hours
- Method: LTM-GEN-7090 pH in water by ISE			
Total Suspended Solids Dried at 103–105°C	Melbourne	Aug 16, 2021	7 Days
- Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry			
Metals M8	Melbourne	Aug 18, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Heavy Metals (filtered)	Melbourne	Aug 25, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11E: Cl/SO4/Alkalinity			
Chloride	Melbourne	Aug 16, 2021	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Sulphate (as SO4)	Melbourne	Aug 16, 2021	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Alkalinity (speciated)	Melbourne	Aug 16, 2021	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Total Dissolved Solids Dried at 180°C ± 2°C	Melbourne	Aug 16, 2021	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			
Eurofins Suite B11D: Na/K/Ca/Mg and Hardness			
Hardness mg equivalent CaCO3/L	Melbourne	Aug 16, 2021	28 Days
- Method: APHA 2340B Hardness by Calculation			
Alkali Metals	Melbourne	Aug 16, 2021	180 Days
- Method: LTM-MET-3010 Alkali Metals Sulfur Silicon Phosphorus by ICP-AES			

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Company Name: GHD Pty Ltd NSW
Address: Level 15, 133 Castlereagh Street
Sydney
NSW 2000

Project Name: CENTRAL
Project ID: 2127234

Order No.: 2127234
Report #: 816445
Phone: 02 9239 7100
Fax: 02 9239 7199

Received: Aug 12, 2021 1:53 PM
Due: Aug 19, 2021
Priority: 5 Day
Contact Name: Terry Nham

Eurofins Analytical Services Manager : John Nguyen

Sample Detail						Ammonia (as N)	Cyanide (total)	Ferrous Iron - Fe2+	Manganese	pH (at 25 °C)	Total Suspended Solids Dried at 103–105°C	Metals M8	Phenols (Speciated)	TRH (after Silica Gel cleanup)	Eurofins Suite B6	BTEXN and Volatile TRH	Eurofins Suite B11D: Na/K/Ca/Mg and Hardness	Eurofins Suite B11E: Cl/SO4/Alkalinity	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	Total Dissolved Solids Dried at 180°C ± 2°C
Melbourne Laboratory - NATA Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
Sydney Laboratory - NATA Site # 18217															X	X			X		
Brisbane Laboratory - NATA Site # 20794																					
Perth Laboratory - NATA Site # 23736																					
Mayfield Laboratory - NATA Site # 25079																					
External Laboratory																					
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**																
1	CSM_BH02	Aug 09, 2021		Water (Trace)	S21-Au21204	X	X	X	X	X	X		X	X	X		X	X		X	X
2	CSM_BH04	Aug 09, 2021		Water (Trace)	S21-Au21205	X	X	X	X	X	X		X	X	X		X	X		X	X
3	CSM_BH06	Aug 09, 2021		Water (Trace)	S21-Au21206	X	X	X	X	X	X		X	X	X		X	X		X	X
4	CSM_BH08	Aug 10, 2021		Water (Trace)	S21-Au21207	X	X	X	X	X	X		X	X	X		X	X		X	X
5	CSM_BH10S	Aug 10, 2021		Water (Trace)	S21-Au21208	X	X	X	X	X	X		X	X	X		X	X		X	X
6	CSM_BH12S	Aug 10, 2021		Water (Trace)	S21-Au21209	X	X	X	X	X	X		X	X	X		X	X		X	X
7	SRT_BH047	Aug 11, 2021		Water (Trace)	S21-Au21210	X	X	X	X	X	X		X	X	X		X	X		X	X
8	SRT_BH052	Aug 11, 2021		Water (Trace)	S21-Au21211	X	X	X	X	X	X		X	X	X		X	X		X	X
9	GASW_BH10	Aug 10, 2021		Water (Trace)	S21-Au21212	X	X	X	X	X	X		X	X	X		X	X		X	X

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Order No.: 2127234
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Received: Aug 12, 2021 1:53 PM
Due: Aug 19, 2021
Priority: 5 Day
Contact Name: Terry Nham

Eurofins Analytical Services Manager : John Nguyen

Sample Detail						Ammonia (as N)	Cyanide (total)	Ferrous Iron - Fe2+	Manganese	pH (at 25 °C)	Total Suspended Solids Dried at 103–105°C	Metals M8	Phenols (Speciated)	TRH (after Silica Gel cleanup)	Eurofins Suite B6	BTEXN and Volatile TRH	Eurofins Suite B11D: Na/K/Ca/Mg and Hardness	Eurofins Suite B11E: Cl/SO4/Alkalinity	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	Total Dissolved Solids Dried at 180°C ± 2°C
Melbourne Laboratory - NATA Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
Sydney Laboratory - NATA Site # 18217															X	X			X		
Brisbane Laboratory - NATA Site # 20794																					
Perth Laboratory - NATA Site # 23736																					
Mayfield Laboratory - NATA Site # 25079																					
External Laboratory																					
10	GASW_BH11	Aug 10, 2021		Water (Trace)	S21-Au21213	X	X	X	X	X	X		X	X	X		X	X		X	X
11	GASW_BH23	Aug 10, 2021		Water (Trace)	S21-Au21214	X	X	X	X	X	X		X	X	X		X	X		X	X
12	GASW_BH25 A	Aug 10, 2021		Water (Trace)	S21-Au21215	X	X	X	X	X	X		X	X	X		X	X		X	X
13	QC01	Aug 09, 2021		Water	S21-Au21216										X					X	
14	RB01	Aug 10, 2021		Water	S21-Au21217							X									
15	TRIP BLANK	Aug 09, 2021		Water	S21-Au21218											X					
16	TRIP SPIKE	Aug 09, 2021		Water	S21-Au21219														X		
Test Counts						12	12	12	12	12	12	1	12	12	13	1	12	12	1	13	12

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.0006			0.0006	Pass	
2.4-Dichlorophenol	mg/L	< 0.0006			0.0006	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.0015			0.0015	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.0015			0.0015	Pass	
2.6-Dichlorophenol	mg/L	< 0.0006			0.0006	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.0015			0.0015	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.0015			0.0015	Pass	
2.4-Dimethylphenol	mg/L	< 0.002			0.002	Pass	
2.4-Dinitrophenol	mg/L	< 0.006			0.006	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.0006			0.0006	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.002			0.002	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.0006			0.0006	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Total PAH*	mg/L	-			0.00001	N/A	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Cyanide (total)	mg/L	< 0.004			0.004	Pass	
Ferrous Iron - Fe2+	mg/L	< 0.05			0.05	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	mg/L	< 10			10	Pass	
Total Suspended Solids Dried at 103–105°C	mg/L	< 1			1	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Carbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Hydroxide Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Total Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	106			70-130	Pass	
TRH C10-C14	%	128			70-130	Pass	
Naphthalene	%	123			70-130	Pass	
TRH C6-C10	%	104			70-130	Pass	
TRH >C10-C16	%	126			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	120			70-130	Pass	
Toluene	%	121			70-130	Pass	
Ethylbenzene	%	120			70-130	Pass	
m&p-Xylenes	%	121			70-130	Pass	
Xylenes - Total*	%	120			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	93			25-140	Pass	
2.4-Dichlorophenol	%	93			25-140	Pass	
2.4.5-Trichlorophenol	%	68			30-130	Pass	
2.4.6-Trichlorophenol	%	69			30-130	Pass	
2.6-Dichlorophenol	%	74			30-130	Pass	
4-Chloro-3-methylphenol	%	125			30-130	Pass	
Pentachlorophenol	%	83			30-130	Pass	
Tetrachlorophenols - Total	%	116			30-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	89			30-130	Pass	
2-Methyl-4.6-dinitrophenol	%	90			30-130	Pass	
2-Nitrophenol	%	75			30-130	Pass	
2.4-Dimethylphenol	%	49			30-130	Pass	
2.4-Dinitrophenol	%	113			30-130	Pass	
2-Methylphenol (o-Cresol)	%	78			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	%	65			30-130	Pass	
4-Nitrophenol	%	76			30-130	Pass	
Dinoseb	%	93			30-130	Pass	
Phenol	%	67			25-145	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	126			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	128			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	88			70-130	Pass	
Acenaphthylene	%	108			70-130	Pass	
Anthracene	%	80			70-130	Pass	
Benz(a)anthracene	%	109			70-130	Pass	
Benzo(a)pyrene	%	97			70-130	Pass	
Benzo(b&j)fluoranthene	%	117			70-130	Pass	
Benzo(g.h.i)perylene	%	95			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene	%	98			70-130	Pass	
Chrysene	%	95			70-130	Pass	
Dibenz(a.h)anthracene	%	118			70-130	Pass	
Fluoranthene	%	113			70-130	Pass	
Fluorene	%	106			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	123			70-130	Pass	
Naphthalene	%	97			70-130	Pass	
Phenanthrene	%	103			70-130	Pass	
Pyrene	%	115			70-130	Pass	
LCS - % Recovery							
Ammonia (as N)	%	97			70-130	Pass	
Chloride	%	114			70-130	Pass	
Cyanide (total)	%	106			70-130	Pass	
Ferrous Iron - Fe2+	%	103			70-130	Pass	
Sulphate (as SO4)	%	114			70-130	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	%	100			70-130	Pass	
Total Suspended Solids Dried at 103–105°C	%	92			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Carbonate Alkalinity (as CaCO3)	%	95			70-130	Pass	
Total Alkalinity (as CaCO3)	%	96			70-130	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	116			80-120	Pass	
Magnesium	%	117			80-120	Pass	
Potassium	%	111			80-120	Pass	
Sodium	%	118			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	107			80-120	Pass	
Cadmium	%	105			80-120	Pass	
Chromium	%	105			80-120	Pass	
Copper	%	100			80-120	Pass	
Lead	%	100			80-120	Pass	
Mercury	%	95			80-120	Pass	
Nickel	%	106			80-120	Pass	
Zinc	%	107			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M21-Au30754	NCP	%	89			70-130	Pass	
TRH >C10-C16	M21-Au30754	NCP	%	87			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chloride	S21-Au21111	NCP	%	84			70-130	Pass	
Ferrous Iron - Fe2+	M21-Au25040	NCP	%	112			70-130	Pass	
Sulphate (as SO4)	M21-Au28107	NCP	%	113			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	M21-Au26087	NCP	%	103			75-125	Pass	
Potassium	M21-Au27811	NCP	%	128			75-125	Fail	Q08
Spike - % Recovery									
				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Suspended Solids Dried at 103–105°C	S21-Au21205	CP	%	83			70-130	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	S21-Au21206	CP	%	81			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Magnesium	S21-Au21209	CP	%	112			75-125	Pass	
Sodium	S21-Au21209	CP	%	109			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthene	B21-Au33980	NCP	%	78			70-130	Pass	
Acenaphthylene	B21-Au33980	NCP	%	105			70-130	Pass	
Anthracene	B21-Au33980	NCP	%	78			70-130	Pass	
Benz(a)anthracene	B21-Au33980	NCP	%	94			70-130	Pass	
Benzo(a)pyrene	B21-Au33980	NCP	%	104			70-130	Pass	
Benzo(b&j)fluoranthene	B21-Au33980	NCP	%	72			70-130	Pass	
Benzo(g.h.i)perylene	B21-Au33980	NCP	%	84			70-130	Pass	
Benzo(k)fluoranthene	B21-Au33980	NCP	%	77			70-130	Pass	
Chrysene	B21-Au33980	NCP	%	72			70-130	Pass	
Dibenz(a.h)anthracene	B21-Au33980	NCP	%	95			70-130	Pass	
Fluoranthene	B21-Au33980	NCP	%	104			70-130	Pass	
Fluorene	B21-Au33980	NCP	%	84			70-130	Pass	
Indeno(1.2.3-cd)pyrene	B21-Au33980	NCP	%	98			70-130	Pass	
Naphthalene	B21-Au33980	NCP	%	100			70-130	Pass	
Phenanthrene	B21-Au33980	NCP	%	102			70-130	Pass	
Pyrene	B21-Au33980	NCP	%	103			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M21-Au23689	NCP	%	93			75-125	Pass	
Cadmium	M21-Au30933	NCP	%	108			75-125	Pass	
Chromium	M21-Au30933	NCP	%	112			75-125	Pass	
Copper	M21-Au30933	NCP	%	103			75-125	Pass	
Lead	M21-Au30933	NCP	%	98			75-125	Pass	
Mercury	M21-Au30933	NCP	%	121			75-125	Pass	
Nickel	M21-Au30933	NCP	%	127			75-125	Fail	Q08
Zinc	M21-Au30933	NCP	%	138			75-125	Fail	Q08
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	S21-Au21218	CP	%	92			70-130	Pass	
Naphthalene	S21-Au21218	CP	%	88			70-130	Pass	
TRH C6-C10	S21-Au21218	CP	%	90			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S21-Au21218	CP	%	88			70-130	Pass	
Toluene	S21-Au21218	CP	%	98			70-130	Pass	
Ethylbenzene	S21-Au21218	CP	%	93			70-130	Pass	
m&p-Xylenes	S21-Au21218	CP	%	90			70-130	Pass	
o-Xylene	S21-Au21218	CP	%	87			70-130	Pass	
Xylenes - Total*	S21-Au21218	CP	%	89			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M21-Au31668	NCP	mg/L	0.20	0.29	37	30%	Fail	Q15
TRH C15-C28	M21-Au31668	NCP	mg/L	< 0.1	0.1	75	30%	Fail	Q15
TRH C29-C36	M21-Au31668	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	M21-Au31668	NCP	mg/L	0.20	0.29	37	30%	Fail	Q15
TRH >C16-C34	M21-Au31668	NCP	mg/L	< 0.1	0.1	70	30%	Fail	Q15
TRH >C34-C40	M21-Au31668	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	S21-Au21204	CP	mg/L	< 0.0006	< 0.0006	<1	30%	Pass	
2.4-Dichlorophenol	S21-Au21204	CP	mg/L	< 0.0006	< 0.0006	<1	30%	Pass	
2.4.5-Trichlorophenol	S21-Au21204	CP	mg/L	< 0.0015	< 0.0015	<1	30%	Pass	
2.4.6-Trichlorophenol	S21-Au21204	CP	mg/L	< 0.0015	< 0.0015	<1	30%	Pass	
2.6-Dichlorophenol	S21-Au21204	CP	mg/L	< 0.0006	< 0.0006	<1	30%	Pass	
4-Chloro-3-methylphenol	S21-Au21204	CP	mg/L	< 0.0015	< 0.0015	<1	30%	Pass	
Pentachlorophenol	S21-Au21204	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	S21-Au21204	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	S21-Au21204	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	S21-Au21204	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	S21-Au21204	CP	mg/L	< 0.0015	< 0.0015	<1	30%	Pass	
2.4-Dimethylphenol	S21-Au21204	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
2.4-Dinitrophenol	S21-Au21204	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
2-Methylphenol (o-Cresol)	S21-Au21204	CP	mg/L	< 0.0006	< 0.0006	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	S21-Au21204	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
4-Nitrophenol	S21-Au21204	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	S21-Au21204	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	S21-Au21204	CP	mg/L	< 0.0006	< 0.0006	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Acenaphthylene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Anthracene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benz(a)anthracene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(a)pyrene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(k)fluoranthene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Chrysene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluoranthene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluorene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Naphthalene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Phenanthrene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Pyrene	S21-Au21204	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	M21-Au24447	NCP	mg/L	1800	1900	5.0	30%	Pass	
pH (at 25 °C)	S21-Au21204	CP	pH Units	7.7	7.7	pass	30%	Pass	
Sulphate (as SO4)	M21-Au24447	NCP	mg/L	280	280	<1	30%	Pass	

Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	S21-Au21204	CP	mg/L	160	170	4.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	S21-Au21204	CP	mg/L	< 20	< 20	<1	30%	Pass	
Hydroxide Alkalinity (as CaCO3)	S21-Au21204	CP	mg/L	< 20	< 20	<1	30%	Pass	
Total Alkalinity (as CaCO3)	S21-Au21204	CP	mg/L	160	170	4.0	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M21-Au26087	NCP	mg/L	29	29	<1	30%	Pass	
Potassium	M21-Au27811	NCP	mg/L	100	88	14	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Dissolved Solids Dried at 180°C ± 2°C	S21-Au21205	CP	mg/L	290	270	5.7	30%	Pass	
Total Suspended Solids Dried at 103–105°C	S21-Au21205	CP	mg/L	390	320	21	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	S21-Au21206	CP	mg/L	0.02	0.03	24	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ferrous Iron - Fe2+	S21-Au21215	CP	mg/L	0.81	0.83	2.0	30%	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	S21-Au21215	CP	mg/L	230	240	5.9	30%	Pass	
Total Suspended Solids Dried at 103–105°C	S21-Au21215	CP	mg/L	9.2	8.2	11	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M21-Au23689	NCP	mg/L	0.002	0.002	2.0	30%	Pass	
Cadmium	M21-Au23689	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M21-Au23689	NCP	mg/L	0.005	0.005	4.0	30%	Pass	
Copper	M21-Au23689	NCP	mg/L	0.005	0.005	4.0	30%	Pass	
Lead	M21-Au23689	NCP	mg/L	0.001	0.001	3.0	30%	Pass	
Mercury	M21-Au23689	NCP	mg/L	0.0009	0.0009	3.0	30%	Pass	
Nickel	M21-Au23689	NCP	mg/L	0.019	0.019	1.0	30%	Pass	
Zinc	M21-Au23689	NCP	mg/L	0.037	0.036	3.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S21-Au20248	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Naphthalene	S21-Au20248	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	S21-Au20248	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Au20248	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S21-Au20248	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S21-Au20248	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S21-Au20248	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S21-Au20248	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	S21-Au20248	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Comments

This report was revised V2 to amend Cyanide LOR to <0.004 mg/L and results for metals amended from total to filtered.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

John Nguyen	Analytical Services Manager
Vivian Wang	Senior Analyst-Volatile (VIC)
Scott Beddoes	Senior Analyst-Inorganic (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Roopesh Rangarajan	Senior Analyst-Volatile (NSW)
Emily Rosenberg	Senior Analyst-Metal (VIC)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : GHD Pty Ltd, Sydney
Office Address : Level 15, 133 Castlereagh Street, Sydney NSW 2000
Special Directions & Comments :
Eurofins | mgt DI water batch number:

Contact Name : Terry Nham / Charlotte Gray
Project Manager : Henry Luo
Email for results : terry.nham@ghd.com henry.luo@ghd.com charlotte.gray@ghd.com christie.allen@ghd.com

Purchase Order : 2127234
PROJECT Number : 2127234
PROJECT Name : Central

COC Number :
Eurofins | mgt quote ID : GHD Rates 2020/2021
Data output format: ESDAT

	Sample ID	Date	Matrix	TRH, BTEXN, 8 Metals (Dissolved) (Suite B6)	PAH - Trace LOR	Phenols		TRH (with Silica Gel Cleanup)	Cyanide - Trace Level (<0.004 mg/L)	Ammonia	Cation (B11D) and Anion (B11E)		Ferrous Iron	Manganese	pH	TDS	TSS		TRH C6-C10 / BTEX	8 Metals (Total)					
1	CSM_BH02	28/9/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
2	CSM_BH04	28/9/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
3	CSM_BH06	29/9/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
4	CSM_BH08	28/9/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
5	CSM_BH10S	28/9/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
6	CSM_BH12S	28/9/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
7	SRT_BH047	30/9/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
8	SRT_BH052	30/9/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
9	GASW_BH10	29/9/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
10	GASW_BH11	28/9/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
11	GASW_BH23	29/9/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
12	GASW_BH25A	29/9/21	Water	X	X	X		X	X	X	X		X	X	X	X	X								
13	QC01	30/9/21	Water	X	X																				
14	RB01		Water																	X					
15	Trip Blank		Water																X						
16	Trip Spike		Water																X						

Some common holding times (with correct preservation). For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

500P	250P	60P	1LA	40mL vial	200mL A	Jar	Bag
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
1		4		2	2		
		1		2	2		
		1					
				2			
				2			

Sample comments:

Relinquished By: ~~Terry Nham~~ - GHD Christie Allen
Date & Time : 30/9/21 1:30pm
Signature:

Laboratory Staff
Received By: Adam Bytheway
Date & Time : 30/9 1:32 PM
Signature:

Turn around time
1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐ Other:

Method Of Shipment
☐ Courier
☑ Hand Delivered
☐ Postal
Courier Consignment # :

Temperature on arrival: 8.9°C
Report number: 829222

eurofins | mgt

☑ Sydney
Unit F3 - 6 Building F, 16 Mars Road, Lane Cove
Phone: +612 9900 8400
Email: enviro.syd@mgtlabmark.com.au

☐ Brisbane
Unit 1-21 Smallwood Place, Murrarie
Phone: +617 3902 4600
Email: enviro.bris@mgtlabmark.com.au

☐ Melbourne
2 Kingston Town Close, Oakleigh, VIC 3166
Phone: +613 8564 5000 Fax: +613 8564 5090
Email: enquiries.melb@mgtlabmark.com.au

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : GHD Pty Ltd, Sydney
Office Address : Level 15, 133 Castlereagh Street, Sydney NSW 2000
Contact Name : Terry Nham / Charlotte Gray
Project Manager : Henry Luo
Email for results : terry.nham@ghd.com henry.luo@ghd.com charlotte.gray@ghd.com christie.Allen@GHD.com
Purchase Order : 2127234
PROJECT Number : 2127234
PROJECT Name : Central
COC Number :
Eurofins | mgt quote ID : GHD Rates 2020/2021
Data output format: ESDAT

Special Directions & Comments :

Eurofins | mgt DI water batch number:

	Sample ID	Date	Matrix	TRH, BTEXN, 8 Metals (Dissolved) (Suite B6)	PAH - Trace LOR	Phenols	TRH (with Silica Gel Cleanup)	Cyanide - Trace Level (<0.004 mg/L)	Ammonia	Cation (B11D) and Anion (B11E)	Ferrous Iron	Manganese	pH	TDS	TSS	TRH C6-C10 / BTEX	8 Metals (Total)
1	~~SRE_BH05D~~		~~Water~~	X	X	X	X	X	X	X	X	X	X	X	X		
2	QC02	28/9/21	Water	PLEASE SEND TO ALS WITH ATTACHED COC													
3	CSM_BH13	29/9/21	Water	X	X	X	X	X	X	X	X	X	X	X	X		
4	CSM_BH14S	29/9/21	Water	X	X	X	X	X	X	X	X	X	X	X	X		
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	

Some common holding times (with correct preservation).
For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

500P	250P	60P	1LA	40mL vial	200mL A	Jar	Bag
~~2~~		~~4~~		~~2~~	~~2~~		
		1		2	2		
1		4		2	2		
1		4		2	2		

Sample comments:

Laboratory Staff
Relinquished By: ~~Terry Nham~~ - GHD Christie Allen
Date & Time : 30/9/21 1:30pm
Signature:
Received By: Adam Bates
Date & Time : 30/9 1:32PM
Signature:

Turn around time
1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐ Other:

Method Of Shipment
☐ Courier
☑ Hand Delivered
☐ Postal
Courier Consignment # :

Temperature on arrival: 8.9°C
Report number: 879122

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: [illegible]
WOLLONGONG [illegible] Kenny Street Wollongong NSW 2500 Ph: 02 4225 [illegible] E: [illegible]rtkembla@alsglobal.com

28

CLIENT: GHD Pty Ltd	TURNAROUND REQUIREMENTS (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☑ Standard TAT (List due date): STANDARD TAT	FOR LABORATORY USE ONLY (Circle)
OFFICE: Sydney		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes / No / N/A
PROJECT: 2127234 Central	ALS QUOTE NO.: EN/006/20	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 2127234		OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:
PROJECT MANAGER: Henry Luo	CONTACT PH: 02 9239 7044 / 0414 090 002		Other comment:
SAMPLER: ~~Terry Nham~~ Christie Allen	SAMPLER MOBILE: 0403 261 883		
COC emailed to ALS? (YES (NO)	EDD FORMAT (or default): ESDAT		
Email Reports to: henry.luo@ghd.com terry.nham@ghd.com charlotte.gray@ghd.com christie.allen@ghd.com			
Email Invoice to (will default to PM if no other addresses are listed):			
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
~~Terry Nham~~ (GHD) Christie Allen	Adam Ostad		
DATE/TIME: 30/9/21 1:30pm	DATE/TIME: 30/9 1:32 PM	DATE/TIME:	DATE/TIME:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	TRH / BTEXN / 8 Metals (W-5)	PAH - Ultra Trace (EP132B)
	QC02	28/9/21	Water		5	X	X

COPY

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag

eurofins | Environment Testing

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Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
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46-48 Banksia Road
Welshpool WA 6106
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NATA # 2377 Site # 2370

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NZBN: 9429046024954

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35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	GHD Pty Ltd NSW
Contact name:	Henry Luo
Project name:	CENTRAL
Project ID:	2127234
Turnaround time:	5 Day
Date/Time received	Sep 30, 2021 1:32 PM
Eurofins reference	829222

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 8.4 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✓	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

John Nguyen on phone : or by email: JohnNguyen@eurofins.com

Results will be delivered electronically via email to Henry Luo - henry.luo@ghd.com.

Note: A copy of these results will also be delivered to the general GHD Pty Ltd NSW email address.

GHD Pty Ltd NSW
Level 15, 133 Castlereagh Street
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Henry Luo**

Report **829222-W-V2**
Project name CENTRAL
Project ID 2127234
Received Date Sep 30, 2021

Client Sample ID			**CSM_BH02**	**CSM_BH04**	**CSM_BH06**	**CSM_BH08**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**M21-Oc03850**	**M21-Oc03851**	**M21-Oc03852**	**M21-Oc03853**
Date Sampled			**Sep 28, 2021**	**Sep 28, 2021**	**Sep 29, 2021**	**Sep 28, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	98	91	94	93
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			CSM_BH02	CSM_BH04	CSM_BH06	CSM_BH08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Oc03850	M21-Oc03851	M21-Oc03852	M21-Oc03853
Date Sampled			Sep 28, 2021	Sep 28, 2021	Sep 29, 2021	Sep 28, 2021
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	57	121	133	123
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	71	72	103	74
p-Terphenyl-d14 (surr.)	1	%	87	73	94	72
Ammonia (as N)	0.01	mg/L	0.13	< 0.1	0.16	0.10
Chloride	1	mg/L	56	78	210	120
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.05	mg/L	< 0.05	3.9	2.4	5.6
pH (at 25 °C)	0.1	pH Units	6.9	6.5	6.3	7.0

Client Sample ID			CSM_BH02	CSM_BH04	CSM_BH06	CSM_BH08
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Oc03850	M21-Oc03851	M21-Oc03852	M21-Oc03853
Date Sampled			Sep 28, 2021	Sep 28, 2021	Sep 29, 2021	Sep 28, 2021
Test/Reference	LOR	Unit				
Sulphate (as SO4)	5	mg/L	36	38	30	48
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	260	260	470	350
Total Suspended Solids Dried at 103–105°C	1	mg/L	1800	460	680	1000
Hardness mg equivalent CaCO3/L	5	mg/L	100	81	190	150
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	120	88	140	100
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	120	88	140	100
Alkali Metals						
Calcium	0.5	mg/L	14	7.3	26	21
Magnesium	0.5	mg/L	< 0.5	15	30	24
Potassium	0.5	mg/L	< 0.5	2.5	5.1	3.9
Sodium	0.5	mg/L	< 0.5	69	110	88
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	0.013	0.003
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.059	0.47	0.38	0.42
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.033	0.039	0.034	0.019
Zinc (filtered)	0.005	mg/L	0.010	0.017	0.067	0.025

Client Sample ID			CSM_BH10S	CSM_BH12S	SRT_BH047	SRT_BH052
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Oc03854	M21-Oc03855	M21-Oc03856	M21-Oc03857
Date Sampled			Sep 28, 2021	Sep 28, 2021	Sep 30, 2021	Sep 30, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			CSM_BH10S	CSM_BH12S	SRT_BH047	SRT_BH052
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Oc03854	M21-Oc03855	M21-Oc03856	M21-Oc03857
Date Sampled			Sep 28, 2021	Sep 28, 2021	Sep 30, 2021	Sep 30, 2021
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	88	99	90	60
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	85	44	114	69
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Client Sample ID			CSM_BH10S	CSM_BH12S	SRT_BH047	SRT_BH052
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Oc03854	M21-Oc03855	M21-Oc03856	M21-Oc03857
Date Sampled			Sep 28, 2021	Sep 28, 2021	Sep 30, 2021	Sep 30, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	104	62	135	87
p-Terphenyl-d14 (surr.)	1	%	110	66	132	86
Ammonia (as N)	0.01	mg/L	0.04	< 0.1	< 0.2	0.30
Chloride	1	mg/L	23	76	18	47
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.05	mg/L	< 0.05	7.7	< 0.05	< 0.05
pH (at 25 °C)	0.1	pH Units	5.9	6.4	6.3	6.8
Sulphate (as SO4)	5	mg/L	55	170	13	40
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	170	390	160	230
Total Suspended Solids Dried at 103–105°C	1	mg/L	750	75	33	25
Hardness mg equivalent CaCO3/L	5	mg/L	31	33	49	48
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	< 20	60	< 20	57
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	< 20	60	< 20	57
Alkali Metals						
Calcium	0.5	mg/L	3.4	2.2	6.6	13
Magnesium	0.5	mg/L	5.5	6.8	8.0	3.6
Potassium	0.5	mg/L	2.2	1.9	0.6	1.5
Sodium	0.5	mg/L	33	120	21	47
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	0.002	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.002	< 0.001	0.005	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.60	0.91	0.025	< 0.005
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.002	0.032	0.004	< 0.001
Zinc (filtered)	0.005	mg/L	0.018	0.13	0.035	< 0.005

Client Sample ID			GASW_BH10	GASW_BH11	GASW_BH23	GASW_BH25A
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Oc03858	M21-Oc03859	M21-Oc03860	M21-Oc03861
Date Sampled			Sep 29, 2021	Sep 28, 2021	Sep 29, 2021	Sep 29, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	0.04	0.24
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	0.1	< 0.1	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	0.04	0.24
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	0.10
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	0.2	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	0.2	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	0.021	0.077
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.034
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.007
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	0.010
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	0.008
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	0.018
4-Bromofluorobenzene (surr.)	1	%	90	90	64	82
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	73	70	58	70
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			GASW_BH10	GASW_BH11	GASW_BH23	GASW_BH25A
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Oc03858	M21-Oc03859	M21-Oc03860	M21-Oc03861
Date Sampled			Sep 29, 2021	Sep 28, 2021	Sep 29, 2021	Sep 29, 2021
Test/Reference	LOR	Unit				
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	0.00002	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	0.00002	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	70	116	79	105
p-Terphenyl-d14 (surr.)	1	%	62	119	75	110
Ammonia (as N)	0.01	mg/L	0.02	0.19	0.43	0.28
Chloride	1	mg/L	190	37	13	21
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004	0.004	< 0.004
Ferrous Iron - Fe2+	0.05	mg/L	3.7	1.2	14	< 0.05
pH (at 25 °C)	0.1	pH Units	7.4	7.1	7.9	7.3
Sulphate (as SO4)	5	mg/L	< 5	45	150	19
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	690	220	230	140
Total Suspended Solids Dried at 103–105°C	1	mg/L	1600	480	22	5.6
Hardness mg equivalent CaCO3/L	5	mg/L	380	54	330	70
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	440	110	230	71
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	440	110	230	71
Alkali Metals						
Calcium	0.5	mg/L	83	13	110	25
Magnesium	0.5	mg/L	41	4.2	10.0	2.2
Potassium	0.5	mg/L	11	2.0	7.4	2.6
Sodium	0.5	mg/L	120	33	22	14
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.002	< 0.001	0.002	0.005
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.004	0.001	< 0.001	0.004

Client Sample ID			GASW_BH10	GASW_BH11	GASW_BH23	GASW_BH25A
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Oc03858	M21-Oc03859	M21-Oc03860	M21-Oc03861
Date Sampled			Sep 29, 2021	Sep 28, 2021	Sep 29, 2021	Sep 29, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.097	0.16	0.39	< 0.005
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	0.0003	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001	0.002	< 0.001	< 0.001
Zinc (filtered)	0.005	mg/L	0.009	0.088	0.031	< 0.005

Client Sample ID			QC01	RB01	TRIP BLANK	TRIP SPIKE
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Oc03862	M21-Oc03863	M21-Oc03864	M21-Oc03865
Date Sampled			Sep 30, 2021	Sep 30, 2021	Sep 30, 2021	Sep 30, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	-	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	-	-	-
TRH C15-C28	0.1	mg/L	< 0.1	-	-	-
TRH C29-C36	0.1	mg/L	< 0.1	-	-	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	-	-	-
Naphthalene[N02]	0.01	mg/L	< 0.01	-	< 0.01	-
TRH C6-C10	0.02	mg/L	< 0.02	-	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	-	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-	-	-
TRH >C16-C34	0.1	mg/L	< 0.1	-	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	-	-	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	-	-	-
BTEX						
Benzene	0.001	mg/L	< 0.001	-	< 0.001	-
Toluene	0.001	mg/L	< 0.001	-	< 0.001	-
Ethylbenzene	0.001	mg/L	< 0.001	-	< 0.001	-
m&p-Xylenes	0.002	mg/L	< 0.002	-	< 0.002	-
o-Xylene	0.001	mg/L	< 0.001	-	< 0.001	-
Xylenes - Total*	0.003	mg/L	< 0.003	-	< 0.003	-
4-Bromofluorobenzene (surr.)	1	%	91	-	69	-
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	-	-	-
Acenaphthylene	0.00001	mg/L	< 0.00001	-	-	-
Anthracene	0.00001	mg/L	< 0.00001	-	-	-
Benz(a)anthracene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	-	-	-
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Chrysene	0.00001	mg/L	< 0.00001	-	-	-
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	-	-	-
Fluoranthene	0.00001	mg/L	< 0.00001	-	-	-
Fluorene	0.00001	mg/L	< 0.00001	-	-	-
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	-	-	-
Naphthalene	0.00001	mg/L	< 0.00001	-	-	-

Client Sample ID			QC01	RB01	TRIP BLANK	TRIP SPIKE
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M21-Oc03862	M21-Oc03863	M21-Oc03864	M21-Oc03865
Date Sampled			Sep 30, 2021	Sep 30, 2021	Sep 30, 2021	Sep 30, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Phenanthrene	0.00001	mg/L	< 0.00001	-	-	-
Pyrene	0.00001	mg/L	< 0.00001	-	-	-
Total PAH*	0.00001	mg/L	< 0.00001	-	-	-
2-Fluorobiphenyl (surr.)	1	%	74	-	-	-
p-Terphenyl-d14 (surr.)	1	%	80	-	-	-
Heavy Metals						
Arsenic	0.001	mg/L	-	< 0.001	-	-
Arsenic (filtered)	0.001	mg/L	< 0.001	-	-	-
Cadmium	0.0002	mg/L	-	< 0.0002	-	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	-	-	-
Chromium	0.001	mg/L	-	< 0.001	-	-
Chromium (filtered)	0.001	mg/L	< 0.001	-	-	-
Copper	0.001	mg/L	-	< 0.001	-	-
Copper (filtered)	0.001	mg/L	0.001	-	-	-
Lead	0.001	mg/L	-	< 0.001	-	-
Lead (filtered)	0.001	mg/L	< 0.001	-	-	-
Mercury	0.0001	mg/L	-	< 0.0001	-	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	-	-	-
Nickel	0.001	mg/L	-	< 0.001	-	-
Nickel (filtered)	0.001	mg/L	0.004	-	-	-
Zinc	0.005	mg/L	-	< 0.005	-	-
Zinc (filtered)	0.005	mg/L	0.033	-	-	-
Total Recoverable Hydrocarbons						
Naphthalene	1	%	-	-	-	85
TRH C6-C10	1	%	-	-	-	75
TRH C6-C9	1	%	-	-	-	75
BTEX						
Benzene	1	%	-	-	-	85
Ethylbenzene	1	%	-	-	-	81
m&p-Xylenes	1	%	-	-	-	98
o-Xylene	1	%	-	-	-	93
Toluene	1	%	-	-	-	89
Xylenes - Total	1	%	-	-	-	95
4-Bromofluorobenzene (surr.)	1	%	-	-	-	94

Client Sample ID			CSM_BH13	CSM_BH14S
Sample Matrix			Water	Water
Eurofins Sample No.			M21-Oc03866	M21-Oc03867
Date Sampled			Sep 29, 2021	Sep 29, 2021
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	< 0.02	0.04
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	0.04

Client Sample ID			CSM_BH13	CSM_BH14S
Sample Matrix			Water	Water
Eurofins Sample No.			M21-Oc03866	M21-Oc03867
Date Sampled			Sep 29, 2021	Sep 29, 2021
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	0.04
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	80	65
Phenols (Halogenated)				
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	89	60
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1
TRH - 2013 NEPM Fractions (after silica gel clean-up)				
TRH >C10-C16 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05
TRH >C16-C34 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1
TRH >C34-C40 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1
TRH >C10-C40 (total) (after silica-gel clean up)*	0.1	mg/L	< 0.1	< 0.1
TRH - 1999 NEPM Fractions (after silica gel clean-up)				
TRH C10-C14 (after silica gel clean-up)	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1
TRH C29-C36 (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1
TRH C10-C36 (Total) (after silica gel clean-up)	0.1	mg/L	< 0.1	< 0.1

Client Sample ID			CSM_BH13	CSM_BH14S
Sample Matrix			Water	Water
Eurofins Sample No.			M21-Oc03866	M21-Oc03867
Date Sampled			Sep 29, 2021	Sep 29, 2021
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons (Trace level)				
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	72	76
p-Terphenyl-d14 (surr.)	1	%	143	78
Ammonia (as N)	0.01	mg/L	< 0.1	0.07
Chloride	1	mg/L	230	28
Cyanide (total)	0.004	mg/L	< 0.004	< 0.004
Ferrous Iron - Fe2+	0.05	mg/L	< 0.05	< 0.05
pH (at 25 °C)	0.1	pH Units	7.8	7.1
Sulphate (as SO4)	5	mg/L	43	13
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	570	110
Total Suspended Solids Dried at 103–105°C	1	mg/L	110	3.4
Hardness mg equivalent CaCO3/L	5	mg/L	210	48
Alkalinity (speciated)				
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	180	40
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	180	40
Alkali Metals				
Calcium	0.5	mg/L	51	15
Magnesium	0.5	mg/L	19	2.6
Potassium	0.5	mg/L	6.4	1.6
Sodium	0.5	mg/L	130	13
Heavy Metals				
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.001	0.002
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.43	< 0.005
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.007	< 0.001
Zinc (filtered)	0.005	mg/L	0.007	0.016

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Oct 09, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Oct 05, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Melbourne	Oct 05, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Oct 05, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Eurofins Suite B6 (filtered metals)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Oct 09, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8 filtered	Melbourne	Oct 05, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Phenols (Speciated)			
Phenols (Halogenated)	Melbourne	Oct 09, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Oct 09, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
TRH - 2013 NEPM Fractions (after silica gel clean-up)	Melbourne	Oct 09, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Melbourne	Oct 09, 2021	7 Days
- Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Oct 09, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Ammonia (as N)	Melbourne	Oct 05, 2021	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Cyanide (total)	Melbourne	Oct 05, 2021	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Ferrous Iron - Fe2+	Melbourne	Oct 05, 2021	7 Days
- Method: LTM-INO-4190 Ferrous Iron in Water by Discrete Analyser			
pH (at 25 °C)	Melbourne	Oct 05, 2021	0 Hours
- Method: LTM-GEN-7090 pH in water by ISE			
Total Suspended Solids Dried at 103–105°C	Melbourne	Oct 05, 2021	7 Days
- Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry			
Metals M8	Melbourne	Oct 05, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Heavy Metals (filtered)	Melbourne	Oct 05, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11E: Cl/SO4/Alkalinity			
Chloride	Melbourne	Oct 05, 2021	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Sulphate (as SO4)	Melbourne	Oct 05, 2021	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Alkalinity (speciated)	Melbourne	Oct 05, 2021	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Total Dissolved Solids Dried at 180°C ± 2°C	Melbourne	Oct 05, 2021	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			
Eurofins Suite B11D: Na/K/Ca/Mg and Hardness			
Hardness mg equivalent CaCO3/L	Melbourne	Oct 05, 2021	28 Days
- Method: APHA 2340B Hardness by Calculation			
Alkali Metals	Melbourne	Oct 05, 2021	180 Days
- Method: LTM-MET-3010 Alkali Metals Sulfur Silicon Phosphorus by ICP-AES			

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Project Name: CENTRAL
Project ID: 2127234

Order No.: 2127234
Report #: 829222
Phone: 02 9239 7100
Fax: 02 9239 7199

Received: Sep 30, 2021 1:32 PM
Due: Oct 7, 2021
Priority: 5 Day
Contact Name: Henry Luo

Eurofins Analytical Services Manager : John Nguyen

Sample Detail						Ammonia (as N)	Cyanide (total)	Ferrous Iron - Fe2+	Manganese (filtered)	pH (at 25 °C)	Total Suspended Solids Dried at 103–105°C	Metals M8	Phenols (Speciated)	TRH (after Silica Gel cleanup)	Eurofins Suite B6 (filtered metals)	BTEXN and Volatile TRH	Eurofins Suite B11D: Na/K/Ca/Mg and Hardness	Eurofins Suite B11E: Cl/SO4/Alkalinity	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	Total Dissolved Solids Dried at 180°C ± 2°C
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217																					
Brisbane Laboratory - NATA # 1261 Site # 20794																					
Mayfield Laboratory - NATA # 1261 Site # 25079																					
Perth Laboratory - NATA # 2377 Site # 2370																					
External Laboratory																					
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**																
1	CSM_BH02	Sep 28, 2021		Water	M21-Oc03850	X	X	X	X	X	X		X	X	X		X	X		X	X
2	CSM_BH04	Sep 28, 2021		Water	M21-Oc03851	X	X	X	X	X	X		X	X	X		X	X		X	X
3	CSM_BH06	Sep 29, 2021		Water	M21-Oc03852	X	X	X	X	X	X		X	X	X		X	X		X	X
4	CSM_BH08	Sep 28, 2021		Water	M21-Oc03853	X	X	X	X	X	X		X	X	X		X	X		X	X
5	CSM_BH10S	Sep 28, 2021		Water	M21-Oc03854	X	X	X	X	X	X		X	X	X		X	X		X	X
6	CSM_BH12S	Sep 28, 2021		Water	M21-Oc03855	X	X	X	X	X	X		X	X	X		X	X		X	X
7	SRT_BH047	Sep 30, 2021		Water	M21-Oc03856	X	X	X	X	X	X		X	X	X		X	X		X	X
8	SRT_BH052	Sep 30, 2021		Water	M21-Oc03857	X	X	X	X	X	X		X	X	X		X	X		X	X
9	GASW_BH10	Sep 29, 2021		Water	M21-Oc03858	X	X	X	X	X	X		X	X	X		X	X		X	X

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Project Name: CENTRAL
Project ID: 2127234

Order No.: 2127234
Report #: 829222
Phone: 02 9239 7100
Fax: 02 9239 7199

Received: Sep 30, 2021 1:32 PM
Due: Oct 7, 2021
Priority: 5 Day
Contact Name: Henry Luo

Eurofins Analytical Services Manager : John Nguyen

Sample Detail						Ammonia (as N)	Cyanide (total)	Ferrous Iron - Fe2+	Manganese (filtered)	pH (at 25 °C)	Total Suspended Solids Dried at 103–105°C	Metals M8	Phenols (Speciated)	TRH (after Silica Gel cleanup)	Eurofins Suite B6 (filtered metals)	BTEXN and Volatile TRH	Eurofins Suite B11D: Na/K/Ca/Mg and Hardness	Eurofins Suite B11E: Cl/SO4/Alkalinity	BTEXN and Volatile TRH	Polycyclic Aromatic Hydrocarbons (Trace level)	Total Dissolved Solids Dried at 180°C ± 2°C
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217																					
Brisbane Laboratory - NATA # 1261 Site # 20794																					
Mayfield Laboratory - NATA # 1261 Site # 25079																					
Perth Laboratory - NATA # 2377 Site # 2370																					
External Laboratory																					
10	GASW_BH11	Sep 28, 2021		Water	M21-Oc03859	X	X	X	X	X	X		X	X	X		X	X		X	X
11	GASW_BH23	Sep 29, 2021		Water	M21-Oc03860	X	X	X	X	X	X		X	X	X		X	X		X	X
12	GASW_BH25A	Sep 29, 2021		Water	M21-Oc03861	X	X	X	X	X	X		X	X	X		X	X		X	X
13	QC01	Sep 30, 2021		Water	M21-Oc03862										X					X	
14	RB01	Sep 30, 2021		Water	M21-Oc03863							X									
15	TRIP BLANK	Sep 30, 2021		Water	M21-Oc03864											X					
16	TRIP SPIKE	Sep 30, 2021		Water	M21-Oc03865														X		
17	CSM_BH13	Sep 29, 2021		Water	M21-Oc03866	X	X	X	X	X	X		X	X	X		X	X		X	X
18	CSM_BH14S	Sep 29, 2021		Water	M21-Oc03867	X	X	X	X	X	X		X	X	X		X	X		X	X
Test Counts						14	14	14	14	14	14	1	14	14	15	1	14	14	1	15	14

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs..

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM where no positive PFAS results have been reported have been reviewed and no data was affected.

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QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
Total cresols*	mg/L	< 0.01			0.01	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/L	< 0.05			0.05	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/L	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene	mg/L	< 0.00001			0.00001	Pass	
Total PAH*	mg/L	-			0.00001	N/A	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Chloride	mg/L	< 1			1	Pass	
Cyanide (total)	mg/L	< 0.004			0.004	Pass	
Ferrous Iron - Fe2+	mg/L	< 0.05			0.05	Pass	
Sulphate (as SO4)	mg/L	< 5			5	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	mg/L	< 10			10	Pass	
Total Suspended Solids Dried at 103–105°C	mg/L	< 1			1	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Carbonate Alkalinity (as CaCO3)	mg/L	< 10			10	Pass	
Hydroxide Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Total Alkalinity (as CaCO3)	mg/L	< 20			20	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	110			70-130	Pass	
TRH C10-C14	%	108			70-130	Pass	
Naphthalene	%	81			70-130	Pass	
TRH C6-C10	%	110			70-130	Pass	
TRH >C10-C16	%	105			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	88			70-130	Pass	
Toluene	%	93			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethylbenzene	%	88			70-130	Pass	
m&p-Xylenes	%	102			70-130	Pass	
Xylenes - Total*	%	102			70-130	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	108			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	108			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Anthracene	%	87			70-130	Pass	
LCS - % Recovery							
Ammonia (as N)	%	102			70-130	Pass	
Chloride	%	105			70-130	Pass	
Cyanide (total)	%	103			70-130	Pass	
Ferrous Iron - Fe2+	%	107			70-130	Pass	
Sulphate (as SO4)	%	115			70-130	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	%	97			70-130	Pass	
Total Suspended Solids Dried at 103–105°C	%	72			70-130	Pass	
LCS - % Recovery							
Alkalinity (speciated)							
Carbonate Alkalinity (as CaCO3)	%	94			70-130	Pass	
Total Alkalinity (as CaCO3)	%	95			70-130	Pass	
LCS - % Recovery							
Alkali Metals							
Calcium	%	90			80-120	Pass	
Magnesium	%	90			80-120	Pass	
Potassium	%	85			80-120	Pass	
Sodium	%	94			80-120	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	97			80-120	Pass	
Cadmium	%	98			80-120	Pass	
Chromium	%	98			80-120	Pass	
Copper	%	97			80-120	Pass	
Lead	%	96			80-120	Pass	
Mercury	%	82			80-120	Pass	
Nickel	%	97			80-120	Pass	
Zinc	%	99			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	B21-Oc03376	NCP	%	95			30-130	Pass	
2.4-Dichlorophenol	B21-Oc03376	NCP	%	110			30-130	Pass	
2.4.5-Trichlorophenol	B21-Oc03376	NCP	%	108			30-130	Pass	
2.4.6-Trichlorophenol	B21-Oc03376	NCP	%	109			30-130	Pass	
2.6-Dichlorophenol	B21-Oc03376	NCP	%	87			30-130	Pass	
4-Chloro-3-methylphenol	B21-Oc03376	NCP	%	109			30-130	Pass	
Pentachlorophenol	B21-Oc03376	NCP	%	85			30-130	Pass	
Tetrachlorophenols - Total	B21-Oc03376	NCP	%	80			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	N21-Oc23101	NCP	%	49			30-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Methyl-4.6-dinitrophenol	B21-Oc03376	NCP	%	106			30-130	Pass	
2-Nitrophenol	B21-Oc03376	NCP	%	101			30-130	Pass	
2.4-Dimethylphenol	N21-Oc23101	NCP	%	44			30-130	Pass	
2.4-Dinitrophenol	B21-Oc03376	NCP	%	106			30-130	Pass	
2-Methylphenol (o-Cresol)	B21-Oc03376	NCP	%	85			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	B21-Oc03376	NCP	%	62			30-130	Pass	
Total cresols*	B21-Oc03376	NCP	%	70			70-130	Pass	
4-Nitrophenol	B21-Oc03376	NCP	%	79			30-130	Pass	
Dinoseb	B21-Oc03376	NCP	%	114			30-130	Pass	
Phenol	B21-Oc03376	NCP	%	37			30-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthene	B21-Oc03376	NCP	%	97			70-130	Pass	
Acenaphthylene	B21-Oc03376	NCP	%	85			70-130	Pass	
Anthracene	B21-Oc03376	NCP	%	83			70-130	Pass	
Benz(a)anthracene	B21-Oc03376	NCP	%	114			70-130	Pass	
Benzo(a)pyrene	B21-Oc03376	NCP	%	71			70-130	Pass	
Benzo(b&j)fluoranthene	B21-Oc03376	NCP	%	103			70-130	Pass	
Benzo(g.h.i)perylene	B21-Oc03376	NCP	%	106			70-130	Pass	
Benzo(k)fluoranthene	B21-Oc03376	NCP	%	118			70-130	Pass	
Chrysene	B21-Oc03376	NCP	%	104			70-130	Pass	
Dibenz(a.h)anthracene	B21-Oc03376	NCP	%	110			70-130	Pass	
Fluoranthene	B21-Oc03376	NCP	%	96			70-130	Pass	
Fluorene	B21-Oc03376	NCP	%	109			70-130	Pass	
Indeno(1.2.3-cd)pyrene	B21-Oc03376	NCP	%	103			70-130	Pass	
Naphthalene	B21-Oc03376	NCP	%	82			70-130	Pass	
Phenanthrene	B21-Oc03376	NCP	%	88			70-130	Pass	
Pyrene	B21-Oc03376	NCP	%	94			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chloride	L21-Se62070	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Potassium	M21-Oc06689	NCP	%	86			75-125	Pass	
Spike - % Recovery									
				Result 1					
Ammonia (as N)	M21-Oc03851	CP	%	96			70-130	Pass	
Spike - % Recovery									
				Result 1					
Sulphate (as SO4)	M21-Oc03852	CP	%	99			70-130	Pass	
Spike - % Recovery									
				Result 1					
Total Suspended Solids Dried at 103–105°C	M21-Oc03697	NCP	%	75			70-130	Pass	
Spike - % Recovery									
				Result 1					
Ferrous Iron - Fe2+	M21-Oc03856	CP	%	102			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	M21-Oc03857	CP	%	94			75-125	Pass	
Cadmium (filtered)	M21-Oc03857	CP	%	93			75-125	Pass	
Chromium (filtered)	M21-Oc03857	CP	%	97			75-125	Pass	
Copper (filtered)	M21-Oc03857	CP	%	96			75-125	Pass	
Lead (filtered)	M21-Oc03857	CP	%	95			75-125	Pass	
Manganese (filtered)	M21-Oc03857	CP	%	96			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Mercury (filtered)	M21-Oc03857	CP	%	80			75-125	Pass	
Nickel (filtered)	M21-Oc03857	CP	%	95			75-125	Pass	
Zinc (filtered)	M21-Oc03857	CP	%	98			75-125	Pass	
Spike - % Recovery									
				Result 1					
Sulphate (as SO4)	M21-Oc03858	CP	%	97			70-130	Pass	
Spike - % Recovery									
Alkali Metals				Result 1					
Calcium	M21-Oc03859	CP	%	89			75-125	Pass	
Magnesium	M21-Oc03859	CP	%	95			75-125	Pass	
Sodium	M21-Oc03859	CP	%	96			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M21-Oc12823	NCP	%	101			70-130	Pass	
TRH >C10-C16	M21-Oc12823	NCP	%	99			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M21-Oc03669	NCP	%	101			75-125	Pass	
Cadmium	M21-Oc03669	NCP	%	94			75-125	Pass	
Chromium	M21-Oc03669	NCP	%	104			75-125	Pass	
Copper	M21-Oc03669	NCP	%	99			75-125	Pass	
Lead	M21-Oc03669	NCP	%	96			75-125	Pass	
Mercury	M21-Oc03669	NCP	%	91			75-125	Pass	
Nickel	M21-Oc03669	NCP	%	98			75-125	Pass	
Zinc	M21-Oc03669	NCP	%	99			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M21-Oc02856	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Naphthalene	M21-Oc02856	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-Oc02856	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Oc02856	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-Oc02856	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Oc02856	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Oc02856	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Oc02856	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Oc02856	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M21-Oc03675	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dichlorophenol	M21-Oc03675	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4.5-Trichlorophenol	M21-Oc03675	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	M21-Oc03675	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
4-Chloro-3-methylphenol	M21-Oc03675	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Pentachlorophenol	M21-Oc03675	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Tetrachlorophenols - Total	M21-Oc03675	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M21-Oc03675	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M21-Oc03675	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Nitrophenol	M21-Oc03675	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dimethylphenol	M21-Oc03675	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2.4-Dinitrophenol	M21-Oc03675	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M21-Oc03675	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M21-Oc03675	NCP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Nitrophenol	M21-Oc03675	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Dinoseb	M21-Oc03675	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Phenol	M21-Oc03675	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Acenaphthylene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Anthracene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benz(a)anthracene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(a)pyrene	M21-Oc03675	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(b&j)fluoranthene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(g.h.i)perylene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(k)fluoranthene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Chrysene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Dibenz(a.h)anthracene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluoranthene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluorene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Naphthalene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Phenanthrene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Pyrene	B21-Oc03375	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Dissolved Solids Dried at 180°C ± 2°C	L21-Oc01091	NCP	mg/L	240	270	10	30%	Pass	
Total Suspended Solids Dried at 103–105°C	B21-Se59592	NCP	mg/L	6.4	7.2	12	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Potassium	M21-Oc06689	NCP	mg/L	240	240	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ammonia (as N)	M21-Oc03851	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Cyanide (total)	M21-Oc03851	CP	mg/L	< 0.004	< 0.004	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	M21-Oc03852	CP	mg/L	210	210	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ferrous Iron - Fe2+	M21-Oc03853	CP	mg/L	5.6	5.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M21-Oc03855	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-Oc03855	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-Oc03855	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	M21-Oc03855	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-Oc03855	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-Oc03855	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
TRH - 2013 NEPM Fractions (after silica gel clean-up)				Result 1	Result 2	RPD			
TRH >C10-C16 (after silica gel clean-up)	M21-Oc03855	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34 (after silica gel clean-up)	M21-Oc03855	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40 (after silica gel clean-up)	M21-Oc03855	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
TRH - 1999 NEPM Fractions (after silica gel clean-up)				Result 1	Result 2	RPD			
TRH C10-C14 (after silica gel clean-up)	M21-Oc03855	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28 (after silica gel clean-up)	M21-Oc03855	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36 (after silica gel clean-up)	M21-Oc03855	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C10-C36 (Total) (after silica gel clean-up)	M21-Oc03855	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
pH (at 25 °C)	M21-Oc03855	CP	pH Units	6.4	6.4	pass	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M21-Oc03855	CP	mg/L	60	56	6.0	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M21-Oc03855	CP	mg/L	< 10	< 10	<1	30%	Pass	
Hydroxide Alkalinity (as CaCO3)	M21-Oc03855	CP	mg/L	< 20	< 20	<1	30%	Pass	
Total Alkalinity (as CaCO3)	M21-Oc03855	CP	mg/L	60	56	6.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Ferrous Iron - Fe2+	M21-Oc03856	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
pH (at 25 °C)	M21-Oc03856	CP	pH Units	6.3	6.4	pass	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M21-Oc03856	CP	mg/L	< 20	< 20	<1	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M21-Oc03856	CP	mg/L	< 10	< 10	<1	30%	Pass	
Hydroxide Alkalinity (as CaCO3)	M21-Oc03856	CP	mg/L	< 20	< 20	<1	30%	Pass	
Total Alkalinity (as CaCO3)	M21-Oc03856	CP	mg/L	< 20	< 20	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M21-Oc03857	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	M21-Oc03857	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M21-Oc03857	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M21-Oc03857	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	M21-Oc03857	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	M21-Oc03857	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Mercury (filtered)	M21-Oc03857	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M21-Oc03857	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc (filtered)	M21-Oc03857	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	M21-Oc03858	CP	mg/L	190	190	1.0	30%	Pass	
Ferrous Iron - Fe2+	M21-Oc03858	CP	mg/L	3.7	3.7	<1	30%	Pass	
Sulphate (as SO4)	M21-Oc03858	CP	mg/L	< 5	< 5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2.6-Dichlorophenol	M21-Oc01987	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
Total cresols*	M21-Oc01987	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	

Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M21-Oc03859	CP	mg/L	13	12	7.0	30%	Pass	
Sodium	M21-Oc03859	CP	mg/L	33	33	1.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M21-Oc12822	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M21-Oc12822	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M21-Oc12822	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	M21-Oc12822	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M21-Oc12822	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M21-Oc12822	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M21-Oc03669	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	M21-Oc03669	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M21-Oc03669	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	M21-Oc03669	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	M21-Oc03669	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	M21-Oc03669	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M21-Oc03669	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	M21-Oc03669	NCP	mg/L	0.008	< 0.005	55	30%	Fail	Q15

Comments

This report was revised V2 to amend Cyanide (total) LOR to 0.004 mg/L.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

John Nguyen	Analytical Services Manager
Vivian Wang	Senior Analyst-Volatile (VIC)
Scott Beddoes	Senior Analyst-Inorganic (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Emily Rosenberg	Senior Analyst-Metal (VIC)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2119579**	Page	: 1 of 5
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR HENRY LUO	Contact	: Peter Ravlic
Address	: LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 02 9239 7100	Telephone	: +6138549 9645
Project	: 2127234	Date Samples Received	: 04-Oct-2021 09:50
Order number	: 2127234	Date Analysis Commenced	: 05-Oct-2021
C-O-C number	: ----	Issue Date	: 13-Oct-2021 10:28
Sampler	: CA		
Site	:		
Quote number	: EN/005		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

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

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

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

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

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

- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP132: Where reported, Total PAH reported as the sum of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene and Benzo(g,h,i)perylene.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC02	----	----	----	----
				Sampling date / time	28-Sep-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2119579-001	--------	--------	--------	--------
					Result	----	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.017**	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.008**	----	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC02	----	----	----	----
				Sampling date / time	28-Sep-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2119579-001	--------	--------	--------	--------
					Result	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		<0.1	----	----	----	----
2-Methylnaphthalene	91-57-6	0.1	µg/L		<0.1	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		<0.1	----	----	----	----
Acenaphthene	83-32-9	0.1	µg/L		<0.1	----	----	----	----
Acenaphthylene	208-96-8	0.1	µg/L		<0.1	----	----	----	----
Anthracene	120-12-7	0.1	µg/L		<0.1	----	----	----	----
Benz(a)anthracene	56-55-3	0.1	µg/L		**0.2**	----	----	----	----
Benzo(a)pyrene	50-32-8	0.05	µg/L		**0.39**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L		**0.4**	----	----	----	----
Benzo(e)pyrene	192-97-2	0.1	µg/L		**0.3**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L		**0.3**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		**0.1**	----	----	----	----
Chrysene	218-01-9	0.1	µg/L		**0.2**	----	----	----	----
Coronene	191-07-1	0.1	µg/L		<0.1	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L		<0.1	----	----	----	----
Fluoranthene	206-44-0	0.1	µg/L		**0.2**	----	----	----	----
Fluorene	86-73-7	0.1	µg/L		<0.1	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L		**0.2**	----	----	----	----
Naphthalene	91-20-3	0.1	µg/L		<0.1	----	----	----	----
Perylene	198-55-0	0.1	µg/L		<0.1	----	----	----	----
Phenanthrene	85-01-8	0.1	µg/L		<0.1	----	----	----	----
Pyrene	129-00-0	0.1	µg/L		**0.3**	----	----	----	----
^ Sum of PAHs	----	0.05	µg/L		**2.3**	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.05	µg/L		**0.5**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**103**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**109**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**120**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**80.1**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**104**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**88.4**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	43	135
Anthracene-d10	1719-06-8	48	138
4-Terphenyl-d14	1718-51-0	48	144

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(WATER) EP132B: Polynuclear Aromatic Hydrocarbons

(WATER) EP132S: Acid Extractable Surrogates

(WATER) EP132T: Base/Neutral Extractable Surrogates

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2119579**	Page	: 1 of 6
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR HENRY LUO	Contact	: Peter Ravlic
Address	: LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 02 9239 7100	Telephone	: +6138549 9645
Project	: 2127234	Date Samples Received	: 04-Oct-2021
Order number	: 2127234	Date Analysis Commenced	: 05-Oct-2021
C-O-C number	: ----	Issue Date	: 13-Oct-2021
Sampler	: CA		
Site	:		
Quote number	: EN/005		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3940465)									
EM2119601-007	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	0.0012	0.0013	0.0	0% - 50%
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.005	0.005	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.594	0.597	0.4	0% - 20%
EM2119569-002	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.031	0.030	5.9	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 3940466)									
EM2119617-002	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2119569-002	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3938128)									
EM2119557-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2119584-008	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3938524)									
EM2119571-074	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3938524) - continued									
EM2119571-074	Anonymous	EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3938128)									
EM2119557-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2119584-008	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3938524)									
EM2119571-074	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080: BTEXN (QC Lot: 3938128)									
EM2119557-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2119584-008	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3940465)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	100	89.0	111
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	98.4	83.5	111
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	99.3	83.2	109
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	97.6	83.1	107
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	97.8	84.6	108
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	96.9	84.3	110
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	100.0	86.3	112
EG035F: Dissolved Mercury by FIMS (QCLot: 3940466)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	103	71.6	116
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3938128)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	120	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3938524)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4670 µg/L	65.9	44.2	140
EP071: C15 - C28 Fraction	----	100	µg/L	<100	15800 µg/L	71.8	46.9	127
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8180 µg/L	69.6	47.4	128
EP071: C10 - C36 Fraction (sum)	----	----	µg/L	----	28650 µg/L	70.0	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3938128)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	118	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3938524)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6100 µg/L	66.4	43.0	127
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	21200 µg/L	70.7	48.6	129
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1620 µg/L	69.5	42.2	133
EP071: >C10 - C40 Fraction (sum)	----	----	µg/L	----	28920 µg/L	# 69.7	70.0	130
EP080: BTEXN (QCLot: 3938128)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	117	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	116	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	114	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	120	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	119	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	119	68.3	131
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3941477)								
EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	2 µg/L	86.2	60.0	120

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3941477) - continued								
EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	2 µg/L	65.9	59.0	123
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	2 µg/L	90.2	36.0	144
EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	2 µg/L	68.2	64.0	122
EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	2 µg/L	70.4	64.0	126
EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	2 µg/L	70.5	65.0	127
EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	2 µg/L	78.4	64.0	130
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	76.4	64.0	126
EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	2 µg/L	75.5	62.0	126
EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	2 µg/L	74.0	62.0	126
EP132: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	2 µg/L	72.6	56.0	126
EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	2 µg/L	71.4	68.0	130
EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	2 µg/L	74.7	66.0	130
EP132: Coronene	191-07-1	0.1	µg/L	<0.1	2 µg/L	72.1	35.0	133
EP132: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	2 µg/L	75.5	58.0	128
EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	2 µg/L	72.4	65.0	127
EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	2 µg/L	75.9	64.0	124
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	2 µg/L	75.4	57.0	127
EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	2 µg/L	62.2	54.0	128
EP132: Perylene	198-55-0	0.1	µg/L	<0.1	2 µg/L	73.8	66.0	130
EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	2 µg/L	70.8	65.0	129
EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	2 µg/L	71.5	66.0	128

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3940465)							
EM2119569-002	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	101	76.6	124
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	104	74.6	118
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	104	71.0	135
		EG020A-F: Copper	7440-50-8	0.2 mg/L	102	76.0	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	98.6	75.0	133
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	101	73.0	131
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	105	75.0	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035F: Dissolved Mercury by FIMS (QCLot: 3940466)							
EM2119574-003	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	98.7	70.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3938128)							
EM2119563-036	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	101	33.9	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3938524)							
EM2119577-001	Anonymous	EP071: C10 - C14 Fraction	----	4670 µg/L	75.0	41.2	149
		EP071: C15 - C28 Fraction	----	15800 µg/L	80.4	41.8	131
		EP071: C29 - C36 Fraction	----	8180 µg/L	78.3	43.5	130
		EP071: C10 - C36 Fraction (sum)	----	28650 µg/L	78.7	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3938128)							
EM2119563-036	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	98.6	34.0	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3938524)							
EM2119577-001	Anonymous	EP071: >C10 - C16 Fraction	----	6100 µg/L	75.0	38.4	133
		EP071: >C16 - C34 Fraction	----	21200 µg/L	79.2	43.1	132
		EP071: >C34 - C40 Fraction	----	1620 µg/L	78.5	38.4	135
		EP071: >C10 - C40 Fraction (sum)	----	28920 µg/L	78.2	70.0	130
EP080: BTEXN (QCLot: 3938128)							
EM2119563-036	Anonymous	EP080: Benzene	71-43-2	20 µg/L	110	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	111	60.4	132

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2119579**	Page	: 1 of 5
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: MR HENRY LUO	Telephone	: +6138549 9645
Project	: 2127234	Date Samples Received	: 04-Oct-2021
Site	:	Issue Date	: 13-Oct-2021
Sampler	: CA	No. of samples received	: 1
Order number	: 2127234	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Laboratory Control outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	QC-3938524-001	----	**>C10 - C40 Fraction (sum)**	----	69.7 %	70.0-130%	**Recovery less than lower control limit**

Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EP132B: Polynuclear Aromatic Hydrocarbons						
Amber Glass Bottle - Unpreserved						
QC02	07-Oct-2021	05-Oct-2021	**2**	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count: QC	Count: Regular	Rate (%): Actual	Rate (%): Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	0	4	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	1	12	8.33	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
QC02	**28-Sep-2021**	**----**	----	----	**06-Oct-2021**	27-Mar-2022	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
QC02	**28-Sep-2021**	**----**	----	----	**07-Oct-2021**	26-Oct-2021	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
QC02	**28-Sep-2021**	**05-Oct-2021**	05-Oct-2021	✓	**06-Oct-2021**	14-Nov-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**28-Sep-2021**	**05-Oct-2021**	12-Oct-2021	✓	**05-Oct-2021**	12-Oct-2021	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
QC02	**28-Sep-2021**	**05-Oct-2021**	05-Oct-2021	✓	**06-Oct-2021**	14-Nov-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**28-Sep-2021**	**05-Oct-2021**	12-Oct-2021	✓	**05-Oct-2021**	12-Oct-2021	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**28-Sep-2021**	**05-Oct-2021**	12-Oct-2021	✓	**05-Oct-2021**	12-Oct-2021	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP132)							
QC02	**28-Sep-2021**	**07-Oct-2021**	05-Oct-2021	×	**08-Oct-2021**	16-Nov-2021	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	4	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	4	**25.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	4	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	WATER	In house: Referenced to USEPA 3640 (GPC Cleanup), 8270 GCMS Capiliary column, SIM mode. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Sep. Funnel Extraction /Acetylation of Phenolic Compounds	ORG14-AC	WATER	In house: Referenced to USEPA 3510 (Extraction) / In-house (Acetylation): A 1L sample is extracted into dichloromethane and concentrated to 1 mL with echange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5800 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
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☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
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☐WOLLONGONG 99 Kenny St[illegible] NSW 2500 Ph: 02 4225 3125 E: [illegible]

28

CLIENT: GHD Pty Ltd	**TURNAROUND REQUIREMENTS** ☑ Standard TAT (List due date): STANDARD TAT		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Sydney	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):		Custody Seal Intact? Yes No N/A
PROJECT: 2127234 Central	**ALS QUOTE NO.:** EN/005/20	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt Yes No N/A
ORDER NUMBER: 2127234		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Henry Luo	**CONTACT PH:** 02 9239 7044 / 0414 090 002	OF: (1) 2 3 4 5 6 7	Other comment:
SAMPLER: ~~Terry Nham~~ Christie Allen	**SAMPLER MOBILE:** 0403 261 883	**RELINQUISHED BY:** [illegible]m (GHD) Christie Allen	**RECEIVED BY:** Adam Peters
COC emailed to ALS? (YES (NO)	**EDD FORMAT (or default):** ESDAT	DATE/TIME: 30/9/21 1:30pm	DATE/TIME: 30/9 1:32 PM
Email Reports to: henry.luo@ghd.com terry.nham@ghd.com charlotte.gray@ghd.com christie.allen@ghd.com		**RELINQUISHED BY:** CANA To EF	**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME: 4/10/21-8am	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).		
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	TRH / BTEXN / 8 Metals (W-5)	PAH - Ultra Trace (EP132B)	
1	QC02	28/9/21	Water		5	X	X	

Environmental Division
Melbourne
Work Order Reference
EM2119579

Telephone : +61-3-8549 9600

Received: 4/10 9am Carrier:
C/note:
Temp: 6.6 °C Seal: Y N
Ice / Icebricks / NA

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2115835**	Page	: 1 of 5
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Contact	: Angus Harding
Address	: LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9239 7100	Telephone	: +61 2 8784 8555
Project	: 2127234	Date Samples Received	: 28-Apr-2021 14:35
Order number	: 2127234	Date Analysis Commenced	: 30-Apr-2021
C-O-C number	: ----	Issue Date	: 07-May-2021 16:19
Sampler	: Terry Nham		
Site	: 21-27234 Central		
Quote number	: EN/005		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

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

General Comments

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

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

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

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

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

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

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

- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EG035: Poor matrix spike recovery was obtained for Mercury on sample ES2114966 # 5. Confirmed by re-analysis.
- EP132: Where reported, Total PAH reported as the sum of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene and Benzo(g,h,i)perylene.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC02	----	----	----	----
				Sampling date / time	27-Apr-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2115835-001	--------	--------	--------	--------
					Result	----	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		**0.0001**	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		**0.007**	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.093**	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.191**	----	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC02	----	----	----	----
				Sampling date / time	27-Apr-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2115835-001	--------	--------	--------	--------
					Result	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		<0.1	----	----	----	----
2-Methylnaphthalene	91-57-6	0.1	µg/L		<0.1	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		<0.1	----	----	----	----
Acenaphthene	83-32-9	0.1	µg/L		<0.1	----	----	----	----
Acenaphthylene	208-96-8	0.1	µg/L		<0.1	----	----	----	----
Anthracene	120-12-7	0.1	µg/L		<0.1	----	----	----	----
Benz(a)anthracene	56-55-3	0.1	µg/L		**0.2**	----	----	----	----
Benzo(a)pyrene	50-32-8	0.05	µg/L		**0.33**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L		**0.3**	----	----	----	----
Benzo(e)pyrene	192-97-2	0.1	µg/L		**0.3**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L		**0.2**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		**0.1**	----	----	----	----
Chrysene	218-01-9	0.1	µg/L		**0.2**	----	----	----	----
Coronene	191-07-1	0.1	µg/L		<0.1	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L		<0.1	----	----	----	----
Fluoranthene	206-44-0	0.1	µg/L		**0.3**	----	----	----	----
Fluorene	86-73-7	0.1	µg/L		<0.1	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L		**0.2**	----	----	----	----
Naphthalene	91-20-3	0.1	µg/L		<0.1	----	----	----	----
Perylene	198-55-0	0.1	µg/L		<0.1	----	----	----	----
Phenanthrene	85-01-8	0.1	µg/L		<0.1	----	----	----	----
Pyrene	129-00-0	0.1	µg/L		**0.4**	----	----	----	----
^ Sum of PAHs	----	0.05	µg/L		**2.2**	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.05	µg/L		**0.4**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**119**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**106**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**109**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**48.8**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**51.5**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**65.2**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	43	135
Anthracene-d10	1719-06-8	48	138
4-Terphenyl-d14	1718-51-0	48	144

QUALITY CONTROL REPORT

Work Order	: **ES2115835**	Page	: 1 of 6
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Contact	: Angus Harding
Address	: LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9239 7100	Telephone	: +61 2 8784 8555
Project	: 2127234	Date Samples Received	: 28-Apr-2021
Order number	: 2127234	Date Analysis Commenced	: 30-Apr-2021
C-O-C number	: ----	Issue Date	: 07-May-2021
Sampler	: Terry Nham		
Site	: 21-27234 Central		
Quote number	: EN/005		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

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

General Comments

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3658296)									
ES2115793-003	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0010	<0.0010	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.010	<0.010	0.00	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.010	<0.010	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.010	<0.010	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.032	0.024	26.8	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.276	0.289	4.77	0% - 20%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.606	0.568	6.48	0% - 50%
ES2116548-009	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.001	0.00	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.00	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 3658295)									
ES2114966-006	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
ES2115628-008	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3652972)									
ES2114966-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit
ES2115520-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3652972)									
ES2114966-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
ES2115520-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
EP080: BTEXN (QC Lot: 3652972)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 3652972) - continued									
ES2114966-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit
ES2115520-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3658296)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	96.5	85.0	114
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	103	84.0	110
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	90.1	85.0	111
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	94.6	81.0	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	92.4	83.0	111
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	95.1	82.0	112
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	93.6	81.0	117
EG035F: Dissolved Mercury by FIMS (QCLot: 3658295)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	98.5	83.0	105
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3651775)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	75.3	55.8	112
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	80.6	71.6	113
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	71.2	56.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3652972)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	89.6	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3651775)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	78.0	57.9	119
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	78.1	62.5	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	84.0	61.5	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3652972)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	94.7	75.0	127
EP080: BTEXN (QCLot: 3652972)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	95.5	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	100	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	102	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	103	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	104	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	99.0	70.0	120
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3651747)								
EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	2 µg/L	87.4	60.0	120
EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	2 µg/L	112	59.0	123
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	2 µg/L	89.4	36.0	144

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3651747) - continued								
EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	2 µg/L	74.0	64.0	122
EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	2 µg/L	78.1	64.0	126
EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	2 µg/L	82.2	65.0	127
EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	2 µg/L	88.1	64.0	130
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	89.3	64.0	126
EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	2 µg/L	90.0	62.0	126
EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	2 µg/L	88.8	62.0	126
EP132: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	2 µg/L	92.7	56.0	126
EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	2 µg/L	89.9	68.0	130
EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	2 µg/L	87.4	66.0	130
EP132: Coronene	191-07-1	0.1	µg/L	<0.1	2 µg/L	99.6	35.0	133
EP132: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	2 µg/L	90.8	58.0	128
EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	2 µg/L	86.1	65.0	127
EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	2 µg/L	71.8	64.0	124
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	2 µg/L	92.1	57.0	127
EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	2 µg/L	78.4	54.0	128
EP132: Perylene	198-55-0	0.1	µg/L	<0.1	2 µg/L	89.6	66.0	130
EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	2 µg/L	81.2	65.0	129
EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	2 µg/L	86.1	66.0	128

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3658296)							
ES2115793-004	Anonymous	EG020A-F: Arsenic	7440-38-2	10 mg/L	99.6	70.0	130
		EG020A-F: Cadmium	7440-43-9	2.5 mg/L	96.7	70.0	130
		EG020A-F: Chromium	7440-47-3	10 mg/L	94.5	70.0	130
		EG020A-F: Copper	7440-50-8	10 mg/L	92.7	70.0	130
		EG020A-F: Lead	7439-92-1	10 mg/L	90.1	70.0	130
		EG020A-F: Nickel	7440-02-0	10 mg/L	92.1	70.0	130
		EG020A-F: Zinc	7440-66-6	10 mg/L	96.6	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 3658295)							
ES2114966-005	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	# 52.2	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3652972)							
ES2114966-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	92.9	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3652972)							
ES2114966-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	95.6	70.0	130
EP080: BTEXN (QCLot: 3652972)							
ES2114966-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	87.7	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	93.0	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	96.0	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	93.4	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	95.9	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	100	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2115835**	Page	: 1 of 5
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Telephone	: +61 2 8784 8555
Project	: 2127234	Date Samples Received	: 28-Apr-2021
Site	: 21-27234 Central	Issue Date	: 07-May-2021
Sampler	: Terry Nham	No. of samples received	: 1
Order number	: 2127234	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG035F: Dissolved Mercury by FIMS	ES2114966--005	Anonymous	**Mercury**	7439-97-6	52.2 %	70.0-130%	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
QC02	**27-Apr-2021**	**----**	----	----	**04-May-2021**	24-Oct-2021	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
QC02	**27-Apr-2021**	**----**	----	----	**05-May-2021**	25-May-2021	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
QC02	**27-Apr-2021**	**30-Apr-2021**	04-May-2021	✓	**03-May-2021**	09-Jun-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**27-Apr-2021**	**06-May-2021**	11-May-2021	✓	**06-May-2021**	11-May-2021	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
QC02	**27-Apr-2021**	**30-Apr-2021**	04-May-2021	✓	**03-May-2021**	09-Jun-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**27-Apr-2021**	**06-May-2021**	11-May-2021	✓	**06-May-2021**	11-May-2021	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**27-Apr-2021**	**06-May-2021**	11-May-2021	✓	**06-May-2021**	11-May-2021	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP132)							
QC02	**27-Apr-2021**	**01-May-2021**	04-May-2021	✓	**01-May-2021**	10-Jun-2021	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	WATER	In house: Referenced to USEPA 3640 (GPC Cleanup), 8270 GCMS Capiliary column, SIM mode. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Sep. Funnel Extraction /Acetylation of Phenolic Compounds	ORG14-AC	WATER	In house: Referenced to USEPA 3510 (Extraction) / In-house (Acetylation): A 1L sample is extracted into dichloromethane and concentrated to 1 mL with echange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townesville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: GHD Pty Ltd	**TURNAROUND REQUIREMENTS** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☒ Standard TAT (List due date):
OFFICE: Sydney		☐ Non Standard or urgent TAT (List due date):
PROJECT: 21-27234 Central	**ALS QUOTE NO.:** EN/005/19	
ORDER NUMBER: 2127234		
PROJECT MANAGER: Henry Luo	**CONTACT PH:** 02 9239 7044 / 0414 090 002	
SAMPLER: Terry Nham	**SAMPLER MOBILE:** 0403 251 883	
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):** ESDAT	
Email Reports to: henry.luo@ghd.com terry.nham@ghd.com charlotte.gray@ghd.com		
Email Invoice to (will default to PM if no other addresses are listed):		

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 4 5 6 7

OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: 2.2 °C

Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Terry Nham (GHD)	Sep M.		
DATE/TIME: 20/4/2021	DATE/TIME: 28/04/21 1435	DATE/TIME:	DATE/TIME: 28/4/21 1840

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

| ALS USE | SAMPLE DETAILS MATRIX: SOLID (S) WATER (W) | | | CONTAINER INFORMATION | | ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required). | | |

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2119803**	Page	: 1 of 5
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Contact	: Angus Harding
Address	: LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9239 7100	Telephone	: +61 2 8784 8555
Project	: 21-27234 Central	Date Samples Received	: 26-May-2021 16:20
Order number	: 2127234	Date Analysis Commenced	: 28-May-2021
C-O-C number	: ----	Issue Date	: 03-Jun-2021 15:40
Sampler	: TERRY NHAM		
Site	:		
Quote number	: EN/005		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

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

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

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

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

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

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

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

- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP132: Where reported, Total PAH reported as the sum of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene and Benzo(g,h,i)perylene.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC02	----	----	----	----
				Sampling date / time	25-May-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2119803-001	--------	--------	--------	--------
					Result	----	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.059**	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.059**	----	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC02	----	----	----	----
				Sampling date / time	25-May-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2119803-001	--------	--------	--------	--------
					Result	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		<0.1	----	----	----	----
2-Methylnaphthalene	91-57-6	0.1	µg/L		<0.1	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		<0.1	----	----	----	----
Acenaphthene	83-32-9	0.1	µg/L		<0.1	----	----	----	----
Acenaphthylene	208-96-8	0.1	µg/L		<0.1	----	----	----	----
Anthracene	120-12-7	0.1	µg/L		<0.1	----	----	----	----
Benz(a)anthracene	56-55-3	0.1	µg/L		<0.1	----	----	----	----
Benzo(a)pyrene	50-32-8	0.05	µg/L		<0.05	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L		<0.1	----	----	----	----
Benzo(e)pyrene	192-97-2	0.1	µg/L		<0.1	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L		<0.1	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		<0.1	----	----	----	----
Chrysene	218-01-9	0.1	µg/L		<0.1	----	----	----	----
Coronene	191-07-1	0.1	µg/L		<0.1	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L		<0.1	----	----	----	----
Fluoranthene	206-44-0	0.1	µg/L		<0.1	----	----	----	----
Fluorene	86-73-7	0.1	µg/L		<0.1	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L		<0.1	----	----	----	----
Naphthalene	91-20-3	0.1	µg/L		<0.1	----	----	----	----
Perylene	198-55-0	0.1	µg/L		<0.1	----	----	----	----
Phenanthrene	85-01-8	0.1	µg/L		<0.1	----	----	----	----
Pyrene	129-00-0	0.1	µg/L		<0.1	----	----	----	----
^ Sum of PAHs	----	0.05	µg/L		<0.05	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.05	µg/L		<0.05	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**110**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**108**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**106**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**47.8**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**47.4**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**58.4**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	43	135
Anthracene-d10	1719-06-8	48	138
4-Terphenyl-d14	1718-51-0	48	144

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES2119803**	Page	: 1 of 6
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Contact	: Angus Harding
Address	: LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9239 7100	Telephone	: +61 2 8784 8555
Project	: 21-27234 Central	Date Samples Received	: 26-May-2021
Order number	: 2127234	Date Analysis Commenced	: 28-May-2021
C-O-C number	: ----	Issue Date	: 03-Jun-2021
Sampler	: TERRY NHAM		
Site	:		
Quote number	: EN/005		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3709477)									
ES2119998-003	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.004	0.003	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.005	0.004	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.006	0.006	0.0	No Limit
ES2119842-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.666	0.670	0.6	0% - 20%
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.002	0.004	80.5	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.008	0.006	26.7	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 3709478)									
ES2119803-001	QC02	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES2119998-008	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3704416)									
ES2119470-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES2119998-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3704416)									
ES2119470-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES2119998-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3704416)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 3704416) - continued									
ES2119470-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES2119998-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3705257)									
ES2120000-001	Anonymous	EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Coronene	191-07-1	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Perylene	198-55-0	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	<0.1	0.0	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3709477)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	87.1	85.0	114
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	92.2	84.0	110
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	87.1	85.0	111
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	89.1	81.0	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	90.6	83.0	111
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	87.9	82.0	112
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	88.7	81.0	117
EG035F: Dissolved Mercury by FIMS (QCLot: 3709478)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	97.0	83.0	105
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3704416)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	102	75.0	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3704444)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	78.3	55.8	112
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	76.9	71.6	113
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	113	56.0	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3704416)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	104	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3704444)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	84.3	57.9	119
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	90.5	62.5	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	103	61.5	121
EP080: BTEXN (QCLot: 3704416)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	102	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	103	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	104	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	98.6	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	106	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	88.7	70.0	120
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3705257)								
EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	2 µg/L	74.0	60.0	120
EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	2 µg/L	67.2	59.0	123
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	2 µg/L	64.3	36.0	144

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3705257) - continued								
EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	2 µg/L	70.7	64.0	122
EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	2 µg/L	89.6	64.0	126
EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	2 µg/L	72.1	65.0	127
EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	2 µg/L	73.6	64.0	130
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	74.5	64.0	126
EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	2 µg/L	73.4	62.0	126
EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	2 µg/L	72.4	62.0	126
EP132: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	2 µg/L	73.4	56.0	126
EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	2 µg/L	72.0	68.0	130
EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	2 µg/L	71.3	66.0	130
EP132: Coronene	191-07-1	0.1	µg/L	<0.1	2 µg/L	73.8	35.0	133
EP132: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	2 µg/L	74.2	58.0	128
EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	2 µg/L	72.1	65.0	127
EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	2 µg/L	70.6	64.0	124
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	2 µg/L	74.5	57.0	127
EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	2 µg/L	58.2	54.0	128
EP132: Perylene	198-55-0	0.1	µg/L	<0.1	2 µg/L	72.8	66.0	130
EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	2 µg/L	69.6	65.0	129
EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	2 µg/L	71.4	66.0	128

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3709477)							
ES2119803-001	QC02	EG020A-F: Arsenic	7440-38-2	1 mg/L	124	70.0	130
		EG020A-F: Cadmium	7440-43-9	0.25 mg/L	128	70.0	130
		EG020A-F: Chromium	7440-47-3	1 mg/L	123	70.0	130
		EG020A-F: Copper	7440-50-8	1 mg/L	130	70.0	130
		EG020A-F: Lead	7439-92-1	1 mg/L	129	70.0	130
		EG020A-F: Nickel	7440-02-0	1 mg/L	129	70.0	130
		EG020A-F: Zinc	7440-66-6	1 mg/L	130	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 3709478)							
ES2119998-001	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	99.1	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3704416)							
ES2119470-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	106	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3704416)							
ES2119470-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	106	70.0	130
EP080: BTEXN (QCLot: 3704416)							
ES2119470-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	108	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	105	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	106	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	103	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	107	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	85.3	70.0	130
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3705257)							
ES2120000-001	Anonymous	EP132: 3-Methylcholanthrene	56-49-5	2 µg/L	92.3	59.0	115
		EP132: 2-Methylnaphthalene	91-57-6	2 µg/L	67.9	46.0	120
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	2 µg/L	76.3	21.0	135
		EP132: Acenaphthene	83-32-9	2 µg/L	73.9	62.0	114
		EP132: Acenaphthylene	208-96-8	2 µg/L	77.9	61.0	119
		EP132: Anthracene	120-12-7	2 µg/L	79.8	68.0	116
		EP132: Benz(a)anthracene	56-55-3	2 µg/L	87.9	67.0	122
		EP132: Benzo(a)pyrene	50-32-8	2 µg/L	91.0	72.0	114
		EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	2 µg/L	85.0	69.0	119
		EP132: Benzo(e)pyrene	192-97-2	2 µg/L	85.3	71.0	119
		EP132: Benzo(g.h.i)perylene	191-24-2	2 µg/L	87.7	49.0	133
		EP132: Benzo(k)fluoranthene	207-08-9	2 µg/L	84.3	71.0	124
		EP132: Chrysene	218-01-9	2 µg/L	84.4	70.0	118
		EP132: Coronene	191-07-1	2 µg/L	89.3	29.0	138
		EP132: Dibenz(a.h)anthracene	53-70-3	2 µg/L	88.5	60.0	122
		EP132: Fluoranthene	206-44-0	2 µg/L	84.0	65.0	121
		EP132: Fluorene	86-73-7	2 µg/L	77.1	63.0	118
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	2 µg/L	89.1	57.0	123
		EP132: Naphthalene	91-20-3	2 µg/L	64.5	53.0	115
		EP132: Perylene	198-55-0	2 µg/L	85.9	71.0	118
		EP132: Phenanthrene	85-01-8	2 µg/L	79.0	67.0	120
		EP132: Pyrene	129-00-0	2 µg/L	83.0	70.0	117

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2119803**	Page	: 1 of 5
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Telephone	: +61 2 8784 8555
Project	: 21-27234 Central	Date Samples Received	: 26-May-2021
Site	:	Issue Date	: 03-Jun-2021
Sampler	: TERRY NHAM	No. of samples received	: 1
Order number	: 2127234	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Regular Sample Surrogates

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP132T: Base/Neutral Extractable Surrogates	ES2119803-001	QC02	**Anthracene-d10**	1719-06-8	47.4 %	48.0-138 %	**Recovery less than lower data quality objective**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
TRH - Semivolatile Fraction	0	7	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
TRH - Semivolatile Fraction	0	7	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container* / Client Sample ID(s)	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
QC02	**25-May-2021**	**----**	----	----	**01-Jun-2021**	21-Nov-2021	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
QC02	**25-May-2021**	**----**	----	----	**01-Jun-2021**	22-Jun-2021	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
QC02	**25-May-2021**	**31-May-2021**	01-Jun-2021	✓	**01-Jun-2021**	10-Jul-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**25-May-2021**	**01-Jun-2021**	08-Jun-2021	✓	**01-Jun-2021**	08-Jun-2021	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
QC02	**25-May-2021**	**31-May-2021**	01-Jun-2021	✓	**01-Jun-2021**	10-Jul-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**25-May-2021**	**01-Jun-2021**	08-Jun-2021	✓	**01-Jun-2021**	08-Jun-2021	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**25-May-2021**	**01-Jun-2021**	08-Jun-2021	✓	**01-Jun-2021**	08-Jun-2021	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP132)							
QC02	**25-May-2021**	**28-May-2021**	01-Jun-2021	✓	**31-May-2021**	07-Jul-2021	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	7	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	7	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	WATER	In house: Referenced to USEPA 3640 (GPC Cleanup), 8270 GCMS Capiliary column, SIM mode. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Sep. Funnel Extraction /Acetylation of Phenolic Compounds	ORG14-AC	WATER	In house: Referenced to USEPA 3510 (Extraction) / In-house (Acetylation): A 1L sample is extracted into dichloromethane and concentrated to 1 mL with echange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townesville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: GHD Pty Ltd	**TURNAROUND REQUIREMENTS:** ☒ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Sydney	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? (Yes) No N/A
PROJECT: 21-27234 Central	**ALS QUOTE NO.:** EN/005/19	Free ice / frozen ice bricks present upon receipt? Yes (No) N/A
ORDER NUMBER: 2127234	**COC SEQUENCE NUMBER (Circle)** COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Henry Luo **CONTACT PH:** 02 9239 7044 / 0414 090 002	OF: (1) 2 3 4 5 6 7	Other comment: 16.3°C
SAMPLER: Terry Nham **SAMPLER MOBILE:** 0403 261 883	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO) **EDD FORMAT (or default):** ESDAT	Terry Nham (GHD)	DATE/TIME: 26/5/2021
Email Reports to: henry.luo@ghd.com terry.nham@ghd.com charlotte.gray@ghd.com	DATE/TIME: 26/5/2021	**RELINQUISHED BY:** DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed):	**RECEIVED BY:** DATE/TIME: 26/5/21 4:20pm	**RECEIVED BY:** DATE/TIME: 26/5/21 1500

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).										
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	TRH / BTEXN / 8 Metals (W-5)	PAH - Ultra Trace (EP132B)									
1	QC02	25/5/2021	Water		5	X	X									
				TOTAL												

Environmental Division Sydney
Work Order Reference
ES2119803

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2122606**	Page	: 1 of 5
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Contact	: Sarah Mathew
Address	: LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9239 7100	Telephone	: +61-2-8784 8555
Project	: 2127234	Date Samples Received	: 17-Jun-2021 13:40
Order number	: 2127234	Date Analysis Commenced	: 22-Jun-2021
C-O-C number	: ----	Issue Date	: 25-Jun-2021 12:52
Sampler	: TERRY NHAM		
Site	: 2127234 Central		
Quote number	: EN/005		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW

General Comments

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

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

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

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

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

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

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

- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP132: Where reported, Total PAH reported as the sum of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene and Benzo(g,h,i)perylene.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC02	----	----	----	----
				Sampling date / time	15-Jun-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2122606-001	--------	--------	--------	--------
					Result	----	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		**0.002**	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.031**	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.039**	----	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC02	----	----	----	----
				Sampling date / time	15-Jun-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2122606-001	--------	--------	--------	--------
					Result	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		<0.1	----	----	----	----
2-Methylnaphthalene	91-57-6	0.1	µg/L		<0.1	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		<0.1	----	----	----	----
Acenaphthene	83-32-9	0.1	µg/L		<0.1	----	----	----	----
Acenaphthylene	208-96-8	0.1	µg/L		<0.1	----	----	----	----
Anthracene	120-12-7	0.1	µg/L		<0.1	----	----	----	----
Benz(a)anthracene	56-55-3	0.1	µg/L		<0.1	----	----	----	----
Benzo(a)pyrene	50-32-8	0.05	µg/L		<0.05	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L		<0.1	----	----	----	----
Benzo(e)pyrene	192-97-2	0.1	µg/L		<0.1	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L		<0.1	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		<0.1	----	----	----	----
Chrysene	218-01-9	0.1	µg/L		<0.1	----	----	----	----
Coronene	191-07-1	0.1	µg/L		<0.1	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L		<0.1	----	----	----	----
Fluoranthene	206-44-0	0.1	µg/L		<0.1	----	----	----	----
Fluorene	86-73-7	0.1	µg/L		<0.1	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L		<0.1	----	----	----	----
Naphthalene	91-20-3	0.1	µg/L		<0.1	----	----	----	----
Perylene	198-55-0	0.1	µg/L		<0.1	----	----	----	----
Phenanthrene	85-01-8	0.1	µg/L		<0.1	----	----	----	----
Pyrene	129-00-0	0.1	µg/L		<0.1	----	----	----	----
^ Sum of PAHs	----	0.05	µg/L		<0.05	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.05	µg/L		<0.05	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**99.8**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**101**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**100.0**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**76.1**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**80.9**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**90.6**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	43	135
Anthracene-d10	1719-06-8	48	138
4-Terphenyl-d14	1718-51-0	48	144

QUALITY CONTROL REPORT

Work Order	: **ES2122606**	Page	: 1 of 6
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Contact	: Sarah Mathew
Address	: LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9239 7100	Telephone	: +61-2-8784 8555
Project	: 2127234	Date Samples Received	: 17-Jun-2021
Order number	: 2127234	Date Analysis Commenced	: 22-Jun-2021
C-O-C number	: ----	Issue Date	: 25-Jun-2021
Sampler	: TERRY NHAM		
Site	: 2127234 Central		
Quote number	: EN/005		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW

General Comments

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3749459)									
ES2122606-001	QC02	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.031	0.029	5.0	0% - 20%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.039	0.038	3.9	No Limit
ES2122535-004	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.005	0.006	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.032	0.038	14.4	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 3749460)									
ES2122535-002	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES2122535-009	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3747785)									
CA2103767-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES2122535-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3747785)									
CA2103767-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES2122535-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3747785)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 3747785) - continued									
CA2103767-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES2122535-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3747101)									
ES2122847-026	Anonymous	EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Coronene	191-07-1	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Perylene	198-55-0	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	<0.1	0.0	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3749459)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	91.6	85.0	114
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	91.9	84.0	110
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	92.1	85.0	111
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	91.8	81.0	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	92.2	83.0	111
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	90.8	82.0	112
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	90.9	81.0	117
EG035F: Dissolved Mercury by FIMS (QCLot: 3749460)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	97.3	83.0	105
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3746756)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	88.7	55.8	112
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	93.4	71.6	113
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	113	56.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3747785)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	92.1	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3746756)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	85.6	57.9	119
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	86.4	62.5	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	84.9	61.5	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3747785)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	95.6	75.0	127
EP080: BTEXN (QCLot: 3747785)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	94.9	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	96.6	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	94.9	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	95.5	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	95.3	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	98.5	70.0	120
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3747101)								
EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	2 µg/L	94.3	60.0	120
EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	2 µg/L	70.8	59.0	123
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	2 µg/L	92.2	36.0	144

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3747101) - continued								
EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	2 µg/L	73.8	64.0	122
EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	2 µg/L	75.4	64.0	126
EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	2 µg/L	82.6	65.0	127
EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	2 µg/L	92.1	64.0	130
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	91.3	64.0	126
EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	2 µg/L	90.8	62.0	126
EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	2 µg/L	89.6	62.0	126
EP132: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	2 µg/L	91.1	56.0	126
EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	2 µg/L	89.0	68.0	130
EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	2 µg/L	90.3	66.0	130
EP132: Coronene	191-07-1	0.1	µg/L	<0.1	2 µg/L	91.4	35.0	133
EP132: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	2 µg/L	91.4	58.0	128
EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	2 µg/L	88.8	65.0	127
EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	2 µg/L	76.8	64.0	124
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	2 µg/L	92.0	57.0	127
EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	2 µg/L	66.3	54.0	128
EP132: Perylene	198-55-0	0.1	µg/L	<0.1	2 µg/L	90.6	66.0	130
EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	2 µg/L	82.0	65.0	129
EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	2 µg/L	87.9	66.0	128

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG035F: Dissolved Mercury by FIMS (QCLot: 3749460)							
ES2122535-001	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	90.8	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3747785)							
CA2103767-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	102	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3747785)							
CA2103767-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	106	70.0	130
EP080: BTEXN (QCLot: 3747785)							
CA2103767-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	95.4	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	99.8	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	105	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 3747785) - continued							
CA2103767-001	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	103	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	103	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	108	70.0	130
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3747101)							
ES2122847-026	Anonymous	EP132: 3-Methylcholanthrene	56-49-5	2 µg/L	83.6	59.0	115
		EP132: 2-Methylnaphthalene	91-57-6	2 µg/L	71.2	46.0	120
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	2 µg/L	82.9	21.0	135
		EP132: Acenaphthene	83-32-9	2 µg/L	74.0	62.0	114
		EP132: Acenaphthylene	208-96-8	2 µg/L	76.3	61.0	119
		EP132: Anthracene	120-12-7	2 µg/L	76.5	68.0	116
		EP132: Benz(a)anthracene	56-55-3	2 µg/L	81.7	67.0	122
		EP132: Benzo(a)pyrene	50-32-8	2 µg/L	80.9	72.0	114
		EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	2 µg/L	80.1	69.0	119
		EP132: Benzo(e)pyrene	192-97-2	2 µg/L	79.0	71.0	119
		EP132: Benzo(g.h.i)perylene	191-24-2	2 µg/L	81.0	49.0	133
		EP132: Benzo(k)fluoranthene	207-08-9	2 µg/L	78.7	71.0	124
		EP132: Chrysene	218-01-9	2 µg/L	79.0	70.0	118
		EP132: Coronene	191-07-1	2 µg/L	81.8	29.0	138
		EP132: Dibenz(a.h)anthracene	53-70-3	2 µg/L	80.6	60.0	122
		EP132: Fluoranthene	206-44-0	2 µg/L	79.8	65.0	121
		EP132: Fluorene	86-73-7	2 µg/L	74.9	63.0	118
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	2 µg/L	81.2	57.0	123
		EP132: Naphthalene	91-20-3	2 µg/L	66.9	53.0	115
		EP132: Perylene	198-55-0	2 µg/L	80.0	71.0	118
		EP132: Phenanthrene	85-01-8	2 µg/L	75.9	67.0	120
		EP132: Pyrene	129-00-0	2 µg/L	79.1	70.0	117

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2122606**	Page	: 1 of 4
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Telephone	: +61-2-8784 8555
Project	: 2127234	Date Samples Received	: 17-Jun-2021
Site	: 2127234 Central	Issue Date	: 25-Jun-2021
Sampler	: TERRY NHAM	No. of samples received	: 1
Order number	: 2127234	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
TRH - Semivolatile Fraction	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Dissolved Metals by ICP-MS - Suite A	0	19	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
QC02	**15-Jun-2021**	**----**	----	----	**22-Jun-2021**	12-Dec-2021	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
QC02	**15-Jun-2021**	**----**	----	----	**23-Jun-2021**	13-Jul-2021	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
QC02	**15-Jun-2021**	**22-Jun-2021**	22-Jun-2021	✓	**23-Jun-2021**	01-Aug-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**15-Jun-2021**	**24-Jun-2021**	29-Jun-2021	✓	**24-Jun-2021**	29-Jun-2021	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
QC02	**15-Jun-2021**	**22-Jun-2021**	22-Jun-2021	✓	**23-Jun-2021**	01-Aug-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**15-Jun-2021**	**24-Jun-2021**	29-Jun-2021	✓	**24-Jun-2021**	29-Jun-2021	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**15-Jun-2021**	**24-Jun-2021**	29-Jun-2021	✓	**24-Jun-2021**	29-Jun-2021	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP132)							
QC02	**15-Jun-2021**	**22-Jun-2021**	22-Jun-2021	✓	**24-Jun-2021**	01-Aug-2021	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	0	19	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	WATER	In house: Referenced to USEPA 3640 (GPC Cleanup), 8270 GCMS Capiliary column, SIM mode. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Sep. Funnel Extraction /Acetylation of Phenolic Compounds	ORG14-AC	WATER	In house: Referenced to USEPA 3510 (Extraction) / In-house (Acetylation): A 1L sample is extracted into dichloromethane and concentrated to 1 mL with echange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4793 0600 E: townesville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: GHD Pty Ltd	**TURNAROUND REQUIREMENTS:** ☒ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Sydney	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: 2127234 Central	**ALS QUOTE NO.:** EN/005/19	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 2127234	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: 4.3 °C
PROJECT MANAGER: Henry Luo **CONTACT PH:** 02 9239 7044 / 0414 090 002	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Terry Nham **SAMPLER MOBILE:** 0403 251 883	**RELINQUISHED BY:**	**RECEIVED BY:** James
COC emailed to ALS? (YES / NO) **EDD FORMAT (or default):** ESDAT	Terry Nham (GHD)	DATE/TIME: 17/6 1.40pm
Email Reports to: henry.luo@ghd.com terry.nham@ghd.com charlotte.gray@ghd.com	DATE/TIME: 17/6/2021	**RELINQUISHED BY:** DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed):		**RECEIVED BY:** DATE/TIME: 17/6/21 1500

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).																
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	TRH / BTEXN / 8 Metals (W-5)	PAH - Ultra Trace (EP132B)															
1	QC02	15/6/2021	Water		5	X	X															
				TOTAL																		

Environmental Division Sydney
Work Order Reference
ES2122606

Telephone : + 61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2125823**	Page	: 1 of 5
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Contact	: Sarah Mathew
Address	: LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9239 7100	Telephone	: +61-2-8784 8555
Project	: 2127234	Date Samples Received	: 13-Jul-2021 16:00
Order number	: 2127234	Date Analysis Commenced	: 15-Jul-2021
C-O-C number	: ----	Issue Date	: 20-Jul-2021 20:30
Sampler	: Terry Nham		
Site	:		
Quote number	: EN/005		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

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

General Comments

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

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

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

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

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

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

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

- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP132: Where reported, Total PAH reported as the sum of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene and Benzo(g,h,i)perylene.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC02	----	----	----	----
				Sampling date / time	12-Jul-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2125823-001	--------	--------	--------	--------
					Result	----	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.001**	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC02	----	----	----	----
				Sampling date / time	12-Jul-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2125823-001	--------	--------	--------	--------
					Result	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		<0.1	----	----	----	----
2-Methylnaphthalene	91-57-6	0.1	µg/L		<0.1	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		<0.1	----	----	----	----
Acenaphthene	83-32-9	0.1	µg/L		<0.1	----	----	----	----
Acenaphthylene	208-96-8	0.1	µg/L		<0.1	----	----	----	----
Anthracene	120-12-7	0.1	µg/L		<0.1	----	----	----	----
Benz(a)anthracene	56-55-3	0.1	µg/L		<0.1	----	----	----	----
Benzo(a)pyrene	50-32-8	0.05	µg/L		<0.05	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L		<0.1	----	----	----	----
Benzo(e)pyrene	192-97-2	0.1	µg/L		<0.1	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L		<0.1	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		<0.1	----	----	----	----
Chrysene	218-01-9	0.1	µg/L		<0.1	----	----	----	----
Coronene	191-07-1	0.1	µg/L		<0.1	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L		<0.1	----	----	----	----
Fluoranthene	206-44-0	0.1	µg/L		<0.1	----	----	----	----
Fluorene	86-73-7	0.1	µg/L		<0.1	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L		<0.1	----	----	----	----
Naphthalene	91-20-3	0.1	µg/L		<0.1	----	----	----	----
Perylene	198-55-0	0.1	µg/L		<0.1	----	----	----	----
Phenanthrene	85-01-8	0.1	µg/L		<0.1	----	----	----	----
Pyrene	129-00-0	0.1	µg/L		<0.1	----	----	----	----
^ Sum of PAHs	----	0.05	µg/L		<0.05	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.05	µg/L		<0.05	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**101**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**105**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**108**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**71.5**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**77.8**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**87.0**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	43	135
Anthracene-d10	1719-06-8	48	138
4-Terphenyl-d14	1718-51-0	48	144

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES2125823**	Page	: 1 of 6
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Contact	: Sarah Mathew
Address	: LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9239 7100	Telephone	: +61-2-8784 8555
Project	: 2127234	Date Samples Received	: 13-Jul-2021
Order number	: 2127234	Date Analysis Commenced	: 15-Jul-2021
C-O-C number	: ----	Issue Date	: 20-Jul-2021
Sampler	: Terry Nham		
Site	:		
Quote number	: EN/005		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

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

General Comments

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3794917)									
ES2125823-001	QC02	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.001	0.002	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3791865)									
ES2125737-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES2125848-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3791865)									
ES2125737-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES2125848-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3791865)									
ES2125737-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES2125848-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 3791865) - continued									
ES2125848-002	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3794917)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	98.1	85.0	114
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	97.2	84.0	110
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	96.5	85.0	111
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	96.0	81.0	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	96.9	83.0	111
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	95.5	82.0	112
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	96.6	81.0	117
EG035F: Dissolved Mercury by FIMS (QCLot: 3794918)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	98.9	83.0	105
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3791525)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	82.9	55.8	112
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	74.9	71.6	113
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	87.8	56.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3791865)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	89.5	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3791525)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	64.8	57.9	119
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	98.5	62.5	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	99.2	61.5	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3791865)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	94.2	75.0	127
EP080: BTEXN (QCLot: 3791865)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	91.0	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	99.2	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	106	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	104	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	108	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	96.3	70.0	120
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3791507)								
EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	2 µg/L	107	60.0	120
EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	2 µg/L	76.2	59.0	123
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	2 µg/L	104	36.0	144

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3791507) - continued								
EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	2 µg/L	84.8	64.0	122
EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	2 µg/L	87.0	64.0	126
EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	2 µg/L	96.2	65.0	127
EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	2 µg/L	103	64.0	130
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	103	64.0	126
EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	2 µg/L	102	62.0	126
EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	2 µg/L	100	62.0	126
EP132: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	2 µg/L	103	56.0	126
EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	2 µg/L	98.9	68.0	130
EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	2 µg/L	100	66.0	130
EP132: Coronene	191-07-1	0.1	µg/L	<0.1	2 µg/L	104	35.0	133
EP132: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	2 µg/L	103	58.0	128
EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	2 µg/L	99.3	65.0	127
EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	2 µg/L	91.2	64.0	124
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	2 µg/L	104	57.0	127
EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	2 µg/L	70.5	54.0	128
EP132: Perylene	198-55-0	0.1	µg/L	<0.1	2 µg/L	101	66.0	130
EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	2 µg/L	95.1	65.0	129
EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	2 µg/L	98.4	66.0	128

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG035F: Dissolved Mercury by FIMS (QCLot: 3794918)							
ES2125823-001	QC02	EG035F: Mercury	7439-97-6	0.01 mg/L	94.8	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3791865)							
ES2125737-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	91.0	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3791865)							
ES2125737-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	89.8	70.0	130
EP080: BTEXN (QCLot: 3791865)							
ES2125737-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	84.5	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	90.0	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	95.6	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080: BTEXN (QCLot: 3791865) - continued							
ES2125737-001	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	93.5	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	95.7	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	101	70.0	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2125823**	Page	: 1 of 5
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Telephone	: +61-2-8784 8555
Project	: 2127234	Date Samples Received	: 13-Jul-2021
Site	:	Issue Date	: 20-Jul-2021
Sampler	: Terry Nham	No. of samples received	: 1
Order number	: 2127234	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
Dissolved Mercury by FIMS	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Dissolved Metals by ICP-MS - Suite A	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
QC02	**12-Jul-2021**	**----**	----	----	**15-Jul-2021**	08-Jan-2022	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
QC02	**12-Jul-2021**	**----**	----	----	**16-Jul-2021**	09-Aug-2021	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
QC02	**12-Jul-2021**	**16-Jul-2021**	19-Jul-2021	✓	**19-Jul-2021**	25-Aug-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**12-Jul-2021**	**15-Jul-2021**	26-Jul-2021	✓	**15-Jul-2021**	26-Jul-2021	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
QC02	**12-Jul-2021**	**16-Jul-2021**	19-Jul-2021	✓	**19-Jul-2021**	25-Aug-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**12-Jul-2021**	**15-Jul-2021**	26-Jul-2021	✓	**15-Jul-2021**	26-Jul-2021	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**12-Jul-2021**	**15-Jul-2021**	26-Jul-2021	✓	**15-Jul-2021**	26-Jul-2021	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP132B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP132)							
QC02	**12-Jul-2021**	**16-Jul-2021**	19-Jul-2021	✓	**19-Jul-2021**	25-Aug-2021	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	WATER	In house: Referenced to USEPA 3640 (GPC Cleanup), 8270 GCMS Capiliary column, SIM mode. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Sep. Funnel Extraction /Acetylation of Phenolic Compounds	ORG14-AC	WATER	In house: Referenced to USEPA 3510 (Extraction) / In-house (Acetylation): A 1L sample is extracted into dichloromethane and concentrated to 1 mL with echange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: GHD Pty Ltd	**TURNAROUND REQUIREMENT:** ☒ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE: Sydney	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact?	Yes No N/A
PROJECT: 2127234 Central	**ALS QUOTE NO.:** EN/005/19	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 2127234	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:	2.1 °C
PROJECT MANAGER: Henry Luo — **CONTACT PH:** 02 9239 7044 / 0414 090 002	OF: 1 2 3 4 5 6 7	Other comment:	
SAMPLER: Terry Nham — **SAMPLER MOBILE:** 0403 251 883	**RELINQUISHED BY:** Terry Nham (GHD)	**RECEIVED BY:** James ALS	**RELINQUISHED BY:**
COC emailed to ALS? (YES / NO) — **EDD FORMAT (or default):** ESDAT	DATE/TIME: 13/7/2021	DATE/TIME: 4pm 13/7/21	DATE/TIME:
Email Reports to: henry.luo@ghd.com terry.nham@ghd.com charlotte.gray@ghd.com			**RECEIVED BY:** DATE/TIME: 13/7/21 1825
Email Invoice to (will default to PM if no other addresses are listed):			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).																							
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	TRH / BTEXN / 8 Metals (W-6)	PAH - Ultra Trace (EP132B)																						
	QC02	12/7/21	Water		5	X	X																						
				TOTAL																									

Environmental Division Sydney
Work Order Reference
ES2125823

Telephone : + 61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2129447**	Page	: 1 of 5
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Contact	: Sarah Mathew
Address	: LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9239 7100	Telephone	: +61-2-8784 8555
Project	: 2127234	Date Samples Received	: 13-Aug-2021 10:00
Order number	: 2127234	Date Analysis Commenced	: 13-Aug-2021
C-O-C number	: ----	Issue Date	: 20-Aug-2021 21:23
Sampler	: TERRY NHAM		
Site	: 2127234 Central		
Quote number	: EN/005		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

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

General Comments

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

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

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

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

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

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

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

- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP132: Where reported, Total PAH reported as the sum of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene and Benzo(g,h,i)perylene.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC02	----	----	----	----
				Sampling date / time	10-Aug-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2129447-001	--------	--------	--------	--------
					Result	----	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.050**	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.029**	----	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC02	----	----	----	----
				Sampling date / time	10-Aug-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2129447-001	--------	--------	--------	--------
					Result	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		<0.1	----	----	----	----
2-Methylnaphthalene	91-57-6	0.1	µg/L		<0.1	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		<0.1	----	----	----	----
Acenaphthene	83-32-9	0.1	µg/L		<0.1	----	----	----	----
Acenaphthylene	208-96-8	0.1	µg/L		<0.1	----	----	----	----
Anthracene	120-12-7	0.1	µg/L		<0.1	----	----	----	----
Benz(a)anthracene	56-55-3	0.1	µg/L		**0.3**	----	----	----	----
Benzo(a)pyrene	50-32-8	0.05	µg/L		**0.42**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L		**0.4**	----	----	----	----
Benzo(e)pyrene	192-97-2	0.1	µg/L		**0.3**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L		**0.3**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		**0.2**	----	----	----	----
Chrysene	218-01-9	0.1	µg/L		**0.3**	----	----	----	----
Coronene	191-07-1	0.1	µg/L		<0.1	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L		<0.1	----	----	----	----
Fluoranthene	206-44-0	0.1	µg/L		**0.3**	----	----	----	----
Fluorene	86-73-7	0.1	µg/L		<0.1	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L		**0.2**	----	----	----	----
Naphthalene	91-20-3	0.1	µg/L		<0.1	----	----	----	----
Perylene	198-55-0	0.1	µg/L		**0.1**	----	----	----	----
Phenanthrene	85-01-8	0.1	µg/L		<0.1	----	----	----	----
Pyrene	129-00-0	0.1	µg/L		**0.4**	----	----	----	----
^ Sum of PAHs	----	0.05	µg/L		**2.8**	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.05	µg/L		**0.5**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**111**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**113**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**100.0**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**49.6**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**62.9**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**73.2**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	43	135
Anthracene-d10	1719-06-8	48	138
4-Terphenyl-d14	1718-51-0	48	144

QUALITY CONTROL REPORT

Work Order	: **ES2129447**	Page	: 1 of 6
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Contact	: Sarah Mathew
Address	: LEVEL 15, 133 CASTLEREAGH STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9239 7100	Telephone	: +61-2-8784 8555
Project	: 2127234	Date Samples Received	: 13-Aug-2021
Order number	: 2127234	Date Analysis Commenced	: 13-Aug-2021
C-O-C number	: ----	Issue Date	: 20-Aug-2021
Sampler	: TERRY NHAM		
Site	: 2127234 Central		
Quote number	: EN/005		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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

This Quality Control Report contains the following information:

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

Signatories

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

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

General Comments

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3845716)									
ES2129503-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
ES2129503-010	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 3845715)									
ES2129438-002	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES2129503-007	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3850271)									
ES2129573-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	40	40	0.0	No Limit
ES2129573-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	1100	1100	0.0	0% - 20%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3850271)									
ES2129573-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES2129573-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	1480	1470	0.0	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 3850271)									
ES2129573-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES2129573-005	Anonymous	EP080: Benzene	71-43-2	1	µg/L	21	21	0.0	0% - 20%
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	39	39	0.0	0% - 50%
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	254	237	7.0	0% - 20%
		EP080: ortho-Xylene	95-47-6	2	µg/L	110	110	0.0	0% - 20%
		EP080: Naphthalene	91-20-3	5	µg/L	9	10	0.0	No Limit

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

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

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3845716)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	96.8	85.0	114
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	93.7	84.0	110
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	90.6	85.0	111
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	95.5	81.0	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	94.4	83.0	111
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	94.5	82.0	112
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	94.4	81.0	117
EG035F: Dissolved Mercury by FIMS (QCLot: 3845715)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	93.3	83.0	105
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3845507)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	82.9	55.8	112
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	79.9	71.6	113
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	84.4	56.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3850271)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	106	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3845507)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	66.0	57.9	119
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	76.4	62.5	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	66.9	61.5	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3850271)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	107	75.0	127
EP080: BTEXN (QCLot: 3850271)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	100.0	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	109	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	103	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	103	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	104	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	118	70.0	120
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3844878)								
EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	2 µg/L	72.4	60.0	120
EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	2 µg/L	59.7	59.0	123
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	2 µg/L	87.1	36.0	144

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3844878) - continued								
EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	2 µg/L	72.8	64.0	122
EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	2 µg/L	86.8	64.0	126
EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	2 µg/L	80.2	65.0	127
EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	2 µg/L	87.4	64.0	130
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	87.2	64.0	126
EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	2 µg/L	88.6	62.0	126
EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	2 µg/L	88.3	62.0	126
EP132: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	2 µg/L	86.3	56.0	126
EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	2 µg/L	85.8	68.0	130
EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	2 µg/L	86.6	66.0	130
EP132: Coronene	191-07-1	0.1	µg/L	<0.1	2 µg/L	95.8	35.0	133
EP132: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	2 µg/L	85.0	58.0	128
EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	2 µg/L	85.5	65.0	127
EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	2 µg/L	74.0	64.0	124
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	2 µg/L	85.1	57.0	127
EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	2 µg/L	57.5	54.0	128
EP132: Perylene	198-55-0	0.1	µg/L	<0.1	2 µg/L	87.1	66.0	130
EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	2 µg/L	79.9	65.0	129
EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	2 µg/L	84.6	66.0	128

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3845716)							
ES2129447-001	QC02	EG020A-F: Arsenic	7440-38-2	1 mg/L	98.4	70.0	130
		EG020A-F: Cadmium	7440-43-9	0.25 mg/L	97.4	70.0	130
		EG020A-F: Chromium	7440-47-3	1 mg/L	93.8	70.0	130
		EG020A-F: Copper	7440-50-8	1 mg/L	97.2	70.0	130
		EG020A-F: Lead	7439-92-1	1 mg/L	97.1	70.0	130
		EG020A-F: Nickel	7440-02-0	1 mg/L	96.9	70.0	130
		EG020A-F: Zinc	7440-66-6	1 mg/L	98.9	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 3845715)							
ES2129438-001	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	89.5	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3850271)							
ES2129573-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	98.7	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3850271)							
ES2129573-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	102	70.0	130
EP080: BTEXN (QCLot: 3850271)							
ES2129573-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	107	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	105	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	103	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	105	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	103	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	91.5	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2129447**	Page	: 1 of 4
Client	: **GHD PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR HENRY LUO	Telephone	: +61-2-8784 8555
Project	: 2127234	Date Samples Received	: 13-Aug-2021
Site	: 2127234 Central	Issue Date	: 20-Aug-2021
Sampler	: TERRY NHAM	No. of samples received	: 1
Order number	: 2127234	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	8	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	8	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
QC02	**10-Aug-2021**	**----**	----	----	**13-Aug-2021**	06-Feb-2022	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
QC02	**10-Aug-2021**	**----**	----	----	**16-Aug-2021**	07-Sep-2021	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
QC02	**10-Aug-2021**	**14-Aug-2021**	17-Aug-2021	✓	**16-Aug-2021**	23-Sep-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**10-Aug-2021**	**19-Aug-2021**	24-Aug-2021	✓	**19-Aug-2021**	24-Aug-2021	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
QC02	**10-Aug-2021**	**14-Aug-2021**	17-Aug-2021	✓	**16-Aug-2021**	23-Sep-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**10-Aug-2021**	**19-Aug-2021**	24-Aug-2021	✓	**19-Aug-2021**	24-Aug-2021	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
QC02	**10-Aug-2021**	**19-Aug-2021**	24-Aug-2021	✓	**19-Aug-2021**	24-Aug-2021	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP132)							
QC02	**10-Aug-2021**	**13-Aug-2021**	17-Aug-2021	✓	**16-Aug-2021**	22-Sep-2021	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	3	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	8	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	3	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	8	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	WATER	In house: Referenced to USEPA 3640 (GPC Cleanup), 8270 GCMS Capiliary column, SIM mode. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Sep. Funnel Extraction /Acetylation of Phenolic Compounds	ORG14-AC	WATER	In house: Referenced to USEPA 3510 (Extraction) / In-house (Acetylation): A 1L sample is extracted into dichloromethane and concentrated to 1 mL with echange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: GHD Pty Ltd	**TURNAROUND REQUIREMENTS** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☒ Standard TAT (List due date): STANDARD TAT ☐ Non Standard or urgent TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)** Custody Seal Intact? Yes / No / N/A; Free ice / frozen ice bricks present upon receipt? Yes / No / N/A; Random Sample Temperature on Receipt °C; Other comments:
OFFICE: Sydney		
PROJECT: 2127234 Central	**ALS QUOTE NO.:** EN/005/20	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 7; OF: 1 2 3 4 5 6 7
ORDER NUMBER: 2127234		
PROJECT MANAGER: Henry Luo	**CONTACT PH:** 02 9239 7044 / 0414 090 002	
SAMPLER: Terry Nham	**SAMPLER MOBILE:** 0403 281 883	
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):** ESDAT	
Email Reports to: henry.luo@ghd.com terry.nham@ghd.com charlotte.gray@ghd.com		
Email Invoice to (will default to PM if no other addresses are listed):		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Terry Nham (GHD)	FAST		
DATE/TIME: 11/8/2021	DATE/TIME: 13/8/21	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price). Where Metals are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).																							
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	TRH / BTEXN / 3 Metals (W-6)	PAH - Ultra Trace (EP132B)																						
1	QC02	10/8/21	Water		5	X	X																						
				TOTAL																									

Environmental Division Sydney
Work Order Reference
ES2129447

Telephone : + 61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.