

Groundwater Monitoring Event Forestway Shopping Centre Frenchs Forest NSW 2086

Invesco Group

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Prensa acknowledges that any scientifically designed sampling program cannot guarantee all sub-surface contamination will be detected. Sampling programs are designed based on known or suspected site conditions and the extent and nature of the sampling and analytical programs will be designed to achieve a level of confidence in the detection of known or suspected subsurface contamination. The sampling and analytical programs adopted will be those that maximises the probability of identifying contaminants. Invesco Group must therefore accept a level of risk associated with the possible failure to detect certain sub-surface contamination where the sampling and analytical program misses such contamination. Prensa will detail the nature and extent of the sampling and analytical program used in the investigation in the investigation report provided.

Environmental site assessments identify actual subsurface conditions only at those points where samples are taken and when they are taken. Soil contamination can be expected to be non-homogeneous across the stratified soils where present on site, and the concentrations of contaminants may vary significantly within areas where contamination has occurred. In addition, the migration of contaminants through groundwater and soils may follow preferential pathways, such as areas of higher permeability, which may not be intersected by sampling events. Subsurface conditions including contaminant concentrations can also change over time. For this reason, the results should be regarded as representative only.

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Recommendations for Further Study

The industry recognised methods used in undertaking the works may dictate a staged approach to specific investigations. The findings therefore of this report may represent preliminary findings in accordance with these industry recognised methodologies. In accordance with these methodologies, recommendations contained in this report may include a need for further investigation or analytical analysis. The decision to accept these recommendations and incur additional costs in doing so will be at the sole discretion of Invesco Group and Prensa recognises that that Invesco Group will consider their specific needs and the business risks involved. Prensa does not accept any liability for losses incurred as a result of Invesco Group not accepting the recommendations made within this report.

Table of Contents

1	Introduction	1
2	Background	1
2.1	Previous Reports	1
3	Objective	2
4	Scope of Works	2
5	Technical Framework	3
6	Assessment Methodology	4
6.1	Fieldwork Preliminaries	4
6.2	Groundwater Sampling	4
6.3	Analytical Schedule	5
7	Adopted Groundwater Assessment Criteria	5
8	Results	6
8.1	Groundwater Gauging	6
8.2	Groundwater Field Parameters	6
8.3	Groundwater Analytical Results	7
8.4	Statistical Data Analysis	10
9	Groundwater Assessment Quality Control Samples	11
10	Discussion	11
10.1	Assessment Results	11
10.2	Impact on Proposed Development	12
11	Conclusions	13
12	Recommendations	13
	Abbreviations	
	Figures	
	Tables	
	Appendix A: Groundwater Gauging and Sampling Logs	
	Appendix B: Calibration Certificates	
	Appendix C: NATA Accredited Laboratory Analytical Reports and Chain of Custody Documentation	
	Appendix D: Mann-Kendall Trend Analysis Data	
	Appendix E: Quality Assurance/Quality Control	

1 Introduction

Point Polaris Pty Ltd (Point Polaris) on behalf of Invesco Group (Invesco) engaged Prensa Pty Ltd (Prensa) to undertake a groundwater monitoring event (GME) to gain an understanding of the current groundwater contamination status at Forestway Shopping Centre, Frenchs Forest NSW (the site). The site is legally described as Lot 20 in Deposited Plan (DP) 1209801 and covers an area of approximately 2.067 ha. The site location is provided in **Figure 1** in the **Figures** section of this report.

2 Background

It is understood that a two (2) stage development is proposed for the centre which will result in the addition of 16,900 m² of gross lettable area (GLA) to the shopping Centre. Stage 1 of the development will include the demolition of the existing eastern carpark area, the current Liquourland and Car Wash tenancies (refer to Figure 1) and the construction of two (2) basement levels and a ground floor retail area.

A former BP Service station was previously located in the north western section of the Site (currently where the car wash tenancy is located). It is understood that the underground storage tanks (UST) and associated infrastructure was removed at the end of the BP tenancy. Elevated dissolved phase hydrocarbons (including benzene) remain within groundwater, which is present at depths ranging from 2-4 m below ground level (mbgl). Due to the depth of the proposed excavation depth of 6 mbgl, the hydrocarbon impacted groundwater will be intersected during the basement excavation works.

Previously, BP engaged consultants to complete groundwater monitoring events (GMEs) of monitoring wells located on and around the former service station (the existing Car Wash), with the most recent GME completed by BP in April 2016. The objective of the GMEs was to assist BP in complying with the requirements of the NSW Environmental Protection Authority (EPA); in particular, to confirm that the petroleum hydrocarbon impacted groundwater plume is decreasing and naturally attenuating over time.

To provide some context for the current condition of groundwater at the Site, data collected from additional GMEs was compared with the results of previous GMEs, the findings of the most recent of which are summarised in Section 2.2 below.

2.1 Previous Reports

2.1.1 August 2015 GME

Prensa was provided with the BP (2015) *Annual Groundwater Monitoring Report, BP Australia Pty Ltd*, (BP, 2015) for review. The report and the sampling results identified contamination at the site associated with the former underground petroleum storage system (UPSS). The results of the 2015 GME indicated that the hydrocarbon concentrations in the groundwater samples analysed were noted to be either stable or decreasing, when compared with the results of previous groundwater monitoring at the site.

2.1.2 April 2016 GME

Prensa was provided with the monitoring results (but not a complete report) for the April 2016 GME which was completed by BP, including results from both the 2016 GME and past monitoring rounds. The laboratory results for the groundwater samples analysed reported an increase in hydrocarbon concentrations from previous GMEs in seven wells, typically located close to the former location of

the UPSS. The concentrations reported in the remaining wells, typically located further from the former UPSS location showed stable or decreasing trends from previous monitoring events.

Most monitoring wells recorded concentrations of hydrocarbons in groundwater below the adopted site criteria. The exceptions were monitoring wells MW4, MW6, MW7, MW8 and MW15 where concentrations of hydrocarbons have consistently been recorded above adopted site criteria, and monitoring well MW1, which had TRH F1 concentrations above the adopted site criteria for the first time during the 2016 GME.

2.1.3 Human Health Risk Assessment Review

A Human Health Risk Assessment (HHRA) was prepared by JBS Environmental in 2012, which was subsequently reviewed by BP in 2016 to reflect changes to the health risk assessment methodology specified in the NEPM 2013 guidelines, as well as including more recent groundwater monitoring data. This updated HHRA was independently reviewed by enRiskS in 2016, with the review of the HHRA concluding the following:

“The potential risks to human health were evaluated in detail for this site in 2012.

The findings of this assessment were:

- *Risks to retail workers on the site were low and acceptable*
- *Risks to maintenance workers on the site in excavations that do not intersect groundwater were low and acceptable*
- *Risks to maintenance workers where excavations may intersect groundwater were unacceptable*

It was recommended that a site management plan be prepared to ensure that direct contact with contaminated groundwater be prevented during any intrusive works required on or near the former service station site.

Since 2012 additional groundwater monitoring data has been collected and there have been changes to national guidance about how to undertake contaminated land investigations and how to interpret the resulting data. Evaluation of this new data and the changes in guidance do not change the conclusions of the HHRA prepared in 2012. The findings listed above remain valid.”

3 Objective

The objective of this GME is to undertake groundwater sampling, using the existing on-site groundwater monitoring well network, to gain an understanding of the current groundwater contamination status to assist with the planning phase of the proposed shopping centre development.

4 Scope of Works

The scope of works comprised the following:

- Preparation of a Site-Specific Safety Plan (SSP);
- Site inspection;
- Groundwater sampling, including gauging and sampling of twenty (20) existing groundwater monitoring wells using bailers;
- Analysis of groundwater samples at a National Association of Testing Authorities (NATA) accredited laboratory (including QA/QC checks) for the identified contaminants of concern;
- Comparison of results against the adopted groundwater criteria; and
- Preparation of this GME report.

5 Technical Framework

In completing the aforementioned tasks, Prensa undertook the work in general accordance with the following:

- NSW Work Health and Safety Act 2011;
- NSW Work Health and Safety Regulation 2017 (WHS Regulation 2017);
- Protection of the Environment Operations (POEO) Act 1997 (POEO Act 1997);
- Contaminated Land Management (CLM) Act, 1997 (CLM Act 1997);
- CLM Amendment Act, 2008 (CLM Act 2008);
- NSW POEO UPSS Regulation 2014 (UPSS Regulation 2014);
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), NEPM 2013;
- Department of Environment, Climate Change and Water NSW (DECCW), Guidelines for implementing the UPSS Regulation (2008), (DECCW 2009);
- NSW Environment Protection Authority (EPA) State Environmental Planning Policy 55 – Remediation of Land (SEPP55), 1998;
- NSW EPA Technical Note, 2014: Investigation of Service Station Sites;
- NSW Environment Protection Authority (EPA) Waste Classification Guidelines: Part 1 – Classifying Waste, 2014 (EPA 2014);
- CRC Care Technical Report No. 10, Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater, 2011 (CRC 2011); NSW Office of Environment and Heritage, Contaminated Sites Guidelines for Consultants Reporting on Contaminated Sites, 2011 (OEH 2011);
- Australian and New Zealand Environment and Conservation Council (ANZECC) and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ), National Water Quality Management Strategy Australian and New Zealand guidelines for fresh and marine water quality, 2000 (ANZECC 2000);
- National Health and Medical Research Council (NHMRC) and Natural Resource Management Ministerial Council (NRMMC), National Water Quality Management Strategy Australian Drinking Water Guidelines, 2013 (NRMMC 2013); and
- National Health and Medical Research Council (NHMRC) Guidelines for Managing Risks in Recreational Water, 2008 (NHMRC 2008).

6 Assessment Methodology

6.1 Fieldwork Preliminaries

A Site Safety Plan (SSP) incorporating Safe Work Method Statements was prepared for the fieldwork undertaken. Given that existing monitoring wells were sampled, there was no requirement to undertake service location as part of the groundwater monitoring event (GME).

6.2 Groundwater Sampling

Groundwater sampling was undertaken from 4th to 7th June 2018 by Prensa environmental consultants from the existing groundwater monitoring well network at the site. The locations of the groundwater monitoring wells are shown in **Figure 2** in the 'Figures' section of this report.

The groundwater sampling program comprised the following steps:

- Gauging;
- Purging; and
- Sampling.

Three (3) groundwater monitoring wells (monitoring wells MW9, MW15 and TP-MW2) were not gauged or sampled, as they were inaccessible. Monitoring wells MW9 and MW15 had been concreted closed and were unable to be opened, TP-MW2 was not able to be located at the site and so the status of the well is unknown. The seventeen (17) remaining groundwater monitoring wells were gauged using an oil/water interface meter to determine the depth to groundwater and monitor the presence of potential non-aqueous phase liquids (NAPL) at the top and base of the water column. The groundwater gauging logs and groundwater sampling logs are provided in **Appendix A** of this report.

Prior to sampling, the groundwater monitoring wells were purged to remove stagnant water to enable the collection of representative groundwater samples. Groundwater was purged until the well was purged dry or the following quality parameter ranges stabilised during the purging period:

- $\pm 10\%$ for dissolved oxygen;
- $\pm 3\%$ for electrical conductivity;
- ± 0.05 for pH; and
- ± 10 mv for redox potential.

Groundwater sampling was undertaken using disposable bailers due to the low groundwater yield at the site. Groundwater samples were collected in appropriately preserved laboratory-supplied sampling bottles in accordance with the analytical schedule summarised in **Section 6.3** of this report. The samples were then placed in a pre-chilled ice box and transported to NATA accredited laboratories under appropriate chain-of-custody documentation. ALS Environmental Pty Ltd (ALS) was selected as the primary laboratory, and Envirolab Pty Ltd (Envirolab) was selected as the secondary laboratory.

6.3 Analytical Schedule

Groundwater samples collected during the GME were analysed for the CoPC as detailed in **Table 1**, which were associated with the former operation of the service station at the site.

Table 1: Groundwater Analytical Schedule

Samples Analysed	Contaminants
MW01, MW02, MW03, MW04, MW05, MW06, MW07, MW08, MW12, MW13, MW14, MW17, MW18, MW22, EMW01, EMW04, BH50	TRH ⁽¹⁾ , BTEXN ⁽²⁾ , TDS ⁽³⁾ and pH

⁽¹⁾ TRHs – Total recoverable hydrocarbons

⁽²⁾ BTEX– Benzene, toluene, ethylbenzene, xylenes

⁽³⁾ TDS – Total Dissolved Solids

7 Adopted Groundwater Assessment Criteria

The groundwater assessment criteria adopted for the CoPC listed above are based on the investigation levels outlined in NEPM 2013 and have been summarised in **Table 2** below. The groundwater investigation levels (GILs) are based on the *Australian Water Quality Guidelines 2000 (AWQG)*, *Australian Drinking Water Guidelines 2013 (ADWG)*, *Guidelines for Managing Risk in Recreational Waters 2008 (GMRRW)*, and *The Australian and New Zealand Environment Conservation Council (ANZECC) (2000) Guidelines for fresh and marine water quality*.

Table 2: Adopted Groundwater Criteria (µg/L)

Contaminant	Groundwater Investigation Levels Drinking Water ¹	Groundwater Investigation Levels Aquatic Ecosystems (Freshwater) ¹	Groundwater (HSL D) Vapour Intrusion (Sand 2 to <4m) ¹
TRH >C ₆ -C ₁₀ less BTEX ²	-	-	6,000
TRH >C ₁₀ -C ₁₆ less naphthalene ³	-	-	NL
Benzo(a)pyrene	0.01	NL	-
Benzene	1	950	5,000
Ethylbenzene	300	NL	NL
Toluene	800	NL	NL
Xylenes (total)	600	350 (o-xylene) 200 (m/p-xylene)	NL
Naphthalene	-	16	NL

⁽¹⁾ NEPM 2013

⁽²⁾ Also referred to as “TRH F1”

⁽³⁾ Also referred to as “TRH F2”

NL: Not limiting

8 Results

8.1 Groundwater Gauging

A summary of the groundwater gauging data for the GME is provided in **Table 3**, with historical gauging data provided in **Table A1** in **Appendix A** of this report. Light non-aqueous phase liquid (LNAPL) was not identified during gauging.

Table 3: Gauging Information

Monitoring Well	Date	TOC* (m AHD)	SWL* (m) below TOC*	RWL* (m AHD)	Depth to base of well (m BTOC)	NAPL* Identified
MW01	7/6/18	149.261	1.91	147.351	5.92	No
MW02	4/6/18	149.142	2.2	146.942	6.52	No
MW03	7/6/18	148.766	2.35	146.416	5.87	No
MW04	7/6/18	149.405	3.21	146.195	6.06	No
MW05	4/6/18	147.387	1.74	145.647	4.95	No
MW06	7/6/18	148.42	1.59	146.83	5.48	No
MW07	7/6/18	148.92	1.79	147.13	5.49	No
MW08	4/6/18	149.138	1.98	147.158	7.39	No
MW09**	-	-	-	-	-	-
MW12	7/6/18	149.294	3.6	145.694	15.16	No
MW13	4/6/18	149.28	2.24	147.04	8.08	No
MW14	6/6/18	147.262	1.75	145.022	12.23	No
MW15**	-	-	-	-	-	-
MW17	6/6/18	146.793	1.67	145.123	7.2	No
MW18	4/6/18	147.33	1.93	145.4	5.29	No
MW22	4/6/18	149.163	2.41	146.753	8.14	No
EMW01	7/6/18	149.344	1.78	147.564	3.17	No
EMW04	7/6/18	148.115	2.34	145.775	2.68	No
BH50	4/6/18	148.988	1.06	147.928	6.27	No
TP-MW2**	-	-	-	-	-	-

*TOC: top of casing, SWL: standing water level, RWL: reduced water level, LNAPL: Light non-aqueous phase liquid

** Well not sampled

Based on the calculated RWL data for the monitoring wells, groundwater was inferred to flow towards the east and west, away from the rise on which the car wash sits, as shown in **Figure 3** in the 'Figures' section of this report. This is consistent with the findings from the BP (2015) report, and the previous reports referenced within the BP (2015) report, in which the ridge is identified as a geological paleo-ridge passing through the centre of the site in a north to south direction. The ridge acts as a water divide according to BP (2015), with rate of the water migration greater to the east.

8.2 Groundwater Field Parameters

No hydrocarbon sheen was identified during gauging and sampling of the groundwater monitoring wells during the June 2018 GME. This is consistent with findings reported in the BP (2015) report, which noted that there had been no previous observations of a hydrocarbon sheen during the September 2014 and May 2015 GMEs.

There was, however, hydrocarbon odour noted within the majority of the wells. A strong hydrocarbon odour was noted at monitoring wells MW1, MW4, MW6, MW7, MW13 and EMW1 with moderate hydrocarbon odours noted at monitoring wells MW8, MW12, MW22 and BH50. A slight hydrocarbon odour was noted at monitoring wells MW3 and EMW4 with no odours noted at monitoring wells MW2, MW5, MW14, MW17 and MW18.

Well locations with a hydrocarbon odour noted are those within the car wash premises or the surrounding areas east and immediately north-west.

Field pH levels across the wells ranged from acidic to basic with a range of 3.56 – 10.98. The results identified two wells as outliers, MW8 and BH50, with pH levels >10 reported during gauging.

As shown on **Figure 2** of the ‘**Figures**’ section of this report, wells MW8 and BH50 are located within the bunded area of the Car Wash tenancy. These elevated pH levels may be associated with surface water and/or cleaning chemicals used in the car wash seeping into the wells from the surface, or via the leaks in sub-surface drainage infrastructure. This may also be the cause of the groundwater mound in this area, as shown on the groundwater contour plan provided as **Figure 3** of the ‘**Figures**’ section.

The field pH data (including historical data) for selected monitoring wells is presented in **Table 4**, with the field pH data for the remaining wells provided in the groundwater sampling logs provided in **Appendix A**.

Table 4: Trends in pH Field Data for Selected Monitoring Wells

Monitoring Well	2014	2015	2016	2018	Historical Trend
MW6	3.27	3.64	7.07	3.66	Data has remained consistent
MW7	4.6	4.36	6.94	4.57	
MW8	10.81	11.1	8.07	10.98	
MW12	3.31	3.89	6.05	4.18	
BH50	9.9	10.45	6.62	10.38	

The 2018 GME field pH data for the above wells was noted to remain relatively consistent with the data from previous GMEs, other than the 2016 data, which appears to be an outlier.

Groundwater chemistry parameters for the groundwater monitoring wells taken prior to the collection of samples has been summarised in **Table A2**, as well as being included in the groundwater sampling logs provided in **Appendix A**.

8.3 Groundwater Analytical Results

Groundwater analytical results for this GME are presented in **Table T1** in the ‘**Tables**’ section of this report, with copies of the NATA accredited laboratory reports and chain of custody documentation provided in **Appendix C**.

Analysis of the groundwater samples collected indicated that detectable concentrations of TRH and BTEXN were reported in several wells. However, the reported TRH and BTEXN concentrations in the groundwater samples collected from the seventeen (17) monitoring wells sampled were less than the adopted NEPM 2013 HSL-D criteria adopted for assessing the potential vapour intrusion risk for the existing commercial use of the site. It is noted though, that the HSL-D criteria cannot be applied to assess the potential vapour intrusion risk for a basement excavation that intersects hydrocarbon contaminated groundwater and therefore, this would need to be addressed by a site specific risk assessment.

Review of previous groundwater monitoring data indicated that the current GME results represented a decrease in the reported contaminant concentrations from the GMEs undertaken in 2014, 2015 and 2016, where several wells reported TRH F1 and/or benzene concentrations that exceeded the HSL-D criteria. This has been summarised in **Table 5** below.

Table 5: Summary of Wells Reporting CoPC Concentrations above HSL-D Criteria (2014-2018)

Monitoring Well	2014	2015	2016	2018
MW1	-	-	TRH F1	-
MW4	Benzene	-	Benzene	-
MW6	TRH F1	TRH F1	TRH F1	-
MW7	TRH F1 & Benzene	TRH F1	TRH F1	-
MW8	TRH F1	TRH F1	TRH F1	-
MW9	Benzene	-	-	NA*
MW12	-	Benzene	-	-
MW13	TRH F1	-	-	-
MW15	TRH F1 & Benzene	TRH F1 & Benzene	TRH F1 & Benzene	NA*

*NA – Well not accessible for sampling during June 2018 GME.

The monitoring wells with concentrations of Benzene or TRH F1 above the site criteria during previous GMEs (as identified in **Table 5**) are located within the footprint of the former service station (existing car wash tenancy).

Although the reported TRH and BTEXN concentrations were less than the HSL D criteria, several wells reported contaminant concentrations during the current GME (and previous GMEs) that exceeded the NEPM (2013) Groundwater Investigation Levels (GILs) for freshwaters, which are adopted by NSW EPA as Duty to Report trigger levels. These have been summarised in **Table 6** below and on the following page and are also shown (for the current GME) in **Figure 4** in the 'Figures' section of this report.

Table 6: Summary of Freshwater GIL Exceedances (2014-2018)

Monitoring Well	CoPC	Concentration (µg/L)			
		2014	2015	2016	2018
MW1	Benzene	-	-	4,990	-
	(o) Xylene	-	-	1,050	-
	Naphthalene	80	73	196	58
MW2	Benzene	-	-	-	-
	(o) Xylene	-	-	-	-
	Naphthalene	-	-	56	-
MW3	Benzene	-	-	-	-
	(o) Xylene	-	-	-	-
	Naphthalene	-	-	30	16
MW4	Benzene	6,650	4,400	5,210	1,630
	(o) Xylene	-	-	-	-
	Naphthalene	528	505	512	209

Table 6: Summary of Freshwater GIL Exceedances (2014-2018)

Monitoring Well	CoPC	Concentration (µg/L)			
		2014	2015	2016	2018
MW6	Benzene	-	-	-	-
	(o) Xylene	1,890	1,560	1,790	-
	Naphthalene	174	210	196	58
MW7	Benzene	5,400	4,250	4,190	2,510
	(o) Xylene	2,220	1,740	940	878
	Naphthalene	323	270	182	162
MW8	Benzene	-	-	-	-
	(o) Xylene	1,660	1,040	788	-
	Naphthalene	336	297	353	245
MW9	Benzene	5,250	4,860	4,440	
	(o) Xylene	-	-	-	NA
	Naphthalene	297	202	308	
MW12	Benzene	3,960	5,160	4,220	3,040
	(o) Xylene	-	-	-	-
	Naphthalene	122	176	165	158
MW13	Benzene	1,000	-	4,190	2,510
	(o) Xylene	676	436	940	878
	Naphthalene	74	48	182	162
MW15	Benzene	7,610	7,510	12,400	
	(o) Xylene	1,780	1,600	2,210	NA
	Naphthalene	191	212	328	
BH50	Benzene	-	-	-	-
	(o) Xylene	374	-	359	-
	Naphthalene	100	80	73	57

Note: NEPM 2013 GIL Freshwater criteria for 95% species protection:

- Benzene (950 µg/L)
- (o) Xylene (350 µg/L)
- Naphthalene (16 µg/L)

The dissolved phase hydrocarbon (DPH) plume delineated from past GMEs remains evident beneath the car wash tenancy, extending to the north-west and east where concentrations above site criteria are detected in monitoring wells MW4 and MW6. Benzene, xylene (o) and naphthalene concentrations across the site are generally stable or decreasing in value at most monitoring wells.

The results obtained during the June 2018 GME were generally consistent with the historical data from previous GMEs (and were lower than the outlier results of the 2016 GME).

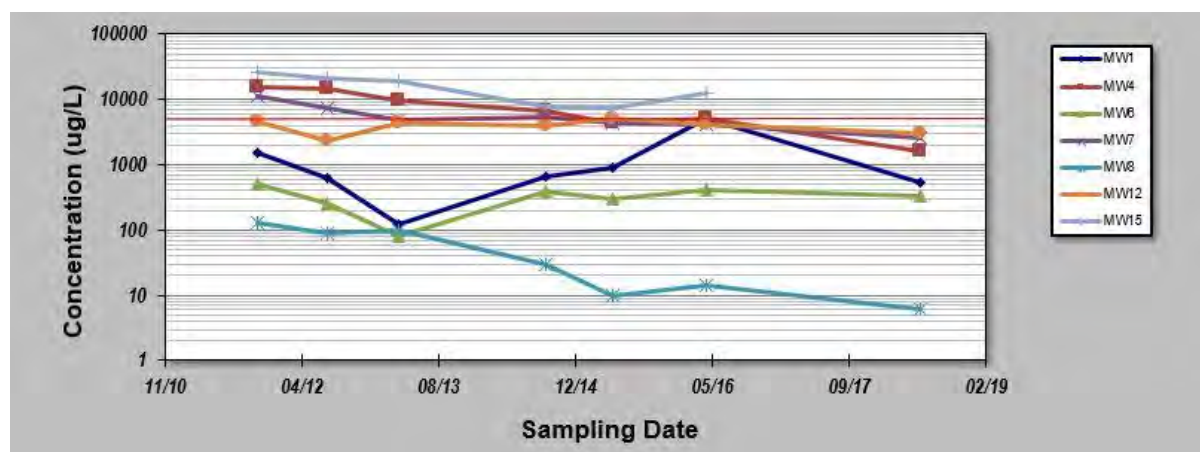
8.4 Statistical Data Analysis

The 2015 GME indicated that monitoring wells MW6, MW7, MW8, MW12 and MW15 reported concentrations of benzene and/or TRH F1 above HSL-D criteria, with elevated concentrations also reported in these wells (other than MW12), as well as MW1 and MW4 in the 2016 GME. Although no TRH F1 or benzene concentrations above the HSL-D criteria were reported in the June 2018 GME, statistical analysis was completed to assess trends within the monitoring data with statistical significance at these locations.

Due to monitoring well MW15 being inaccessible during the 2018 monitoring round the well has no data point for the monitoring round. At the time of the April 2016 GME concentrations at MW15 of TRH F1 and benzene were above the site criteria, HSL-D.

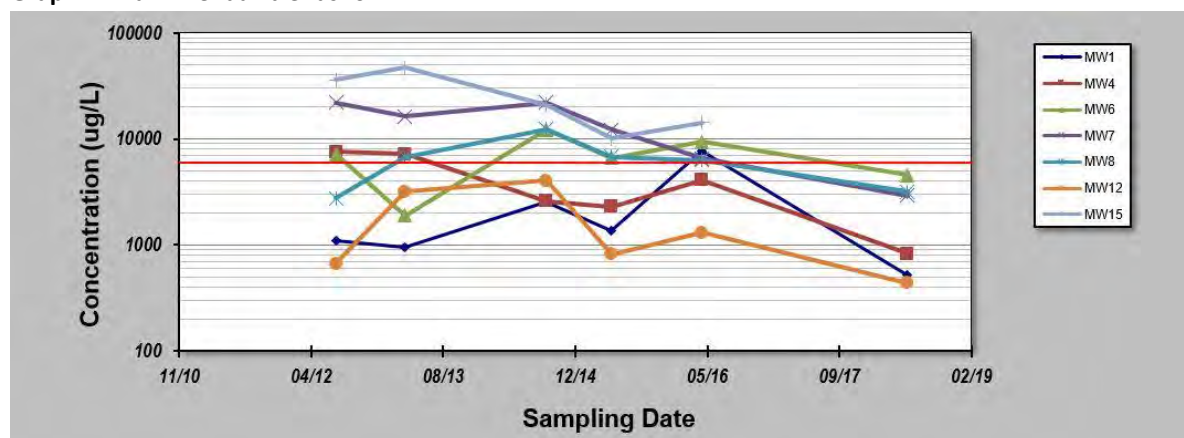
Mann-Kendall statistical trends have been reported to help identify the trends at the wells of concern and the results are plotted below for benzene and TRH F1 (**Graph1** and **Graph 2**).

Graph 1: Mann-Kendall trends for benzene.



Note: The red line represents the HSL-D concentration criteria for Benzene (5,000 ug/L)

Graph 2: Mann-Kendall trends for TRH F1.



Note: The red line represents the HSL-D concentration criteria for TRH-F1 (6,000 ug/L)

The complete Mann-Kendall trend data for all monitoring wells sampled during the 2018 GME is presented in **Appendix D**. The trends identified in the data for the wells discussed above are presented in **Table 7** on the following page.

Table 7: Summary of Trends in TRH F1 and Benzene Concentrations

Well	Benzene	F1
MW1	No Trend	No Trend
MW4	Decreasing	Decreasing
MW6	Decreasing	Stable
MW7	Decreasing	Decreasing
MW8	Decreasing	Stable
MW12	Stable	Stable
MW15 ¹	Decreasing	Decreasing

¹As monitoring well MW15 was inaccessible at the time of the June 2018 GME this trend is based off data from previous GMEs.

9 Groundwater Assessment Quality Control Samples

One blind replicate and one split sample were collected from monitoring well MW14 for quality control purposes. The results of the quality control samples are provided in **Tables T2 & T3** in the ‘**Tables**’ section of this report and the NATA accredited analytical results are provided in **Appendix C**. Pertinent results are summarised in this section, with further discussion provided in **Appendix E**.

The relative percent difference (RPD) between the blind replicate and split samples was less than the 30-50% recommended range outlined in AS4482.1 with the exception of TRH in quality control sample FD1. The RPD difference between the primary sample and FD1 was 74%. However due to different extraction times it is possible that volatile components may have degraded during holding, accounting for the variation. Based on the results of the water blank samples, no evidence of cross-contamination was identified.

10 Discussion

10.1 Assessment Results

A total of seventeen (17) monitoring wells were gauged and sampled within the Forestway Shopping Centre boundary on the 4-7th June 2018. From the proposed twenty (20) wells, three (3) could not be accessed (monitoring wells MW15 and MW9 appeared to have been concreted over and TP-MW2 could not be located) and so were not part of the monitoring round.

Detectable concentrations of TRH and BTEXN were reported in several wells, with the highest concentrations reported in monitoring wells MW4, MW7, MW12 and MW13. Review of the groundwater data from the past monitoring events (2011-2016) in conjunction with the results of this GME generally shows stable or decreasing hydrocarbon concentrations from the available wells with a dissolved phase hydrocarbon (DPH) plume associated with the former service station.

The concentrations of benzene, (o) xylene, naphthalene were greater than the NEPM 2013 freshwater GILs adopted by NSW EPA as trigger levels for reporting contamination to NSW EPA (which has occurred previously for this site). However, the reported contaminant concentrations were less than the NEPM 2013 HSL-D criteria for the existing commercial/industrial use of the site (based on its existing layout). It is important to note however, that the HSL-D criteria is not applicable for basement excavations that intersect groundwater, with a site-specific assessment of the potential vapour risk required. This is discussed further in **Section 10.2** below.

10.2 Impact on Proposed Development

As part of the proposed Stage 1 development at Forestway Shopping Centre it is understood that a two (2) level basement carpark is being developed at the site. This will require excavation to depths of approximately 6 mBGL in the location of the current car park and current car wash and Liquorland tenancies.

Based on the standing water level reported in the existing groundwater wells, it is considered likely that these excavations may intersect groundwater, including hydrocarbon contaminated groundwater in the vicinity of the former service station (existing car wash tenancy). This would result in a requirement to manage hydrocarbon contaminated groundwater both during excavation and construction of the basement levels and potentially post-construction of the basement.

A Human Health Risk Assessment (HHRA) was prepared by JBS Environmental in 2012, which was subsequently reviewed by BP in 2016 to reflect changes to the health risk assessment methodology specified in the NEPM 2013 guidelines, as well as including more recent groundwater monitoring data. This updated HHRA was independently reviewed by enRiskS in 2016, with the review of the HHRA concluding the following:

"The findings of this assessment were:

- *Risks to retail workers on the site were low and acceptable;*
- *Risks to maintenance workers on the site in excavations that do not intersect groundwater were low and acceptable; and*
- *Risks to maintenance workers where excavations may intersect groundwater were unacceptable.*

It was recommended that a site management plan be prepared to ensure that direct contact with contaminated groundwater be prevented during any intrusive works required on or near the former service station site.

Since 2012 additional groundwater monitoring data has been collected and there have been changes to national guidance about how to undertake contaminated land investigations and how to interpret the resulting data. Evaluation of this new data and the changes in guidance do not change the conclusions of the HHRA prepared in 2012. The findings listed above remain valid."

Given that the proposed basement excavation will change the risk profile of the site, and the existing HHRA indicated that there were unacceptable risks to maintenance workers where excavations may intersect groundwater, the review and update of the existing HHRA would be required. Based on the outcome of the HHRA, the requirement for additional management controls for the hydrocarbon contaminated groundwater would be assessed, with these control measures potentially impacting upon the design of the basement levels.

11 Conclusions

The results of the groundwater monitoring event indicated that TRH and BTEXN contamination remains in groundwater in the vicinity of the former service station in the northern section of the site. The reported contaminant concentrations were noted to be relatively consistent (and typically lower) than the results of previous groundwater monitoring events at the site, with the current monitoring results noted to be less than the NEPM 2013 HSL-D vapour intrusion criteria for the existing commercial use of the site (based on its current layout).

However, given that the Stage 1 development will include the excavation of two (2) basement levels to approximately 6.0 mBGL, it is likely that the excavation works in the northern section of the site (in and around the footprint of the former service station) would intersect hydrocarbon contaminated groundwater. This excavation warrants the review and update of the existing HHRA for the site, which identified a potential unacceptable health risk for maintenance workers in excavations that intersect groundwater in the former service station location (which would also apply for construction workers).

12 Recommendations

Based on the information provided and collected to date the following is recommended:

- The existing Human Health Risk Assessment (HHRA) for the former service station will need to be reviewed and updated to take into account the proposed basement excavation (which is likely to intersect hydrocarbon contaminated groundwater).
- A Construction Environmental Management Plan (CEMP) would be required that would include details of the management controls to be implemented during and post-construction of the basement levels in the northern section of the site, where there is a high likelihood that excavations will intersect hydrocarbon contaminated groundwater.

Abbreviations

Abbreviation	Definition
ADWG	Australian Drinking Water Guidelines
ANZECC	Australian & New Zealand Environment & Conservation Council
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
AWQG	Australian Water Quality Guidelines
BaP	Benzo(a)pyrene
BGL	Below Ground Level
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
COC	Chain of Custody
CoPC	Contaminants of Potential Concern
DECCW	Department of Environment, Climate Change and Water (NSW)
DNAPL	Dense Non-aqueous Phase Liquid
EPA	Environment Protection Authority
GIL	Groundwater Investigation Levels
GME	Groundwater Monitoring Event
LOR	Limit of Reporting
LNAPL	Light Non-aqueous Phase Liquid
MW	Monitoring Well
NAPL	Non-aqueous Phase Liquid
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
PAHs	Polycyclic Aromatic Hydrocarbons
PID	Photo Ionisation Detector
PPM	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Control/Quality Assurance
RPD	Relative Percentage Difference
RWL	Reduced Water Level
SSP	Site-Specific Safety Plan
SWL	Standing Water Level
TDS	Total Dissolved Solids
TOC	Top of Casing
TRH	Total Recoverable Hydrocarbons
ULP	Unleaded petrol
UPSS	Underground Petroleum Storage Systems
UST	Underground Storage Tank

Figures



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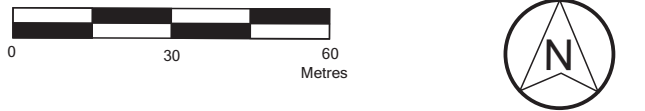
Client:
Invesco

Project:
FORESTWAY SHOPPING CENTRE
ENVIRONMENTAL ASSESSMENT

Address:
WARRINGAH RD & FOREST WAY,
FRENCHS FOREST NSW

Drawing Title:
SITE LOCATION FIGURE

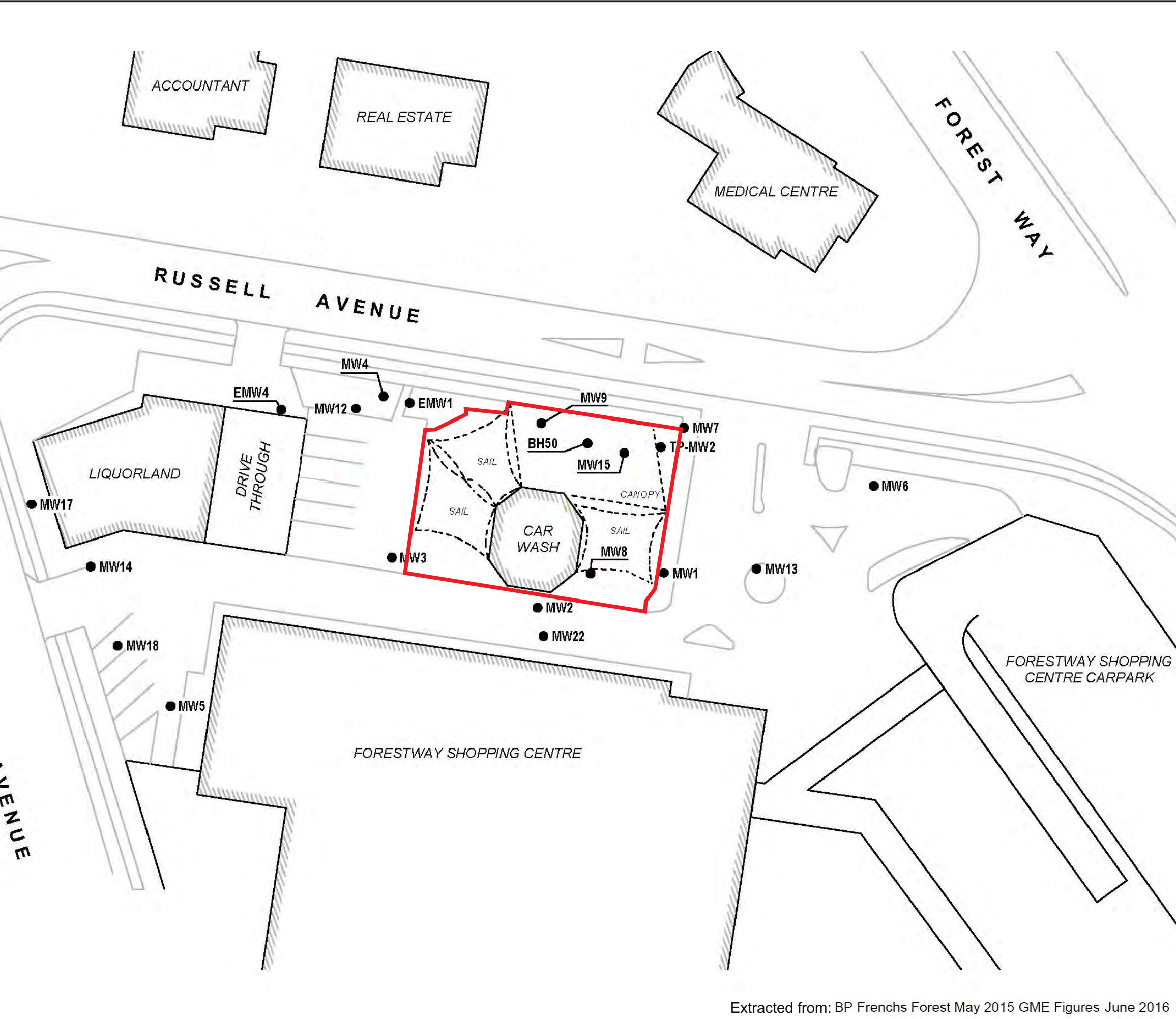
Job No.: 58328 Client No.: 10038



- Legend:
-  Site Boundary
 -  Site Location

Note: All locations are approximate
Image Source: Six maps
Viewed :13 June 2018

Drawn by: MXJ	Date: 10/07/2018	Checked by: DMF	Date: 18/06/2018
File name: 58328 Forestway Shopping Centre Well Figures		Figure number: 1	Revision: A



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Address:
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Drawing Title:
GROUNDWATER WELL LOCATIONS

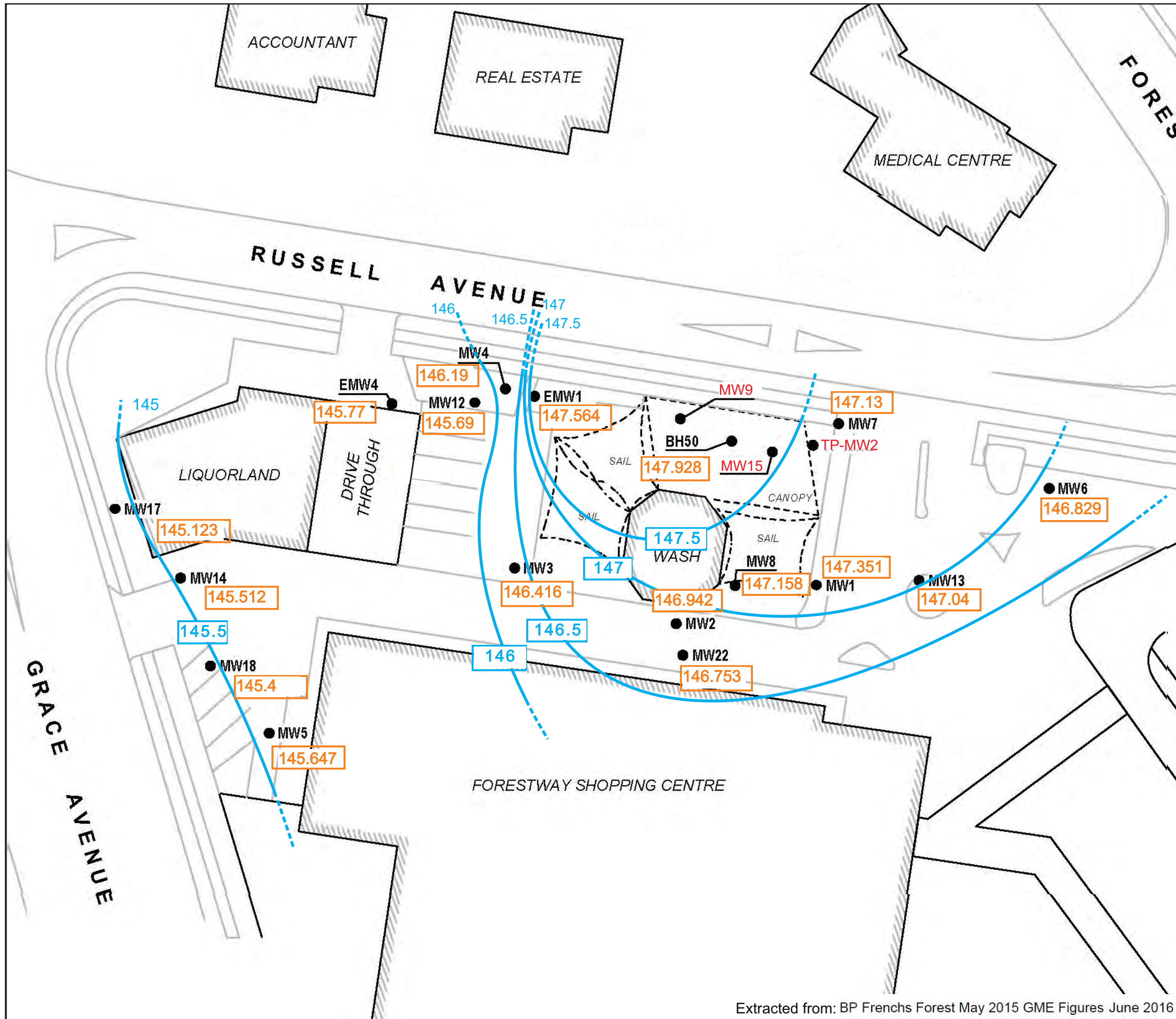
Job No.: 58328 Client No.: I0038



- Legend:**
- MW## Monitoring Well
 - EMW## Environmental Monitoring Well
 -  Bundled Area of Car Wash

Note: All locations are approximate Viewed: 18/06/2018

Drawn by: MXJ	Date: 18/06/2018	Checked by: DMF	Date: 18/06/2018
File name: 58328 Forestway Shopping Centre Well Figures		Figure number: 2	Revision: A



Client:
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Project:
FORESTWAY SHOPPING CENTRE
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Address:
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Drawing Title:
GROUNDWATER CONTOUR MAP

Job No.: 58328 Client No.: I0038

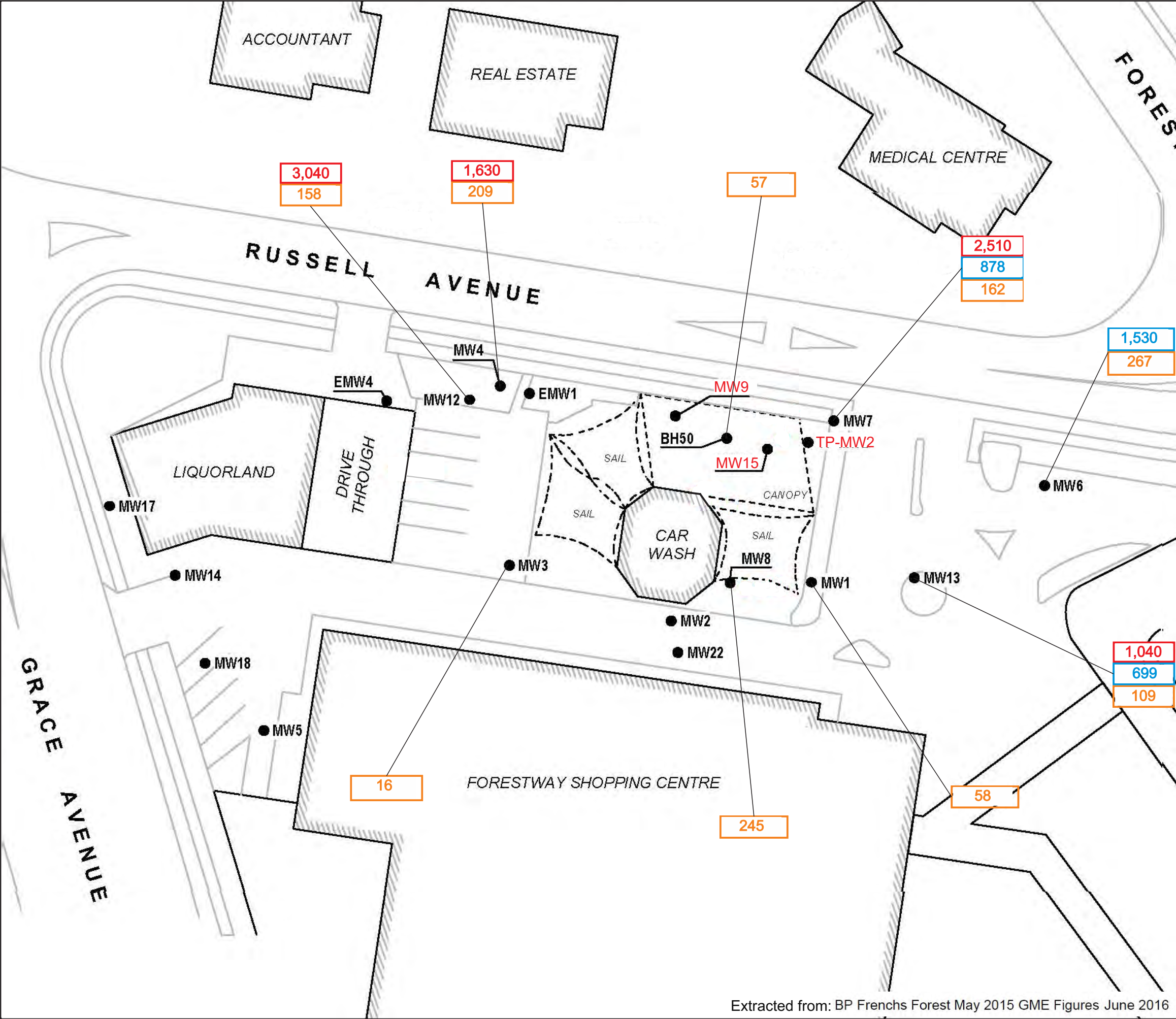


- Legend:**
- MW## Monitoring Well
 - EMW## Environmental Monitoring Well
 - MW## Destroyed/ Lost Monitoring Well
 - ###.### Groundwater Elevation (mAHD)
 - ###.# Inferred Groundwater Contour at 0.5 intervals (mAHD)

Note: All locations are approximate Viewed: 18/06/2018

Drawn by:	Date:	Checked by:	Date:
MXJ	18/06/2018	DMF	18/06/2018

File name:	Figure number:	Revision:
58328 Forestway Shopping Centre Well Figures	3	A





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Address:

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Drawing Title:

SUMMARY OF GROUNDWATER
GIL CRITERIA EXCEEDANCES

Job No.: 58328

Client No.: I0038

01020



Legend:

MW##

Monitoring Well

EMW##

Environmental Monitoring Well

MW##

Destroyed/ Lost Monitoring Well

###

Benzene concentrations (ug/L)

###

Xylene (o) concentrations (ug/L)

###

Naphthalene concentrations (ug/L)

Note: All locations are approximate

Viewed: 18/06/2018

Drawn by:

MXJ

Date:

05/07/2018

Checked by:

DMF

Date:

05/07/2018

File name:

58328 Forestway Shopping
Centre Well Figures

Figure number:

4

Revision:

A

Tables

Table T1: Summary of Analytical Results



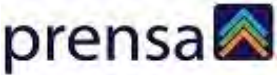
	BTEX							Inorganics		PAH/Phenols	TRH													
	Benzene	Ethylbenzene	Toluene	Total BTEX	Xylene (m & p)	Xylene (o)	Xylene Total	pH (Lab)	TDS	Naphthalene	C6-C10 less BTEX (F1)	F2-NAPHTHALENE	C6-C10	C10-C16	C16-C34	C34-C40	C10 - C40 (Sum of total)	C6 - C9	C10 - C14	C15 - C28	C29-C36	C10 - C36 (Sum of total)		
	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	pH Units	mg/L	µg/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		
PQL	1	2	2	0.001	2	2	2	0.01	10	5	0.02	0.1	0.02	0.1	0.1	0.1	100	20	50	100	50	50		
ANZECC 2000 Irrigation Waters - Long Term Trigger Values (LTV)																								
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion 2-4m	5000	NL	NL				NL			NL	6	NL												
NEPM 2013 Table 1C GILs, Drinking Water	1	300	800				600																	
NEPM 2013 Table 1C GILs, Fresh Waters	950					350				16														
NEPM 2013 Table 1C GILs, Marine Waters	500									50														

Field_ID	Sampled_Date-Time																						
MW1	7/06/2018	539	85	403	1.35	204	120	324	7.79	438	58	0.52	0.13	1.87	0.19	<0.1	<0.1	190	1740	240	<100	<50	240
MW2	7/06/2018	495	31	36	0.613	8	43	51	5.88	147	<5	0.15	<0.1	0.76	<0.1	<0.1	<0.1	<100	720	110	<100	<50	110
MW3	7/06/2018	304	30	63	0.53	94	39	133	4.09	543	16	0.2	0.88	0.73	0.9	<0.1	<0.1	900	660	760	290	<50	1050
MW4	7/06/2018	1630	251	117	2.61	487	125	612	4.02	641	209	0.83	0.48	3.44	0.69	<0.1	<0.1	690	3160	700	190	<50	890
MW5	7/06/2018	<1	<2	<2	<0.001	<2	<2	<2	4.28	289	<5	<0.02	<0.1	<0.02	<0.1	<0.1	<0.1	<100	<20	<50	<100	<50	<50
MW6	7/06/2018	336	636	3170	8.92	3250	1530	4780	3.53	2780	267	4.58	0.66	13.5	0.93	<0.1	<0.1	930	12,000	1440	<100	<50	1440
MW7	7/06/2018	2510	432	1530	7.48	2130	878	3010	4.63	333	162	2.92	0.46	10.4	0.62	<0.1	<0.1	620	9820	1030	<100	<50	1030
MW8	7/06/2018	6	105	52	1.03	580	289	869	10.2	251	245	3.17	0.66	4.2	0.9	<0.1	<0.1	900	1730	1500	<100	<50	1500
MW12	7/06/2018	3040	230	15	3.72	372	68	440	4.32	278	158	0.44	0.24	4.16	0.4	<0.1	<0.1	400	3990	440	<100	<50	440
MW13	7/06/2018	1040	333	1220	4.85	1560	699	2260	4.08	908	109	2.8	0.63	7.65	0.74	<0.1	<0.1	740	6430	1090	<100	<50	1090
MW14	6/06/2018	<1	<2	<2	<0.001	<2	<2	<2	7.33	357	<5	0.12	<0.1	0.12	<0.1	<0.1	<0.1	<100	120	<50	<100	<50	<50
MW17	6/06/2018	<1	<2	<2	<0.001	<2	<2	<2	6.36	290	<5	0.06	<0.1	0.06	<0.1	<0.1	<0.1	<100	60	<50	<100	<50	<50
MW18	7/06/2018	<1	<2	<2	<0.001	<2	<2	<2	4.67	395	<5	<0.02	<0.1	<0.02	<0.1	<0.1	<0.1	<100	<20	<50	<100	<50	<50
MW22	7/06/2018	126	11	2	0.168	<2	29	29	6.24	181	<5	0.05	<0.1	0.22	<0.1	<0.1	<0.1	<100	210	<50	<100	<50	<50
EMW1	7/06/2018	<1	<2	<2	<0.001	<2	<2	<2	7.79	876	<5	<0.02	<0.1	<0.02	<0.1	<0.1	<0.1	<100	<20	<50	<100	<50	<50
EMW4	7/06/2018	<1	<2	<2	<0.001	<2	<2	<2	4.88	820	<5	<0.02	<0.1	<0.02	<0.1	<0.1	<0.1	<100	<20	<50	<100	<50	<50
BH50	6/06/2018	43	62	167	0.766	336	158	494	9.92	438	57	0.56	0.33	1.33	0.39	<0.1	<0.1	390	1050	580	<100	<50	580

Notes:

PQL = Practical Quantitaion Limit

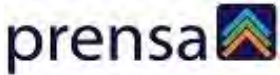
Table T2: Summary of Duplicate Sample Analytical Results



Field_ID	MW14	FD1	RPD1	FD2	RPD2
Sampled_Date-Time	6/06/2018	6/06/2018		6/06/2018	

Chem_Group	ChemName	Units	PQL					
BTEX	Benzene	µg/L	1	<1	<1	-	<1	-
	Ethylbenzene	µg/L	1	<2	<1	-	<2	-
	Toluene	µg/L	1	<2	<1	-	<2	-
	Total BTEX	mg/L	0.001	<0.001	-	-	<0.001	-
	Xylene (m & p)	µg/L	2	<2	<2	-	<2	-
	Xylene (o)	µg/L	1	<2	<1	-	<2	-
	Xylene Total	µg/L	2	<2	-	-	<2	-
	C6-C10 less BTEX (F1)	mg/L	0.01	0.12	0.26	73.684211	0.13	8
Inorganics	pH (Lab)	pH_Units	0.01	7.33	6.9	6.0435699	7.66	4.402935
	TDS	mg/L	5	357	230	43.270869	342	4.291845
PAH/Phenols	Naphthalene	µg/L	1	<5	<1	-	<5	-
TPH	C10-C16	mg/L	0.05	<0.1	<0.05	-	<0.1	-
	C16-C34	mg/L	0.1	<0.1	<0.1	-	<0.1	-
	C34-C40	mg/L	0.1	<0.1	<0.1	-	<0.1	-
	F2-NAPHTHALENE	mg/L	0.05	<0.1	<0.05	-	<0.1	-
	C6 - C9	µg/L	10	120	260	73.684211	140	15.38462
	C10 - C14	µg/L	50	<50	<50	-	<50	-
	C15 - C28	µg/L	100	<100	<100	-	<100	-
	C29-C36	µg/L	50	<50	<100	-	<50	-
	+C10 - C36 (Sum of total)	µg/L	50	<50	-	-	<50	-
	C10 - C40 (Sum of total)	µg/L	100	<100	-	-	<100	-
	C6-C10	mg/L	0.01	0.12	0.26	73.684211	0.13	8

Table T3: Summary of Rinsate Analytical Results



				Field_ID	RIN1	RIN2	TB
				Sampled_Date-Time	6/06/2018	7/06/2018	1/06/2018
Chem_Group	ChemName	Units	PQL				
BTEX	Benzene	µg/L	1	<1	<1	<1	
	Ethylbenzene	µg/L	1	<2	<2	<2	
	Toluene	µg/L	1	<2	<2	<2	
	Total BTEX	mg/L	0.001	<0.001	<0.001	<0.001	
	Xylene (m & p)	µg/L	2	<2	<2	<2	
	Xylene (o)	µg/L	1	<2	<2	<2	
	Xylene Total	µg/L	2	<2	<2	<2	
	C6-C10 less BTEX (F1)	mg/L	0.01	<0.02	<0.02	<0.02	
Inorganics	pH (Lab)	pH_Units	0.01	6.66	5.73	-	
	TDS	mg/L	5	<10	<10	-	
PAH/Phenols	Naphthalene	µg/L	1	<5	<5	<5	
TPH	C10-C16	mg/L	0.05	<0.1	<0.1	-	
	C16-C34	mg/L	0.1	<0.1	<0.1	-	
	C34-C40	mg/L	0.1	<0.1	<0.1	-	
	F2-NAPHTHALENE	mg/L	0.05	<0.1	<0.1	-	
	C6 - C9	µg/L	10	<20	<20	<20	
	C10 - C14	µg/L	50	<50	<50	-	
	C15 - C28	µg/L	100	<100	<100	-	
	C29-C36	µg/L	50	<50	<50	-	
	+C10 - C36 (Sum of total)	µg/L	50	<50	<50	-	
	C10 - C40 (Sum of total)	µg/L	100	<100	<100	-	
	C6-C10	mg/L	0.01	<0.02	<0.02	-	

Appendix A: Groundwater Gauging and Sampling Logs

I0038: Invesco

Forestway Shopping Centre

Crn Warringah Rd Forest Way, Frenchs Forest NSW

Well ID	Date	Survey Data		Depth from TOC			Depth from Surface		PSH Thickness (m)	PSH Density (kg/L)	Hydro Equiv (m)	Corrected DTW (mTOC)	Static Water Elevation (mAHD)
		TOC (mAHD)	Ground Level (mAHD)	Total Well Depth (mTOC)	Depth to Water (mTOC)	Depth to PSH (mAHD)	Corrected Well Depth (mBGS)	Corrected depth to Water (mBGS)					
MW01 (NA)	14-Apr-10	Well installed by Noel Arnold - no data				-	-	-	-	-	-	-	-
MW01 (NA)	19-Oct-11	149.261	149.317	5.919	1.864	-	5.98	1.92	-	0.75	-	1.864	147.397
MW01 (NA)	15-Nov-11	149.261	149.317	5.915	2.608	-	5.97	2.664	-	0.75	-	2.608	146.653
MW1	2-Jul-12	149.261	149.317	5.914	2.144	-	5.97	2.2	-	0.75	-	2.144	147.117
MW1	22-Mar-13	149.261	149.317	5.914	1.534	-	5.97	1.59	-	0.75	-	1.534	147.727
MW1	8-Sep-14	149.261	149.317	5.91	1.515	-	5.97	1.571	-	0.75	-	1.515	147.746
MW1	11-May-15	149.261	149.317	5.91	1.306	-	5.97	1.362	-	0.75	-	1.306	147.955
MW1	18-Apr-16	149.261	149.317	5.91	1.861	-	5.97	1.917	-	0.75	-	1.861	147.4
MW1	7-Jun-18	149.261	149.317	5.92	1.91	-	5.98	1.966	-	0.75	-	1.91	147.351
MW02 (NA)	14-Apr-10	Well installed by Noel Arnold - no data				-	-	-	-	-	-	-	-
MW02 (NA)	18-Oct-11	149.142	149.228	6.512	2.124	-	6.6	2.21	-	0.75	-	2.124	147.018
MW02 (NA)	15-Nov-11	149.142	149.228	6.515	3.168	-	6.6	3.254	-	0.75	-	3.168	145.974
MW2	2-Jul-12	149.142	149.228	6.531	2.861	-	6.62	2.947	-	0.75	-	2.861	146.281
MW2	22-Mar-13	149.142	149.228	6.531	1.951	-	6.62	2.037	-	0.75	-	1.951	147.191
MW2	8-Sep-14	149.142	149.228	6.5	2.008	-	6.59	2.094	-	0.75	-	2.008	147.134
MW2	11-May-15	149.142	149.228	6.5	1.668	-	6.59	1.754	-	0.75	-	1.668	147.474
MW2	18-Apr-16	149.142	149.228	6.5	1.752	-	6.59	1.838	-	0.75	-	1.752	147.39
MW2	4-Jun-18	149.142	149.228	6.52	2.2	-	6.61	2.286	-	0.75	-	2.2	146.942
MW03 (NA)	14-Apr-10	Well installed by Noel Arnold - no data				-	-	-	-	-	-	-	-
MW03 (NA)	19-Oct-11	148.766	148.839	5.901	2.128	-	5.97	2.201	-	0.75	-	2.128	146.638
MW03 (NA)	15-Nov-11	148.766	148.839	5.903	1.885	-	5.98	1.958	-	0.75	-	1.885	146.881
MW3	2-Jul-12	148.766	148.839	5.916	1.945	-	5.99	2.018	-	0.75	-	1.945	146.821
MW3	22-Mar-13	148.766	148.839	5.916	1.726	-	5.99	1.799	-	0.75	-	1.726	147.04
MW3	8-Sep-14	148.766	148.839	5.9	2.075	-	5.97	2.148	-	0.75	-	2.075	146.691
MW3	11-May-15	148.766	148.839	5.9	1.742	-	5.97	1.815	-	0.75	-	1.742	147.024
MW3	18-Apr-16	148.766	148.839	5.9	1.666	-	5.97	1.739	-	0.75	-	1.666	147.1
MW3	7-Jun-18	148.766	148.839	5.87	2.35	-	5.94	2.423	-	0.75	-	2.35	146.416
MW04 (NA)	14-Apr-10	Well installed by Noel Arnold - no data				-	-	-	-	-	-	-	-
MW04 (NA)	19-Oct-11	149.405	149.48	6.059	2.536	-	6.13	2.611	-	0.75	-	2.536	146.869
MW04 (NA)	15-Nov-11	149.405	149.48	6.059	3.207	-	6.13	3.282	-	0.75	-	3.207	146.198
MW4	2-Jul-12	149.405	149.48	6.074	2.127	-	6.15	2.202	-	0.75	-	2.127	147.278
MW4	22-Mar-13	149.405	149.48	6.074	2.25	-	6.15	2.325	-	0.75	-	2.25	147.155
MW4	8-Sep-14	149.405	149.48	6.05	2.669	-	6.12	2.744	-	0.75	-	2.669	146.736
MW4	11-May-15	149.405	149.48	6.05	2.349	-	6.12	2.424	-	0.75	-	2.349	147.056
MW4	18-Apr-16	149.405	149.48	6.05	2.52	-	6.12	2.595	-	0.75	-	2.52	146.885
MW4	7-Jun-18	149.405	149.48	6.06	3.21	-	6.135	3.285	-	0.75	-	3.21	146.195
MW05 (NA)	14-Apr-10	Well installed by Noel Arnold - no data				-	-	-	-	-	-	-	-
MW05 (NA)	18-Oct-11	147.387	147.487	4.948	1.634	-	5.05	1.734	-	0.75	-	1.634	145.753
MW05 (NA)	15-Nov-11	147.387	147.487	4.958	1.394	-	5.06	1.494	-	0.75	-	1.394	145.993
MW5	2-Jul-12	147.387	147.487	4.96	1.422	-	5.06	1.522	-	0.75	-	1.422	145.965
MW5	22-Mar-13	147.387	147.487	4.96	1.316	-	5.06	1.416	-	0.75	-	1.316	146.071
MW5	8-Sep-14	147.387	147.487	4.95	1.745	-	5.05	1.845	-	0.75	-	1.745	145.642
MW5	11-May-15	147.387	147.487	4.95	1.343	-	5.05	1.443	-	0.75	-	1.343	146.044
MW5	18-Apr-16	147.387	147.487	4.95	1.407	-	5.05	1.507	-	0.75	-	1.407	145.98
MW5	4-Jun-18	147.387	147.487	4.95	1.74	-	5.05	1.84	-	0.75	-	1.74	145.647
MW06 (NA)	14-Apr-10	Well installed by Noel Arnold - no data				-	-	-	-	-	-	-	-
MW06 (NA)	19-Oct-11	148.42	148.501	5.475	1.384	-	5.56	1.465	-	0.75	-	1.384	147.036
MW06 (NA)	15-Nov-11	148.42	148.501	5.469	3.638	-	5.55	3.719	-	0.75	-	3.638	144.782
MW6	2-Jul-12	148.42	148.501	5.484	2.296	-	5.57	2.377	-	0.75	-	2.296	146.124
MW6	22-Mar-13	148.42	148.501	5.484	1.293	-	5.57	1.374	-	0.75	-	1.293	147.127
MW6	8-Sep-14	148.42	148.501	5.47	1.601	-	5.55	1.682	-	0.75	-	1.601	146.819
MW6	11-May-15	148.42	148.501	5.47	0.995	-	5.55	1.076	-	0.75	-	0.995	147.425
MW6	18-Apr-16	148.42	148.501	5.47	2.18	-	5.55	2.261	-	0.75	-	2.18	146.24
MW6	7-Jun-18	148.42	148.501	5.48	1.59	-	5.56	1.672	-	0.75	-	1.59	146.829
MW07 (NA)	14-Apr-10	Well installed by Noel Arnold - no data				-	-	-	-	-	-	-	-
MW07 (NA)	19-Oct-11	148.92	149.016	5.489	1.501	-	5.59	1.597	-	0.75	-	1.501	147.419
MW07 (NA)	15-Nov-11	148.92	149.016	5.486	2.495	-	5.58	2.591	-	0.75	-	2.495	146.425
MW7	2-Jul-12	148.92	149.016	5.504	1.886	-	5.6	1.982	-	0.75	-	1.886	147.034
MW7	22-Mar-13	148.92	149.016	5.504	1.281	-	5.6	1.377	-	0.75	-	1.281	147.639
MW7	8-Sep-14	148.92	149.016	5.49	1.32	-	5.59	1.416	-	0.75	-	1.32	147.6
MW7	11-May-15	148.92	149.016	5.49	1.213	-	5.59	1.309	-	0.75	-	1.213	147.707
MW7	18-Apr-16	148.92	149.016	5.49	1.668	-	5.59	1.764	-	0.75	-	1.668	147.252

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Forestway Shopping Centre

Crn Warringah Rd Forest Way, Frenchs Forest NSW

Well ID	Date	Survey Data		Depth from TOC			Depth from Surface		PSH Thickness (m)	PSH Density (kg/L)	Hydro Equiv (m)	Corrected DTW (mTOC)	Static Water Elevation (mAHD)
		TOC (mAHD)	Ground Level (mAHD)	Total Well Depth (mTOC)	Depth to Water (mTOC)	Depth to PSH (mAHD)	Corrected Well Depth (mBGS)	Corrected depth to Water (mBGS)					
MW7	7-Jun-18	148.92	149.016	5.49	1.79	-	5.59	1.886	-	0.75	-	1.79	147.13
MW8	18-Oct-11	149.138	149.248	7.932	1.44	-	8.04	1.55	-	0.75	-	1.44	147.698
MW8	15-Nov-11	149.138	149.248	7.924	1.408	-	8.03	1.518	-	0.75	-	1.408	147.73
MW8	2-Jul-12	149.138	149.248	7.936	1.356	-	8.05	1.466	-	0.75	-	1.356	147.782
MW8	22-Mar-13	149.138	149.248	7.936	1.65	-	8.05	1.76	-	0.75	-	1.65	147.488
MW8	8-Sep-14	149.138	149.248	7.92	1.6	-	8.03	1.71	-	0.75	-	1.6	147.538
MW8	11-May-15	149.138	149.248	7.92	1.111	-	8.03	1.221	-	0.75	-	1.111	148.027
MW8	18-Apr-16	149.138	149.248	7.92	1.17	-	8.03	1.28	-	0.75	-	1.17	147.968
MW8	4-Jun-18	149.138	149.248	7.93	1.98	-	8.04	2.09	-	0.75	-	1.98	147.158
MW9	18-Oct-11	148.956	149.099	8.042	1.571	-	8.19	1.714	-	0.75	-	1.571	147.385
MW9	15-Nov-11	148.956	149.099	8.043	1.865	-	8.19	2.008	-	0.75	-	1.865	147.091
MW9	2-Jul-12	148.956	149.099	8.051	1.975	-	8.19	2.118	-	0.75	-	1.975	146.981
MW9	22-Mar-13	148.956	149.099	8.051	1.815	-	8.19	1.958	-	0.75	-	1.815	147.141
MW9	8-Sep-14	148.956	149.099	8.04	1.332	-	8.18	1.475	-	0.75	-	1.332	147.624
MW9	11-May-15	148.956	149.099	8.04	1.028	-	8.18	1.171	-	0.75	-	1.028	147.928
MW9	18-Apr-16	148.956	149.099	8.04	1.685	-	8.18	1.828	-	0.75	-	1.685	147.271
MW9	4-Jun-18	Well Cemented over											
MW10	18-Oct-11	148.968	149.042	8.015	1.461	-	8.09	1.535	-	0.75	-	1.461	147.507
MW10	15-Nov-11	148.968	149.042	8.027	2.042	-	8.1	2.116	-	0.75	-	2.042	146.926
MW10	2-Jul-12	148.968	149.042	8.032	1.384	-	8.11	1.458	-	0.75	-	1.384	147.584
MW10	22-Mar-13	148.968	149.042	8.032	1.396	-	8.11	1.47	-	0.75	-	1.396	147.572
MW10	8-Sep-14	148.968	149.042	8.02	1.334	-	8.09	1.408	-	0.75	-	1.334	147.634
MW10	11-May-15	148.968	149.042	8.02	0.924	-	8.09	0.998	-	0.75	-	0.924	148.044
MW10	18-Apr-16	148.968	149.042	8.02	1.212	-	8.09	1.286	-	0.75	-	1.212	147.756
MW10	4-Jun-18	Not Monitored											
MW11	19-Oct-11	148.821	148.926	15.037	1.814	-	15.14	1.919	-	0.75	-	1.814	147.007
MW11	15-Nov-11	148.821	148.926	15.022	1.919	-	15.13	2.024	-	0.75	-	1.919	146.902
MW11	2-Jul-12	148.821	148.926	15.028	1.168	-	15.13	1.273	-	0.75	-	1.168	147.653
MW11	22-Mar-13	148.821	148.926	15.028	1.279	-	15.13	1.384	-	0.75	-	1.279	147.542
MW11	8-Sep-14	148.821	148.926	15.02	1.03	-	15.13	1.135	-	0.75	-	1.03	147.791
MW11	11-May-15	148.821	148.926	15.1	1.63	-	15.21	1.735	-	0.75	-	1.63	147.191
MW11	18-Apr-16	148.821	148.926	15.1	1.177	-	15.21	1.282	-	0.75	-	1.177	147.644
MW11	4-Jun-18	Not Monitored											
MW12	18-Oct-11	149.294	149.442	15.003	3.579	-	15.15	3.727	-	0.75	-	3.579	145.715
MW12	15-Nov-11	149.294	149.442	15.008	3.391	-	15.16	3.539	-	0.75	-	3.391	145.903
MW12	2-Jul-12	149.294	149.442	15.019	3.069	-	15.17	3.217	-	0.75	-	3.069	146.225
MW12	22-Mar-13	149.294	149.442	15.019	2.965	-	15.17	3.113	-	0.75	-	2.965	146.329
MW12	8-Sep-14	149.294	149.442	15	3.53	-	15.15	3.678	-	0.75	-	3.53	145.764
MW12	11-May-15	149.294	149.442	15.23	2.724	-	15.38	2.872	-	0.75	-	2.724	146.57
MW12	18-Apr-16	149.294	149.442	15.23	2.78	-	15.38	2.928	-	0.75	-	2.78	146.514
MW12	7-Jun-18	149.294	149.442	15.16	3.6	-	15.308	3.748	-	0.75	-	3.6	145.694
MW13	19-Oct-11	149.28	149.356	8.081	2.003	-	8.16	2.079	-	0.75	-	2.003	147.277
MW13	15-Nov-11	149.28	149.356	8.089	2.416	-	8.16	2.492	-	0.75	-	2.416	146.864
MW13	2-Jul-12	149.28	149.356	8.096	2.455	-	8.17	2.531	-	0.75	-	2.455	146.825
MW13	22-Mar-13	149.28	149.356	8.096	1.814	-	8.17	1.89	-	0.75	-	1.814	147.466
MW13	8-Sep-14	149.28	149.356	8.08	2.01	-	8.16	2.086	-	0.75	-	2.01	147.27
MW13	11-May-15	149.28	149.356	8.08	1.613	-	8.16	1.689	-	0.75	-	1.613	147.667
MW13	18-Apr-16	149.28	149.356	8.08	1.804	-	8.16	1.88	-	0.75	-	1.804	147.476
MW13	4-Jun-18	149.28	149.356	8.08	2.24	-	8.156	2.316	-	0.75	-	2.24	147.04
MW14	18-Oct-11	147.262	147.342	12.293	1.566	-	12.37	1.646	-	0.75	-	1.566	145.696
MW14	15-Nov-11	147.262	147.342	12.297	1.449	-	12.38	1.529	-	0.75	-	1.449	145.813
MW14	2-Jul-12	147.262	147.342	12.271	1.516	-	12.35	1.596	-	0.75	-	1.516	145.746
MW14	22-Mar-13	147.262	147.342	12.271	1.319	-	12.35	1.399	-	0.75	-	1.319	145.943
MW14	8-Sep-14	147.262	147.342	12.22	1.481	-	12.3	1.561	-	0.75	-	1.481	145.781
MW14	11-May-15	147.262	147.342	12.41	1.408	-	12.49	1.488	-	0.75	-	1.408	145.854
MW14	18-Apr-16	147.262	147.342	12.41	1.488	-	12.49	1.568	-	0.75	-	1.488	145.774
MW14	6-Jun-18	147.262	147.342	12.23	1.75	-	12.31	1.83	-	0.75	-	1.75	145.512
MW15	18-Oct-11	148.936	149.041	8.104	2.205	-	8.21	2.31	-	0.75	-	2.205	146.731
MW15	15-Nov-11	148.936	149.041	8.019	2.072	-	8.12	2.177	-	0.75	-	2.072	146.864
MW15	2-Jul-12	148.936	149.041	8.028	1.274	-	8.13	1.379	-	0.75	-	1.274	147.662

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Forestway Shopping Centre

Crn Warringah Rd Forest Way, Frenchs Forest NSW

Well ID	Date	Survey Data		Depth from TOC			Depth from Surface		PSH Thickness (m)	PSH Density (kg/L)	Hydro Equiv (m)	Corrected DTW (mTOC)	Static Water Elevation (mAHD)
		TOC (mAHD)	Ground Level (mAHD)	Total Well Depth (mTOC)	Depth to Water (mTOC)	Depth to PSH (mAHD)	Corrected Well Depth (mBGS)	Corrected depth to Water (mBGS)					
MW15	22-Mar-13	148.936	149.041	8.028	1.195	-	8.13	1.3	-	0.75	-	1.195	147.741
MW15	8-Sep-14	148.936	149.041	8	1.147	-	8.1	1.252	-	0.75	-	1.147	147.789
MW15	11-May-15	148.936	149.041	8	0.906	-	8.1	1.011	-	0.75	-	0.906	148.03
MW15	18-Apr-16	148.936	149.041	8	0.981	-	8.1	1.086	-	0.75	-	0.981	147.955
MW15	4-Jun-18	Well Cemented over											
MW16	19-Oct-11	148.661	148.784	7.771	1.605	-	7.89	1.728	-	0.75	-	1.605	147.056
MW16	15-Nov-11	148.661	148.784	7.769	1.886	-	7.89	2.009	-	0.75	-	1.886	146.775
MW16	2-Jul-12	148.661	148.784	7.788	1.763	-	7.91	1.886	-	0.75	-	1.763	146.898
MW16	22-Mar-13	148.661	148.784	7.788	1.704	-	7.91	1.827	-	0.75	-	1.704	146.957
MW16	8-Sep-14	148.661	148.784	7.77	1.697	-	7.89	1.82	-	0.75	-	1.697	146.964
MW16	11-May-15	148.661	148.784	7.77	1.251	-	7.89	1.374	-	0.75	-	1.251	147.41
MW16	18-Apr-16	148.661	148.784	7.77	1.503	-	7.89	1.626	-	0.75	-	1.503	147.158
MW16	4-Jun-18	Not Monitored											
MW17	2-Jul-12	146.793	146.95	7.201	1.278	-	7.36	1.435	-	0.75	-	1.278	145.515
MW17	22-Mar-13	146.793	146.95	7.201	1.089	-	7.36	1.246	-	0.75	-	1.089	145.704
MW17	8-Sep-14	146.793	146.95	7.19	1.553	-	7.35	1.71	-	0.75	-	1.553	145.24
MW17	11-May-15	146.793	146.95	7.19	1.189	-	7.35	1.346	-	0.75	-	1.189	145.604
MW17	18-Apr-16	146.793	146.95	7.19	1.124	-	7.35	1.281	-	0.75	-	1.124	145.669
MW17	6-Jun-18	146.793	146.95	7.2	1.67	-	7.36	1.827	-		-	1.67	145.123
MW18	2-Jul-12	147.33	147.395	5.296	1.708	-	5.36	1.773	-	0.75	-	1.708	145.622
MW18	22-Mar-13	147.33	147.395	5.296	1.402	-	5.36	1.467	-	0.75	-	1.402	145.928
MW18	8-Sep-14	147.33	147.395	5.28	1.937	-	5.35	2.002	-	0.75	-	1.937	145.393
MW18	11-May-15	147.33	147.395	5.28	1.486	-	5.35	1.551	-	0.75	-	1.486	145.844
MW18	18-Apr-16	147.33	147.395	5.28	1.49	-	5.35	1.555	-	0.75	-	1.49	145.84
MW18	4-Jun-18	147.33	147.395	5.29	1.93	-	5.355	1.995	-	0.75	-	1.93	145.4
MW19	2-Jul-12	147.398	147.58	7.641	1.522	-	7.82	1.704	-	0.75	-	1.522	145.876
MW19	22-Mar-13	147.398	147.58	7.641	1.461	-	7.82	1.643	-	0.75	-	1.461	145.937
MW19	8-Sep-14	147.398	147.58	7.5	1.684	-	7.68	1.866	-	0.75	-	1.684	145.714
MW19	11-May-15	147.398	147.58	7.5	1.43	-	7.68	1.612	-	0.75	-	1.43	145.968
MW19	18-Apr-16	147.398	147.58	7.5	1.42	-	7.68	1.602	-	0.75	-	1.42	145.978
MW19	4-Jun-18	Not Monitored											
MW20	2-Jul-12	147.587	147.742	7.835	1.416	-	7.99	1.571	-	0.75	-	1.416	146.171
MW20	22-Mar-13	147.587	147.742	7.885	1.392	-	8.04	1.547	-	0.75	-	1.392	146.195
MW20	8-Sep-14	147.587	147.742	7.88	1.524	-	8.04	1.679	-	0.75	-	1.524	146.063
MW20	11-May-15	147.587	147.742	7.88	1.272	-	8.04	1.427	-	0.75	-	1.272	146.315
MW20	18-Apr-16	147.587	147.742	7.88	1.344	-	8.04	1.499	-	0.75	-	1.344	146.243
MW20	4-Jun-18	Not Monitored											
MW21	2-Jul-12	147.733	147.878	6.586	1.104	-	6.73	1.249	-	0.75	-	1.104	146.629
MW21	22-Mar-13	147.733	147.878	6.586	1.252	-	6.73	1.397	-	0.75	-	1.252	146.481
MW21	8-Sep-14	147.733	147.878	6.32	1.18	-	6.46	1.325	-	0.75	-	1.18	146.553
MW21	11-May-15	147.733	147.878	6.32	1.051	-	6.46	1.196	-	0.75	-	1.051	146.682
MW21	18-Apr-16	147.733	147.878	6.32	1.146	-	6.46	1.291	-	0.75	-	1.146	146.587
MW21	4-Jun-18	Not Monitored											
MW22	2-Jul-12	149.163	149.263	8.148	2.017	-	8.25	2.117	-	0.75	-	2.017	147.146
MW22	22-Mar-13	149.163	149.263	8.148	2.097	-	8.25	2.197	-	0.75	-	2.097	147.066
MW22	8-Sep-14	149.163	149.263	8.13	2.13	-	8.23	2.23	-	0.75	-	2.13	147.033
MW22	11-May-15	149.163	149.263	10.2	1.778	-	10.3	1.878	-	0.75	-	1.778	147.385
MW22	18-Apr-16	149.163	149.263	10.2	1.86	-	10.3	1.96	-	0.75	-	1.86	147.303
MW22	4-Jun-18	149.163	149.263	8.14	2.41	-	8.24	2.51	-	0.75	-	2.41	146.753
BH50	18-Oct-11	148.988	149.091	6.315	1.547	-	6.42	1.65	-	0.75	-	1.547	147.441
BH50	15-Nov-11	148.988	149.091	6.287	1.515	-	6.39	1.618	-	0.75	-	1.515	147.473
BH50	2-Jul-12	148.988	149.091	6.283	0.714	-	6.39	0.817	-	0.75	-	0.714	148.274
BH50	22-Mar-13	148.988	149.091	6.283	0.659	-	6.39	0.762	-	0.75	-	0.659	148.329
BH50	8-Sep-14	148.988	149.091	6.27	0.36	-	6.37	0.463	-	0.75	-	0.36	148.628
BH50	11-May-15	148.988	149.091	6.27	0.517	-	6.37	0.62	-	0.75	-	0.517	148.471
BH50	18-Apr-16	148.988	149.091	6.27	0.503	-	6.37	0.606	-	0.75	-	0.503	148.485
BH50	4-Jun-18	148.988	149.091	6.27	1.06	-	6.37	1.163	-	0.75	-	1.06	147.928
MW2*GT	1988 - 2003	No gauging data recorded											
MW2*GT	22-Aug-04			3.8	Dry	-	-	-	-	0.75	-	Dry	-

Well ID	Date	Survey Data		Depth from TOC			Depth from Surface		PSH Thickness (m)	PSH Density (kg/L)	Hydro Equiv (m)	Corrected DTW (mTOC)	Static Water Elevation (mAHD)
		TOC (mAHD)	Ground Level (mAHD)	Total Well Depth (mTOC)	Depth to Water (mTOC)	Depth to PSH (mAHD)	Corrected Well Depth (mBGS)	Corrected depth to Water (mBGS)					
MW2*GT	Mid 2005	Well retained during excavation works by Noel Arnold in 2005 - well ID changed after 2011											
TP-MW2	19-Oct-11	148.786	148.973	3.059	1.274	-	3.25	1.461	-	0.75	-	1.274	147.512
TP-MW2	15-Nov-11	148.786	148.973	3.064	1.001	-	3.25	1.188	-	0.75	-	1.001	147.785
TP-MW2	2-Jul-12	148.786	148.973	3.057	0.481	-	3.24	0.668	-	0.75	-	0.481	148.305
TP-MW2	22-Mar-13	148.786	148.973	3.057	0.414	-	3.24	0.601	-	0.75	-	0.414	148.372
TP-MW2	8-Sep-14	148.786	148.973	3.04	0.15	-	3.23	0.337	-	0.75	-	0.15	148.636
TP-MW2	11-May-15	148.786	148.973	3.04	0.32	-	3.23	0.507	-	0.75	-	0.32	148.466
TP-MW2	18-Apr-16	148.786	148.973	3.04	0.3	-	3.23	0.487	-	0.75	-	0.3	148.486
TP-MW2	4-Jun-18	Well not located											
EMW1	19-Oct-11	149.344	149.417	3.205	2.163	-	3.28	2.236	-	0.75	-	2.163	147.181
EMW1	15-Nov-11	149.344	149.417	3.208	2.442	-	3.28	2.515	-	0.75	-	2.442	146.902
EMW1	2-Jul-12	149.344	149.417	3.209	1.099	-	3.28	1.172	-	0.75	-	1.099	148.245
EMW1	22-Mar-13	149.344	149.417	3.209	1.083	-	3.28	1.156	-	0.75	-	1.083	148.261
EMW1	8-Sep-14	149.344	149.417	3.2	0.712	-	3.27	0.785	-	0.75	-	0.712	148.632
EMW1	11-May-15	149.344	149.417	3.2	0.871	-	3.27	0.944	-	0.75	-	0.871	148.473
EMW1	18-Apr-16	149.344	149.417	3.2	0.78	-	3.27	0.853	-	0.75	-	0.78	148.564
EMW1	7-Jun-18	149.344	149.417	3.17	1.78	-	3.243	1.853	-	0.75	-	1.78	147.564
EMW4	22-Apr-03	No gauging data recorded											
EMW4	22-Aug-04	138.74	6	3.304	-	-	-	-	0.75	-	3.304	135.436	EMW4
EMW4	Mid 2005	Well retained during excavation works by Noel Arnold in 2005											
EMW4	15-Nov-11	148.115	148.189	2.691	1.611	-	2.76	1.685	-	0.75	-	1.611	146.504
EMW4	2-Jul-12	148.115	148.189	2.695	1.579	-	2.77	1.653	-	0.75	-	1.579	146.536
EMW4	22-Mar-13	148.115	148.189		Blocked	-	-	-	-	-	-	Blocked	-
EMW4	8-Sep-14	148.115	148.189	2.69	2.228	-	2.76	2.302	-	0.75	-	2.228	145.887
EMW4	11-May-15	148.115	148.189	2.69	1.544	-	2.76	1.618	-	0.75	-	1.544	146.571
EMW4	18-Apr-16	148.115	148.189	2.69	1.599	-	2.76	1.673	-	0.75	-	1.599	146.516
EMW4	7-Jun-18	148.115	148.189	2.68	2.34	-	2.754	2.414	-	0.75	-	2.34	145.775
EMW5	22-Apr-03	No gauging data recorded											
EMW5	22-Aug-04	139.975	5.7	3.797	-	-	-	-	0.75	-	3.797	136.178	EMW5
EMW5	Mid 2005	Well retained during excavation works by Noel Arnold in 2005											
EMW5	19-Oct-11	149.08	149.157	5.592	1.453	-	5.67	1.53	-	0.75	-	1.453	147.627
EMW5	15-Nov-11	149.08	149.157	5.589	1.284	-	5.67	1.361	-	0.75	-	1.284	147.796
EMW5	2-Jul-12	149.08	149.157	5.595	1.136	-	5.67	1.213	-	0.75	-	1.136	147.944
EMW5	22-Mar-13	149.08	149.157		Not found	-	-	-	-	-	-	Not found	-
EMW5	8-Sep-14	149.08	149.157	5.58	1.309	-	5.66	1.386	-	0.75	-	1.309	147.771

Table A2: Groundwater Field Chemical Parameters

Well ID	Date	Total Well Depth (mTOC)	Depth to Water (mTOC)	Time	Volume (L)	pH	Redox (mV)	Cond. (µS/cm)	DO (mg/L)	Temp °C	Turbidity	Draw down (m)	Description
MW1	7/06/2018	5.92	1.91	16:05	10	6.69	-100.4	401.9	1.94	21.8	1351.5		Chalky grey, high sediment, strong HC odour, no sheen.
				16:15	16								Purged dry @16L
				16:42		7.19	-1.3	390.9	6.14	20.6	863.1		
				16:46		6.94	9.6	887.8	5.84	20.8	831.9		
MW2	4/06/2018	6.52	2.2	19:30	12	5.58	79.5	171.1	3.12	20.3	244.8		Brown, no odour or sheen
				19:40	20	5.15	-32.2	288.3	4.36	21.3	792		Purged dry @20L
	7/06/2018		2.38	9:15		5.1	263.3	207.7	4.8	19.9	66		
MW3	7/06/2018	5.87	2.35	9:47	10	4.07	282.5	819	2.97	20.8	1736.5		Light brown, no sheen, slight HC odour
				9:56	16	8.99	288.5	839	7.13	21.2	26608.8		White milky colour, no sheen, slight HC odour, high sediment - purged dry @16L
				10:11	4	3.99	293.8	843	7.46	21	9297.3		white milky colour, no sheen, slight odour, some sediment
MW4	7/06/2018	6.06	3.21	12:18	10	3.94	179	906	1.74	21.7	2K		Milky white colour, strong HC odour, no sheen
				12:25								5.88	Purged dry @11L
				12:34		3.97	178.6	911	2.73	21	880		
				12:42								5.78	
MW5	4/06/2018	4.95	1.74	17:05	10	4.27	235	426.6	6.09	20.6	155		Slight brown colour, no odour, no sheen
				17:14	16	4.22	260	245	7.65	20.6	206.5		Purged dry @16L
	7/06/2018		2.3	14:13		4.26	224.9	438.3	7.65	20.8	51		No odour
MW6	7/06/2018	5.48	1.59	15:06	10	3.56	286.9	4695	3.65	21.7	1804.1		*Possible NAPL - IP constant beep AFTER water to bottom of well, first bailer brought up water was bubbling and clear. White milky colour, strong HC odour, no sheen.
				15:15	14							5.15	Purged dry @14L
				15:27	1	3.66	316.8	4444	6.47	21.8	1343.3		
MW7	7/06/2018	5.49	1.79	16:00	10	4.56	-28.1	402.8	2.18	21.2	445.3		Strong HC odour, possible sheen, milky white colour
				16:10	16	4.56	-46.7	407.1	5.07	21.1	5K		
				16:14								5.28	Purged dry @18L
				16:25		4.57	-65.4	440.3	5.69	21.3	4.73		as above
MW8	4/06/2018	7.93	1.98	18:24	16	10.94	-128.1	404.3	3.12	20.6	250		HC odour, no sheen
				18:32	18	10.94	-137	400	3.74	20.1	270		Purged dry @18L
	6/06/2018			18:27		10.98	-123.1	426.3	1.16	20.2	10.7		HC odour
MW12	7/06/2018	15.16	3.6	11:09	10	4.08	137.8	500	2.9	21.2	13.2		Clear, HC odour, no sheen
				11:30	30	4.09	180.3	492.7	2.95	20.9	8.2		
				11:50	50	4.19	170.8	493.6	4.73	20.4	21.6		Purged dry @53L
				12:06	7	4.19	153.2	491.6	4.26	20.1	26.6		clear, HC odour, no sheen, roots and grass within
				12:09	9	4.18	150.9	491.3	4.19	20	21.8		as above
MW13	4/06/2018	8.08	2.24	20:24	10	4.15	-27.1	1194	2.98	22.7	121.5		Strong HC odour, light brown
				20:31	25	4.12	-46.8	1324	2.67	22.8	178.8		
	7/06/2018		2.23	8:31		4.11	247.4	1393	4.28	22.5	233.3		
MW14	6/06/2018	12.23	1.75	17:03	10	6.13	146	421.8	5.76	20.7	208		Light brown, no odour, no sheen
				17:15	30	6.19	170.9	420.7	6.02	21	144.9		
					40	6.19	182.6	421.4	5.97	20.7	162.5		
					46	6.14	191.8	428.1	5.54	20.7	240		
					55	6.33	120	443.7	6.58	20.7	3110		
					60	6.61	84.7	443	7.57	20.7	4.3K		
MW17	6/06/2018	7.2	1.67	16:04	10	5.48	208.7	380.7	4.57	20.1			Light brown, no odour
					20	5.53	185.1	383.4	5.49	21			
					27	5.6	151.5	373.3	6.55	20.1			Purged dry @27L

Table A2: Groundwater Field Chemical Parameters

Well ID	Date	Total Well Depth (mTOC)	Depth to Water (mTOC)	Time	Volume (L)	pH	Redox (mV)	Cond. (µS/cm)	DO (mg/L)	Temp °C	Turbidity	Draw down (m)	Description
MW18	4/06/2018	5.29	1.93	17:40	10	4.4	285.8	680	4.45	20.7	531		Light brown sheen, roots throughout
				17:56	18	4.41	276.6	653	4.57	21.8	13K		Purged dry @18L
				14:23		4.43	251.3	617	6.9	20.9	60.3		No odour noted
MW22	4/06/2018	8.14	2.41	19:58	10	4.63	-36.7	353.5	2.61	20.9	665.9		HC odour, brown in colour
				20:07	25	4.55	-66.2	359.2	2.25	21.6	1043.3		high recharge
				8:55		5.47	250.3	139.1	5.27	20.4	504		
EMW1	7/06/2018	3.17	1.78	11:17	10	7.01	-24	1342	2.05	20.7	107.3		Strong HC odour, grass/ roots throughout, dark brown/grey in colour
				11:35	15	7.06	-22.6	1365	3.02	20.8	129.3		
				11:43	20	7.03	-31.8	1387	2.12	21	115.7		
				11:47	25	7.04	-40.1	1393	2.02	21	120.5		
EMW4	7/06/2018	2.68	2.34	13:57	2	4.63	156.7	1287	3.49	20.8	53.6		Clear, no sheen, minimal HC odour. Purged dry @3L
BH50	4/06/2018	6.27	1.06	19:02	16	10.21	-137.7	510	1.53	19.4	67		HC odour, dark brown in colour, black sediment
				19:09	30	10.75	-143.6	553	3.5	19.4	88.9		High recharge
				18:16		10.38	-120.4	491.1	1.92	18.8	31.3		HC odour

Groundwater Sampling Log

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Groundwater Sampling Log

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Groundwater Sampling Log

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Groundwater Sampling Log

Job Name:	Groundwater Monitoring Event						Job No:	58328		Comments:	
Client Name:	Invesco Group						Client No:	I0038			
Site Address:	Forestway Shopping Centre, Crn Warringah Rd & Forest Way,						Date:	7/06/2018			
Sampling Location:	Frenchs Forest NSW						Logged by:	MXJ			
Prior to Purging									Well Information		
Depth to Water (mTOC):			3.21		NAPL (Yes/No):			No		Screen Interval:	
Well Depth (mTOC):			6.06		Depth to NAPL:			-		Well Cover:	Flush
Depth to Pump (mTOC):					NAPL Thickness:			-		Lock type:	Allen Key
Depth to Water (mTOC) after pump placement:										Well/gatic condition: Good	
Time	Volume (L)	Water Level (mTOC)	Drawdown (m)	pH	Redox (mV)	E Cond. (µS/cm)	DO (mg/L)	Temp °C	Description (Colour, turbidity, odour, sheen, changes in pump rate, etc.)		
12:18	10.00			3.94	179.0	906	1.74	21.7	Milky white colour, strong HC odour, no sheen		
12:25			5.880						Purged dry @11L		
12:34				3.97	178.6	911	2.73	21.0	Milky white colour, strong HC odour, no sheen		
12:42			5.780								
Equilibrium ranges:			<0.10m	± 0.05	± 10mv	± 3%	± 10%				
Discharge rate:				Recharge Rate:				Approx. PSI:		CPM:	

Groundwater Sampling Log

Job Name:	Groundwater Monitoring Event			Job No:	58328			Comments: Calibration certificate: Yes Sampling Method: Bailers	
Client Name:	Invesco Group			Client No:	I0038				
Site Address:	Forestway Shopping Centre, Crn Warringah Rd & Forest Way,			Date:	4/06/2018 and 7/06/2018				
Sampling Location:	MW5			Logged by:	MXJ				
Prior to Purging									Well Information
Depth to Water (mTOC):	1.74			NAPL (Yes/No):	No			Screen Interval:	
Well Depth (mTOC):	4.95			Depth to NAPL:	-			Well Cover: Flush	
Depth to Pump (mTOC):				NAPL Thickness:	-			Lock type: Allen Key	
Depth to Water (mTOC) after pump placement:									Well/gatic condition: Good
Time	Volume (L)	Water Level (mTOC)	Drawdown (m)	pH	Redox (mV)	E Cond. (µS/cm)	DO (mg/L)	Temp °C	Description (Colour, turbidity, odour, sheen, changes in pump rate, etc.)
17:05	10.00			4.27	235.0	427	6.09	20.6	Slight brown colour, no odour, no sheen
17:14	16.00			4.22	260.0	245	7.65	20.6	Purged dry @16L
7/6/18	Depth to water = 2.3								
14:13				4.26	224.9	438	7.65	20.8	Slight brown colour, no odour, no sheen
Equilibrium ranges:			<0.10m	± 0.05	± 10mv	± 3%	± 10%		
Discharge rate:			Recharge Rate:			Approx. PSI:			CPM:

Groundwater Sampling Log

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Groundwater Sampling Log

Job Name:		Groundwater Monitoring Event							Job No:		58328		Comments:		
Client Name:		Invesco Group							Client No:		I0038				
		Forestway Shopping Centre, Crn Warringah Rd & Forest Way,													
Site Address:		Frenchs Forest NSW							Date:		7/06/2018				
Sampling Location:		MW7							Logged by:		MXJ		Calibration certificate: Yes		
													Sampling Method: Bailers		
Prior to Purging											Well Information				
Depth to Water (mTOC):		1.79				NAPL (Yes/No):		No		Screen Interval:					
Well Depth (mTOC):		5.49				Depth to NAPL:		-		Well Cover: Flush					
Depth to Pump (mTOC):						NAPL Thickness:		-		Lock type: Allen Key					
Depth to Water (mTOC) after pump placement:										Well/gatic condition: Good					
Time	Volume (L)	Water Level (mTOC)	Drawdown (m)	pH	Redox (mV)	E Cond. (µS/cm)	DO (mg/L)	Temp °C	Description (Colour, turbidity, odour, sheen, changes in pump rate, etc.)						
16:00	10.00			4.56	-28.1	403	2.18	21.2	Strong HC odour, possible sheen, milky white colour						
16:10	16.00			4.56	-46.7	407	5.07	21.1	Strong HC odour, possible sheen, milky white colour						
16:14			5.280						Purged dry @18L						
16:25				4.57	-65.4	440	5.69	21.3	Strong HC odour, possible sheen, milky white colour						
Equilibrium ranges:			<0.10m	± 0.05	± 10mv	± 3%	± 10%								
Discharge rate:			Recharge Rate:			Approx. PSI:			CPM:						

Groundwater Sampling Log

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Groundwater Sampling Log

Job Name:	Groundwater Monitoring Event			Job No:	58328			Comments:	
Client Name:	Invesco Group			Client No:	I0038				
Site Address:	Forestway Shopping Centre, Crn Warringah Rd & Forest Way,			Date:	7/06/2018				
Sampling Location:	MW12			Logged by:	ECM				
Prior to Purging								Well Information	
Depth to Water (mTOC):	3.6			NAPL (Yes/No):	No			Screen Interval:	
Well Depth (mTOC):	15.16			Depth to NAPL:	-			Well Cover:	
Depth to Pump (mTOC):				NAPL Thickness:	-			Lock type:	
Depth to Water (mTOC) after pump placement:								Well/gatic condition: Good	
Time	Volume (L)	Water Level (mTOC)	Drawdown (m)	pH	Redox (mV)	E Cond. (µS/cm)	DO (mg/L)	Temp °C	Description (Colour, turbidity, odour, sheen, changes in pump rate, etc.)
11:09	10.00			4.08	137.8	500	2.90	21.2	Clear, HC odour, no sheen
11:30	30.00			4.09	180.3	493	2.95	20.9	Clear, HC odour, no sheen
11:50	50.00			4.19	170.8	494	4.73	20.4	Purged dry @53L
12:06	7.00			4.19	153.2	492	4.26	20.1	clear, HC odour, no sheen, roots and grass within
12:09	9.00			4.18	150.9	491	4.19	20.0	clear, HC odour, no sheen, roots and grass within
Equilibrium ranges:			<0.10m	± 0.05	± 10mv	± 3%	± 10%		
Discharge rate:			Recharge Rate:			Approx. PSI:			CPM:

Groundwater Sampling Log

Job Name:	Groundwater Monitoring Event			Job No:	58328			Comments: Calibration certificate: Yes Sampling Method: Bailers	
Client Name:	Invesco Group			Client No:	I0038				
Site Address:	Forestway Shopping Centre, Crn Warringah Rd & Forest Way,			Date:	4/06/2018 and 7/06/2018				
Sampling Location:	MW13			Logged by:	MXJ				
Prior to Purging									Well Information
Depth to Water (mTOC):	2.24			NAPL (Yes/No):	No			Screen Interval:	
Well Depth (mTOC):	8.08			Depth to NAPL:	-			Well Cover: Flush	
Depth to Pump (mTOC):				NAPL Thickness:	-			Lock type: Allen Key	
Depth to Water (mTOC) after pump placement:				Well/gatic condition: Good					
Time	Volume (L)	Water Level (mTOC)	Drawdown (m)	pH	Redox (mV)	E Cond. (µS/cm)	DO (mg/L)	Temp °C	Description (Colour, turbidity, odour, sheen, changes in pump rate, etc.)
20:24	10.00			4.15	-27.1	1194	2.98	22.7	Strong HC odour, light brown
20:31	25.00			4.12	-46.8	1324	2.67	22.8	Strong HC odour, light brown
7/6/18	Depth to water = 2.23								
8:31				4.11	247.4	1393	4.28	22.5	Strong HC odour, light brown
Equilibrium ranges:			<0.10m	± 0.05	± 10mv	± 3%	± 10%		
Discharge rate:			Recharge Rate:			Approx. PSI:			CPM:

Groundwater Sampling Log

Job Name:	Groundwater Monitoring Event			Job No:	58328			Comments:	
Client Name:	Invesco Group			Client No:	I0038				
Site Address:	Forestway Shopping Centre, Crn Warringah Rd & Forest Way,			Date:	6/06/2018				
Sampling Location:	MW14			Logged by:	ECM				
Prior to Purging								Well Information	
Depth to Water (mTOC):	1.75			NAPL (Yes/No):	No			Screen Interval:	
Well Depth (mTOC):	12.23			Depth to NAPL:	-			Well Cover:	
Depth to Pump (mTOC):				NAPL Thickness:	-			Lock type:	
Depth to Water (mTOC) after pump placement:								Well/gatic condition: Good	
Time	Volume (L)	Water Level (mTOC)	Drawdown (m)	pH	Redox (mV)	E Cond. (µS/cm)	DO (mg/L)	Temp °C	Description (Colour, turbidity, odour, sheen, changes in pump rate, etc.)
17:03	10.00			6.13	146.0	422	5.76	20.7	Light brown, no odour, no sheen
17:15	30.00			6.19	170.9	421	6.02	21.0	Light brown, no odour, no sheen
	40.00			6.19	182.6	421	5.97	20.7	Light brown, no odour, no sheen
	46.00			6.14	191.8	428	5.54	20.7	Light brown, no odour, no sheen
	55.00			6.33	120.0	444	6.58	20.7	Light brown, no odour, no sheen
	60.00			6.61	84.7	443	7.57	20.7	Light brown, no odour, no sheen
Equilibrium ranges:		<0.10m	± 0.05	± 10mv	± 3%	± 10%			
Discharge rate:				Recharge Rate:				Approx. PSI:	CPM:

Groundwater Sampling Log

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Groundwater Sampling Log

Job Name:	Groundwater Monitoring Event			Job No:	58328			Comments:	
Client Name:	Invesco Group			Client No:	I0038				
Site Address:	Forestway Shopping Centre, Crn Warringah Rd & Forest Way,			Date:	4/06/2018 and 7/06/2018				
Sampling Location:	MW18			Logged by:	MXJ				
Prior to Purging								Well Information	
Depth to Water (mTOC):	1.93			NAPL (Yes/No):	No			Screen Interval:	
Well Depth (mTOC):	5.29			Depth to NAPL:	-			Well Cover:	
Depth to Pump (mTOC):				NAPL Thickness:	-			Lock type:	
Depth to Water (mTOC) after pump placement:								Well/gatic condition: Good	
Time	Volume (L)	Water Level (mTOC)	Drawdown (m)	pH	Redox (mV)	E Cond. (µS/cm)	DO (mg/L)	Temp °C	Description (Colour, turbidity, odour, sheen, changes in pump rate, etc.)
17:40	10.00			4.40	285.8	680	4.45	20.7	Light brown sheen, roots throughout
17:56	18.00			4.41	276.6	653	4.57	21.8	Purged dry @18L
7/6/18	Depth to water = 2.11								
14:23				4.43	251.3	617	6.90	20.9	No odour noted
Equilibrium ranges:			<0.10m	± 0.05	± 10mv	± 3%	± 10%		
Discharge rate:			Recharge Rate:			Approx. PSI:			CPM:

Groundwater Sampling Log

[illegible]

Groundwater Sampling Log

Job Name:	Groundwater Monitoring Event			Job No:	58328			Comments:	
Client Name:	Invesco Group			Client No:	I0038				
Site Address:	Forestway Shopping Centre, Crn Warringah Rd & Forest Way,			Date:	7/06/2018				
Sampling Location:	EMW1			Logged by:	MXJ				
Prior to Purging								Well Information	
Depth to Water (mTOC):	1.78			NAPL (Yes/No):	No			Screen Interval:	
Well Depth (mTOC):	3.17			Depth to NAPL:	-			Well Cover:	
Depth to Pump (mTOC):				NAPL Thickness:	-			Lock type:	
Depth to Water (mTOC) after pump placement:							Well/gatic condition:	Good	
Time	Volume (L)	Water Level (mTOC)	Drawdown (m)	pH	Redox (mV)	E Cond. (µS/cm)	DO (mg/L)	Temp °C	Description (Colour, turbidity, odour, sheen, changes in pump rate, etc.)
11:17	10.00			7.01	-24.0	1342	2.05	20.7	Strong HC odour, grass/ roots throughout, dark brown/grey in colour
11:35	15.00			7.06	-22.6	1365	3.02	20.8	Strong HC odour, grass/ roots throughout, dark brown/grey in colour
11:43	20.00			7.03	-31.8	1387	2.12	21.0	Strong HC odour, grass/ roots throughout, dark brown/grey in colour
11:47	25.00			7.04	-40.1	1393	2.02	21.0	Strong HC odour, grass/ roots throughout, dark brown/grey in colour
Equilibrium ranges:			<0.10m	± 0.05	± 10mv	± 3%	± 10%		
Discharge rate:			Recharge Rate:			Approx. PSI:			CPM:

Groundwater Sampling Log

[illegible]

Groundwater Sampling Log

[illegible]

Appendix B: Calibration Certificates

Multi Parameter Water Meter

Instrument YSI Pro DSS
Serial No. 18D102529



Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
	Recharge OK?	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH/ORP	✓	
	2. Turbidity	✓	
	3. Conductivity	✓	
	4. D.O	✓	
	5. Temp	✓	
	6. Depth	x	
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. EC		2.76mS		306341	2.76mS
2. Temp		21.6°C		Testo	21°C
3. pH 4		pH 4.00		307927	pH 4.08
4. pH 7		pH 7.00		307928	pH 7.07
5. pH10		pH 10.00		309865	pH 9.72
6. DO		0.00ppm		5253	-0.10ppm
7. mV		231.8mV		306263/311902	232.1mV
8. Turbidity		50NTU		307498	48NTU

Calibrated by:

Sarah Lian

Calibration date:

29/05/2018

Next calibration due:

28/06/2018

Appendix C: NATA Accredited Laboratory Analytical Reports and Chain of Custody Documentation



CHAIN OF CUSTODY

ALS Laboratory
please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph 08 4359 0690 E: adelaide@alsglobal.com

BRISBANE 32 Shand Street Stafford QLD 4053
Ph 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 46 Callamondah Drive Clinton QLD 4680
Ph 07 7471 5500 E: gladstone@alsglobal.com

MACKEY 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

MUDGE 27 Sydney Road Mudgee NSW 2850
Ph 02 6372 6735 E: mudgee@mail@alsglobal.com

NEWCASTLE 5/585 Maitland Rd Mayfield West NSW 2304
Ph 02 4014 2500 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: townsville.environmental@alsglobal.com

WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph 02 4225 3125 E: portkembbla@alsglobal.com

CLIENT: Prensa	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):		FOR LABORATORY USE ONLY (Circle):	
OFFICE: 100 Bonney Road, Northcote	ALSO QUOTE NO.: SYBQ-269-16 Prensa		Free Ice / Frozen Ice Boxes present upon receipt: Yes No N/A	
PROJECT: Enviro Ass Forestway Shopping Centre	COC SEQUENCE NUMBER (Circle):		Random Sample Temperature on Receipt: °C	
ORDER NUMBER: 58328	PROJECT MANAGER: Darren Fernandez CONTACT PH: 02 8968 2500		Relinquished By: RECEIVED BY: DATE/TIME: 8/6/18 1630	
SAMPLER: Maddi Jones	SAMPLER MOBILE: 0466 272 858	RELINQUISHED BY: Maddi Jones	RECEIVED BY: DATE/TIME: 8/6/18 1630	
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):	DATE/TIME: 8/6/18	
Email Reports to (will default to PM if no other addresses are listed): maddi.jones@premsa.com.au; darren.fernandez@premsa.com.au; richard.oconnor@premsa.com.au				
Email Invoice to (will default to PM if no other addresses are listed): maddi.jones@premsa.com.au; darren.fernandez@premsa.com.au; richard.oconnor@premsa.com.au				

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).						Additional Information	
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below	(refer to) TOTAL CONTAINERS	TRH	BTEXN	TDS	Ph	TRH (C ₆ -C ₁₀)	HOLD	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.	
1	MW1	7/06/2018	Water		4	x	x	x	x				
2	MW2	7/06/2018	Water		4	x	x	x	x				
3	MW3	7/06/2018	Water		4	x	x	x	x				
4	MW4	7/06/2018	Water		4	x	x	x	x				
5	MW5	7/06/2018	Water		4	x	x	x	x				
6	MW6	7/06/2018	Water		4	x	x	x	x				
7	MW7	7/06/2018	Water		4	x	x	x	x				
8	MW8	6/06/2018	Water		4	x	x	x	x				
9	MW12	7/06/2018	Water		4	x	x	x	x				
10	MW13	7/06/2018	Water		4	x	x	x	x				
11	MW14	6/06/2018	Water		4	x	x	x	x				
12	MW17	6/06/2018	Water		4	x	x	x	x				
TOTAL					48	12	12	12	12				

Environmental Division
Sydney
Work Order Reference
ES1816942



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	CHAIN OF CUSTODY ALS Laboratory: please tick →	Adelaide 21 Burma Road Pooraka SA 5095 Ph 08 8369 0690 E: adelaide@alsglobal.com Brisbane 32 Shand Street Stafford QLD 4053 Ph 07 3243 7222 E: samples.brisbane@alsglobal.com Gladstone 46 Calliemonah 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 5/585 Maitland Rd Mayfield West NSW 2304 Ph 02 4014 2500 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 8565 E: samples.sydney@alsglobal.com Townsville 14-15 Desma Court Bonle QLD 4818 Ph 07 4796 0600 E: townsville.environmental@alsglobal.com Wollongong 99 Kenny Street Wollongong NSW 2500 Ph 02 4226 3125 E: portkembla@alsglobal.com								
CLIENT: Prensa		TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date): (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):		FOR LABORATORY USE ONLY (Circle) Custom Seal/Label? Yes No N/A ETS test / Notes - Ice packs present upon receipt? Yes No N/A Random Sample Temperature on Receipt? Yes No N/A Other comment: 5-8									
OFFICE: Enviro Ass Forestway Shopping Centre		ALS QUOTE NO.: SYBQ-269-16 Prensa											
ORDER NUMBER: 58328		COC SEQUENCE NUMBER (S/rle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7											
PROJECT MANAGER: Darren Fernandez		CONTACT PH: 02 8968 2500		RECEIVED BY: <i>[Signature]</i> DATE/TIME: 8/6/18 1630 RELINQUISHED BY: DATE/TIME: 8/6/18									
SAMPLER: Maddi Jones		SAMPLER MOBILE: 0466 272 858											
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):											
Email Reports to (will default to PM if no other addresses are listed): maddi.jones@prensa.com.au ; darren.fernandez@prensa.com.au ; richard.oconnor@prensa.com.au		RELINQUISHED BY: Maddi Jones											
Email Invoice to (will default to PM if no other addresses are listed): maddi.jones@prensa.com.au ; darren.fernandez@prensa.com.au ; richard.oconnor@prensa.com.au		DATE/TIME: 8/6/18		DATE/TIME: 8/6/18 1630									
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).				Additional Information		
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below	(refer to)	TOTAL CONTAINERS	TRH	BTEXN	TDS	Ph	TRH (C ₆ -C ₁₀)	HOLD	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	MW18	7/06/2018	Water			4	X	X	X	X			
14	MW22	7/06/2018	Water			4	X	X	X	X			
15	EMW1	7/06/2018	Water			4	X	X	X	X			
16	EMW4	7/06/2018	Water			4	X	X	X	X			
17	BH50	6/06/2018	Water			4	X	X	X	X			
18	FD2	6/06/2018	Water			4	X	X	X	X			
-	TB1	5/06/2018	Water					X			X		
-	TB2	6/06/2018	Water					X			X		
-	TB3	7/06/2018	Water					X			X		
-	FB1	5/06/2018	Water									X	
-	FB2	6/06/2018	Water									X	
-	FB3	7/06/2018	Water									X	
TOTAL							6	9	6	6	3	3	

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.

 CHAIN OF CUSTODY ALS Laboratory: please tick →		ADELAIDE 21 Burma Road Pooraka SA 5095 Ph 08 8359 0690 E: adelaide@alsglobal.com BRISBANE 32 Srand Street Stafford QLD 4053 Ph 07 3243 7222 E: samples.brisbane@alsglobal.com GLADSTONE 46 Callimondah 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 MUDGE 27 Sydney Road Mudgee NSW 2850 Ph 02 6372 8735 E: mudgee.mad@alsglobal.com		NEWCASTLE 5/585 Maitland Rd Mayfield West NSW 2304 Ph 02 4014 2500 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 Deama Court Bohle QLD 4818 Ph 07 4796 0500 E: townsville.environmental@alsglobal.com WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph 02 4225 3125 E: portkembbla@alsglobal.com					
CLIENT: Prensa		TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date): (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):		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 Free Ice / Materials prior to presentation Yes No Random Sample Temperature on Receipt 58 Other comment							
OFFICE: 110 Murray Street, Newport WA		ALS QUOTE NO.: SYBQ-269-16 Prensa				RECEIVED BY: [Signature] DATE/TIME: 8/6/18 1630		RELINQUISHED BY: [Signature] DATE/TIME:					
PROJECT: Enviro Ass Forestway Shopping Centre		CONTACT PH: 02 8968 2500		RELINQUISHED BY: Maddi Jones		RECEIVED BY:		RELINQUISHED BY:					
ORDER NUMBER: 58328		SAMPLER: Maddi Jones		SAMPLER MOBILE: 0466 272 858		DATE/TIME: 8/6/18		DATE/TIME:					
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):		DATE/TIME: 8/6/18		DATE/TIME:		DATE/TIME:					
Email Reports to (will default to PM if no other addresses are listed): maddi.jones@prensa.com.au; darren.fernandez@prensa.com.au; richard.oconnor@prensa.com.au		Email Invoice to (will default to PM if no other addresses are listed): maddi.jones@prensa.com.au; darren.fernandez@prensa.com.au; richard.oconnor@prensa.com.au		DATE/TIME: 8/6/18		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).					Additional Information		
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below	(refer to)	TOTAL CONTAINERS	TRH	BTEXN	TDS	Ph	TRH (C ₂ -C ₁₀)	HOLD	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	RIN2	6/06/2018	Water			4	X	X	X	X			
20	RIN2	7/06/2018	Water			4	X	X	X	X			
	RIN2	7/06/2018	Water				X	X	X	X			
TOTAL							2	2	2	2			
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.													

 CHAIN OF CUSTODY ALS Laboratory: please tick →		ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 6359 0690 E: aelaide@alsglobal.com BRISBANE 32 Shann Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com GLADSTONE 46 Callamondah 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.mai@alsglobal.com		NEWCASTLE 5/585 Matland Rd Mayfield West NSW 2304 Ph: 02 4014 2500 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 8764 8555 E: samples.sydney@alsglobal.com TOWNSVILLE 14-15 Desma Court Bohle QLD 4816 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com				
CLIENT: Prensa		TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle) Coccy Seed to setry Yes No Free ice / frozen ice bricks present upon receipt? Yes No Random Sample Temperature on Receipt Other comment:		COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7						
OFFICE: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)		☐ Non Standard or urgent TAT (List due date):										
PROJECT: Environmental Site Assessment Forestway		ALS QUOTE NO.: SYBQ-269-16 Prensa										
ORDER NUMBER:												
PROJECT MANAGER: Darren Fernandez		CONTACT PH: 02 8968 2500										
SAMPLER: Maddi Jones		SAMPLER MOBILE: 0466 272 858		RELINQUISHED BY:		RECEIVED BY:						
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):		Maddi Jones								
Email Reports to (will default to PM if no other addresses are listed): maddi.jones@prensa.com.au; darren.fernandez@prensa.com.au				DATE/TIME:		DATE/TIME:						
Email Invoice to (will default to PM if no other addresses are listed): maddi.jones@prensa.com.au; darren.fernandez@prensa.com.au												
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).				Additional Information		
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below)	(refer to TOTAL CONTAINERS	S-16	S-26	VOCs	Asbestos			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
21	BH01_0.1-0.2	5/06/2018	S	Glass jar - unpreserved	1	x		x	x			Asbestos bags to follow
22	BH01_0.5-0.6		S	Glass jar - unpreserved	1		x					
23	BH01_1.0-1.1		S	Glass jar - unpreserved	1		x					
24	BH01_1.3-1.4		S	Glass jar - unpreserved	1		x					
25	BH02_0.1-0.2		S	Glass jar - unpreserved	1		x					
26	BH02_0.5-0.6		S	Glass jar - unpreserved	1		x					
27	BH02_1.0-1.1		S	Glass jar - unpreserved	1		x					
28	BH02_1.5-1.6		S	Glass jar - unpreserved	1		x					
29	BH02_1.7-1.8		S	Glass jar - unpreserved	1		x					
30	BH03_0.1-0.2		S	Glass jar - unpreserved	1	x		x	x			Asbestos bags to follow
31	BH03_0.5-0.6		S	Glass jar - unpreserved	1		x					
32	BH03_1.0-1.1		S	Glass jar - unpreserved	1		x					
TOTAL					12	2	10	2	2			
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.												

CHAIN OF

ALS Laboratory:
please tick →

ALS Lab 1: 11 Duma Road Portlaurie SA 5069
Ph: 08 9556 0050 E: alslab1@alsglobal.com

ALS Lab 2: 12 Strand Street Stirling VIC 3083
Ph: 03 9474 1111 E: alslab2@alsglobal.com

ALS Lab 3: 1000-1001 Duma Road Portlaurie SA 5069
Ph: 08 9556 0050 E: alslab3@alsglobal.com

ALS Lab 4: 1000-1001 Duma Road Portlaurie SA 5069
Ph: 08 9556 0050 E: alslab4@alsglobal.com

ALS Lab 5: 1000-1001 Duma Road Portlaurie SA 5069
Ph: 08 9556 0050 E: alslab5@alsglobal.com

ALS Lab 6: 1000-1001 Duma Road Portlaurie SA 5069
Ph: 08 9556 0050 E: alslab6@alsglobal.com

ALS Lab 7: 1000-1001 Duma Road Portlaurie SA 5069
Ph: 08 9556 0050 E: alslab7@alsglobal.com

ALS Lab 8: 1000-1001 Duma Road Portlaurie SA 5069
Ph: 08 9556 0050 E: alslab8@alsglobal.com

ALS Lab 9: 1000-1001 Duma Road Portlaurie SA 5069
Ph: 08 9556 0050 E: alslab9@alsglobal.com

ALS Lab 10: 1000-1001 Duma Road Portlaurie SA 5069
Ph: 08 9556 0050 E: alslab10@alsglobal.com

ALS Lab 11: 1000-1001 Duma Road Portlaurie SA 5069
Ph: 08 9556 0050 E: alslab11@alsglobal.com

ALS Lab 12: 1000-1001 Duma Road Portlaurie SA 5069
Ph: 08 9556 0050 E: alslab12@alsglobal.com

CLIENT: Prensia

OFFICE:

PROJECT: Environmental Site Assessment Forestway ALS QUOTE NO.: SYBQ-269-16 Prensia

ORDER NUMBER:

PROJECT MANAGER: Darren Fernandez CONTACT PH: 02 8968 2500

SAMPLER: Maddi Jones

SAMPLER MOBILE: 0466 272 858

RELINQUISHED BY: Maddi Jones

COC emailed to ALS? (YES / NO)

EDD FORMAT (or default):

Email Reports to (will default to PM if no other addresses are listed):

maddi.jones@prensia.com.au; darren.fernandez@prensia.com.au

Email Invoice to (will default to PM if no other addresses are listed):

maddi.jones@prensia.com.au; darren.fernandez@prensia.com.au

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREI ☐ Standard TAT (List due date):

☐ Non Standard or urgent TAT (List due date):

COC SEQUENCE NUMBER (Circle)

1 2 3 4 5 6 7

8 9 10 11 12

13 14 15 16 17 18 19 20

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53 54 55 56 57 58 59 60

61 62 63 64 65 66 67 68

69 70 71 72 73 74 75 76

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101 102 103 104 105 106 107 108

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117 118 119 120 121 122 123 124

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205 206 207 208 209 210 211 212

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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.

CHAIN OF ALS Laboratory: please tick →		PERTH 21 Brama Road Perth WA 6005 Ph: 08 9396 0650 E: adrian@alsglobal.com		MACKAY 76 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com		NEWCASTLE 5/585 Midland Rd Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com		SYDNEY 277 285 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com					
BRISSBANE 32 Shand Street Sturtford QLD 4053 Ph: 07 3243 1272 E: samples.brisbane@alsglobal.com		MELBOURNE 2 4 Weststar Road Springvale VIC 3171 Ph: 03 8549 9500 E: samples.melbourne@alsglobal.com		NOOWRA 4/13 Quay Place North Nowra NSW 2541 Ph: 024423 2083 E: nowra@alsglobal.com		TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environment@alsglobal.com		WOLLONGONG 95 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembia@alsglobal.com					
GLASGOW 46 Callendar Drive Clifton QLD 4680 Ph: 07 7471 5600 E: glasgow@alsglobal.com		MUDGEE 27 Sydney Road Mudgee NSW 2856 Ph: 02 6372 6735 E: mudgee@mail@alsglobal.com		PERTH 10 Had Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com									
CLIENT: Prensa		TURNAROUND REQUIRE: ☐ Standard TAT (List due date): (otherwise TAT may be longer for some tests e.g. Ultra Trace)		RECEIVED BY: <i>[Signature]</i> DATE/TIME: 8/6/18 1630		FOR LABORATORY USE ONLY (Circle) Custom Seal Intact? Yes No <i>N/A</i> Preservatives/Traps/Seals present upon receipt? Yes No <i>N/A</i> Ambient Sample Temperature on Receipt: <i>52</i> Other comment:							
OFFICE:		☐ Non Standard or urgent TAT (List due date):											
PROJECT: Environmental Site Assessment Forestwa		ALS QUOTE N SYBQ-269-16 Prensa											
ORDER NUMBER:													
PROJECT MANAGER: Darren Fernandez CONTACT PH: 02 8968 2500													
SAMPLER: Maddi Jones SAMPLER MOBILE: 0466 272 858		RELINQUISHED BY: Maddi Jones											
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):													
Email Reports to (will default to PM if no other addresses are listed): maddi.jones@prensa.com.au; darren.fernandez@prensa.com.au		DATE/TIME:											
Email Invoice to (will default to PM if no other addresses are listed): maddi.jones@prensa.com.au; darren.fernandez@prensa.com.au													
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).						Additional Information	
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	S-16	S-26	VOCs	Asbestos				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
57	BH07_4.3-4.4	6/06/2018	S	Glass jar - unpreserved	1		x						
58	BH08_0.1-0.2	6/06/2018	S	Glass jar - unpreserved	1		x						
59	BH08_0.2-0.3	6/06/2018	S	Glass jar - unpreserved	1		x						
60	BH08_0.5-0.6	6/06/2018	S	Glass jar - unpreserved	1		x						
61	BH08_0.7-0.8	6/06/2018	S	Glass jar - unpreserved	1		x						
62	BH08_1.0-1.1	6/06/2018	S	Glass jar - unpreserved	1		x						
63	BH08_1.4-1.5	6/06/2018	S	Glass jar - unpreserved	1		x						
64	BH08_1.9-2.0	6/06/2018	S	Glass jar - unpreserved	1		x						
65	BH08_2.2-2.3	6/06/2018	S	Glass jar - unpreserved	1		x						
66	BH09_0.2-0.3	6/06/2018	S	Glass jar - unpreserved	1	x		x	x				Asbestos bags to follow
67	BH09_0.4-0.5	6/06/2018	S	Glass jar - unpreserved	1		x						
68	BH09_0.8-0.9	6/06/2018	S	Glass jar - unpreserved	1		x						
TOTAL:					12	1	11	1	1				

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;

[Handwritten Signature]

CHAIN OF

ALS Laboratory:
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Ph: 08 8356 6600 E: adelaide@alsglobal.comADELPHI 102 Strand Street Stirling QLD 4053
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Ph: 07 3263 7242 E: samples.stirling@alsglobal.comADELPHI 102 Strand Street Stirling QLD 4053
Ph: 07 3263 7242 E: samples.stirling@alsglobal.com

CLIENT: Pretisa	TURNAROUND RE: ☐ Standard TAT (List due date): Standard TAT may be longer for some tests	COC SEQUENCE NUMBER (Circle) COC OF: 1 2 3 4 5 6 7	
OFFICE:	☐ Non Standard or urgent TAT (List due date):	RECEIVED BY: <i>Steph</i>	
PROJECT: Environmental Site Assessment Forestway	ALS QUOTE SYBQ-269-16 Pretisa	DATE/TIME: 8/6/18 1630	
ORDER NUMBER:		RELINQUISHED BY:	
PROJECT MANAGER: Darren Fernandez	CONTACT PH: 02 8968 2500	RECEIVED BY:	
SAMPLER: Maddi Jones	SAMPLER MOBILE: 0466 272 858	DATE/TIME:	
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	RELINQUISHED BY:	
Email Reports to (will default to PM if no other addresses are listed): maddi.jones@prentsa.com.au; darren.fernandez@prentsa.com.au		DATE/TIME:	
Email Invoice to (will default to PM if no other addresses are listed): maddi.jones@prentsa.com.au; darren.fernandez@prentsa.com.au		RELINQUISHED BY:	
		DATE/TIME:	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS			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).								Additional Information
	MATRIX: SOLID (S) WATER (W)													
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	S-16	S-26	VOCs	Asbestos					Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
69	BH09_1.1-1.2	6/06/2018	S	Glass jar - unpreserved	1		x							
70	BH09_1.5-1.6	6/06/2018	S	Glass jar - unpreserved	1		x							
71	BH09_1.7-1.8	6/06/2018	S	Glass jar - unpreserved	1		x							
72	BH10_0.0-0.2	6/06/2018	S	Glass jar - unpreserved	1	x		x	x					Asbestos bags to follow
73	BH10_0.2-0.3	6/06/2018	S	Glass jar - unpreserved	1		x							
74	BH10_0.5-0.6	6/06/2018	S	Glass jar - unpreserved	1		x							
75	BH10_0.9-1.0	6/06/2018	S	Glass jar - unpreserved	1		x							
76	BH10_1.5-1.6	6/06/2018	S	Glass jar - unpreserved	1		x							
77	BH10_1.9-2.0	6/06/2018	S	Glass jar - unpreserved	1		x							
78	BH10_2.2-2.3	6/06/2018	S	Glass jar - unpreserved	1		x							
79	FD1	6/06/2018	S	Glass jar - unpreserved	1		x							
80	FD3	6/06/2018	S	Glass jar - unpreserved	1		x							
TOTAL					12	1	11	1	1					

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



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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Prensa	TURNAROUND REQUIREMENT ☐ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE:	ALYS QUOTE NO.: SYBQ-269-16 Prensa	COC SEQUENCE NUMBER (Circle)	Cracked Seal Intact? Yes No N/A
PROJECT: Environmental Site Assessment For	ORDER NUMBER:	COC: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Cracked / Loose Ice Blocks present upon receipt? Yes No N/A
PROJECT MANAGER: Darren Fernandez CONTACT PH: 02 8968 2500	SAMPLER: Maddi Jones SAMPLER MOBILE: 0466 272 858	RECEIVED BY: <i>Maddi Jones</i>	Random Sample Temperature on Receipt? Yes No N/A
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):	RELINQUISHED BY: <i>Maddi Jones</i>	DATE/TIME: <i>8/6/18 1630</i>	Other Comments:
Email Reports to (will default to PM if no other addresses are listed): maddi.jones@prensa.com.au ; darren.fernandez@prensa.com.au	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): maddi.jones@prensa.com.au ; darren.fernandez@prensa.com.au	DATE/TIME:	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).							Additional Information	
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	S-16	S-26	VOCs	Asbestos	TRH (6-C10) & BTEX	HOLD		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.	
81	FD5	6/06/2018	S	Glass jar - unpreserved	1		x							
82	RIN3				1		x							
83	RIN4				1		x							
84	TB				1					x				
85	TB	Duplicate sample, same date as #80			1					x				
86	Blank				1						x			
87	Blank	Duplicate sample, same date as #84			1						x			
88	SH10-0.5-0.4	6/6/18	Extra											
89	TSC (15)	20/5												
90	TSC (16)													
91	TSC (16)													
TOTAL					7		3			2	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Od 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

91 TSC 1/2

CERTIFICATE OF ANALYSIS

Work Order	: ES1816942	Page	: 1 of 70
Amendment	: 1		
Client	: PRENSA	Laboratory	: Environmental Division Sydney
Contact	: MR DARREN FERNANDEZ	Contact	: Customer Services ES
Address	: LEVEL 2 115 Military Road NEUTRAL BAY NSW, AUSTRALIA 2089	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9033 8634	Telephone	: +61-2-8784 8555
Project	: Enviro Ass Forestway Shopping Centre	Date Samples Received	: 08-Jun-2018 16:30
Order number	: 58328	Date Analysis Commenced	: 12-Jun-2018
C-O-C number	: ----	Issue Date	: 25-Jun-2018 16:59
Sampler	: MADDI JONES		
Site	: ----		
Quote number	: EN/222/17		
No. of samples received	: 91		
No. of samples analysed	: 90		



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

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive 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.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Gerrad Morgan	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by 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/EP074: Positive results for sample ES1816942_040 have been confirmed by re-analysis.
- TDS by method EA-015 may bias high for various samples due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- Amendment (21/06/2018): This report has been amended and re-released to allow the reporting of additional analytical data.
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEX only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.
- EP080: Sample TRIP SPIKE contains volatile compounds spiked into the sample containers prior to dispatch from the laboratory. BTEX compounds spiked at 20 ug/L.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR.
Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH01_0.1-0.2	BH01_0.5-0.6	BH01_1.0-1.1	BH01_1.3-1.4	BH02_0.1-0.2
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-021	ES1816942-022	ES1816942-023	ES1816942-024	ES1816942-025
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		11.7	16.9	19.4	17.8	15.4
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples									
Asbestos (Trace)	1332-21-4	5	Fibres		No	----	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		No	----	----	----	----
Asbestos Type	1332-21-4	-	--		-	----	----	----	----
Sample weight (dry)	----	0.01	g		162	----	----	----	----
APPROVED IDENTIFIER:	----	-	--		G.MORGAN	----	----	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	13	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		108	4	11	45	91
Copper	7440-50-8	5	mg/kg		31	<5	<5	<5	20
Lead	7439-92-1	5	mg/kg		<5	11	13	12	<5
Nickel	7440-02-0	2	mg/kg		120	<2	<2	<2	96
Zinc	7440-66-6	5	mg/kg		63	<5	<5	<5	43
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	----	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH01_0.1-0.2	BH01_0.5-0.6	BH01_1.0-1.1	BH01_1.3-1.4	BH02_0.1-0.2
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-021	ES1816942-022	ES1816942-023	ES1816942-024	ES1816942-025
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4'-DDE	72-55-9	0.05	mg/kg		<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	----	----	----	----
4.4'-DDD	72-54-8	0.05	mg/kg		<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	----	----	----
4.4'-DDT	50-29-3	0.2	mg/kg		<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg		<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg		<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg		<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons									
Styrene	100-42-5	0.5	mg/kg		<0.5	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH01_0.1-0.2	BH01_0.5-0.6	BH01_1.0-1.1	BH01_1.3-1.4	BH02_0.1-0.2
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-021	ES1816942-022	ES1816942-023	ES1816942-024	ES1816942-025
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	----	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	----	----	----	----
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	----	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	----	----	----	----
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	----	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	----	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	----	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	----	----	----	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	----	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	----	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	----	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	----	----	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	----	----	----	----
EP074D: Fumigants									
2,2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	----	----	----	----
1,2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	----	----	----	----
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	----	----	----	----
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	----	----	----	----
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	----	----	----	----
EP074E(SIM): Halogenated Aliphatic Compounds									
Vinyl chloride	75-01-4	0.4	mg/kg		<0.4	----	----	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	----	----	----	----
Chloromethane	74-87-3	5	mg/kg		<5	----	----	----	----
Vinyl chloride	75-01-4	5	mg/kg		<5	----	----	----	----
Bromomethane	74-83-9	5	mg/kg		<5	----	----	----	----
Chloroethane	75-00-3	5	mg/kg		<5	----	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	----	----	----	----
1,1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	----	----	----	----
Iodomethane	74-88-4	0.5	mg/kg		<0.5	----	----	----	----
trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	----	----	----	----
1,1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	----	----	----	----

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH01_0.1-0.2	BH01_0.5-0.6	BH01_1.0-1.1	BH01_1.3-1.4	BH02_0.1-0.2
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	
Compound	CAS Number	LOR	Unit	ES1816942-021	ES1816942-022	ES1816942-023	ES1816942-024	ES1816942-025	
				Result	Result	Result	Result	Result	
EP074E: Halogenated Aliphatic Compounds - Continued									
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	----	----	----	
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	----	----	----	
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	----	----	----	
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	----	----	----	
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	----	----	----	
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	----	----	----	
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	----	----	----	
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	----	----	----	
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	----	----	----	
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	----	----	----	
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	----	----	----	
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	----	----	----	
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	----	----	----	
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	----	----	----	
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	----	----	----	
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	----	----	----	
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	----	----	----	
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	----	----	----	
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	----	----	----	
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	----	----	----	
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	----	----	----	
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	----	----	----	
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	----	----	----	
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	----	----	----	
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	----	----	----	
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	----	----	----	
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	----	----	----	
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	----	----	----	
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	----	----	----	
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	----	----	----	
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	----	----	----	
EP074H: Naphthalene									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				BH01_0.1-0.2	BH01_0.5-0.6	BH01_1.0-1.1	BH01_1.3-1.4	BH02_0.1-0.2
Compound				ES1816942-021	ES1816942-022	ES1816942-023	ES1816942-024	ES1816942-025
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP074H: Naphthalene - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	130
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	180

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH01_0.1-0.2	BH01_0.5-0.6	BH01_1.0-1.1	BH01_1.3-1.4	BH02_0.1-0.2
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	
Compound	CAS Number	LOR	Unit	ES1816942-021	ES1816942-022	ES1816942-023	ES1816942-024	ES1816942-025	
				Result	Result	Result	Result	Result	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	280	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	101	----	----	----	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	127	----	----	----	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	98.4	----	----	----	----	
EP074S(SIM) : VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.1	%	89.1	----	----	----	----	
EP074S: VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.5	%	93.0	----	----	----	----	
Toluene-D8	2037-26-5	0.5	%	91.7	----	----	----	----	
4-Bromofluorobenzene	460-00-4	0.5	%	86.5	----	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	70.8	74.6	68.9	68.4	70.3	
2-Chlorophenol-D4	93951-73-6	0.5	%	76.2	73.6	75.8	75.2	77.2	
2,4,6-Tribromophenol	118-79-6	0.5	%	69.5	71.5	71.1	69.7	75.4	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	87.5	85.4	87.8	88.1	89.8	
Anthracene-d10	1719-06-8	0.5	%	73.7	81.9	83.5	82.9	86.2	
4-Terphenyl-d14	1718-51-0	0.5	%	75.3	74.1	76.2	76.4	78.1	
EP080S: TPH(V)/BTEX Surrogates									

Page : 9 of 70
 Work Order : ES1816942 Amendment 1
 Client : PRENSA
 Project : Enviro Ass Forestway Shopping Centre



Analytical Results

Sub-Matrix: **SOIL**
 (Matrix: **SOIL**)

Client sample ID

				BH01_0.1-0.2	BH01_0.5-0.6	BH01_1.0-1.1	BH01_1.3-1.4	BH02_0.1-0.2
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1816942-021	ES1816942-022	ES1816942-023	ES1816942-024	ES1816942-025
				Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued								
1,2-Dichloroethane-D4	17060-07-0	0.2	%	96.8	88.5	84.2	91.4	95.9
Toluene-D8	2037-26-5	0.2	%	83.8	91.7	87.4	92.0	97.7
4-Bromofluorobenzene	460-00-4	0.2	%	77.0	88.0	86.0	86.8	90.3



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH02_0.5-0.6	BH02_1.0-1.1	BH02_1.5-1.6	BH02_1.7-1.8	BH03_0.1-0.2
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-026	ES1816942-027	ES1816942-028	ES1816942-029	ES1816942-030
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		19.7	15.5	15.1	17.9	17.5
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples									
Asbestos (Trace)	1332-21-4	5	Fibres		----	----	----	----	No
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		----	----	----	----	No
Asbestos Type	1332-21-4	-	--		----	----	----	----	-
Sample weight (dry)	----	0.01	g		----	----	----	----	120
APPROVED IDENTIFIER:	----	-	--		----	----	----	----	G.MORGAN
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		8	6	11	6	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		27	65	132	107	8
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	7
Lead	7439-92-1	5	mg/kg		<5	<5	11	14	34
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	4
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	70
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	----	----	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	----	----	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg		----	----	----	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		----	----	----	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg		----	----	----	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg		----	----	----	----	<0.05
Aldrin	309-00-2	0.05	mg/kg		----	----	----	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	----	----	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		----	----	----	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	----	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	----	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	----	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg		----	----	----	----	<0.05



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				BH02_0.5-0.6	BH02_1.0-1.1	BH02_1.5-1.6	BH02_1.7-1.8	BH03_0.1-0.2
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1816942-026	ES1816942-027	ES1816942-028	ES1816942-029	ES1816942-030
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDE	72-55-9	0.05	mg/kg	----	----	----	----	<0.05
Endrin	72-20-8	0.05	mg/kg	----	----	----	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	----	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	----	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	----	----	----	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	----	----	----	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	----	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	----	----	----	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	----	----	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	----	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	----	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg	----	----	----	----	<0.05
Diazinon	333-41-5	0.05	mg/kg	----	----	----	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	----	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	----	----	<0.2
Malathion	121-75-5	0.05	mg/kg	----	----	----	----	<0.05
Fenthion	55-38-9	0.05	mg/kg	----	----	----	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	----	----	<0.05
Parathion	56-38-2	0.2	mg/kg	----	----	----	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	----	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	----	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	----	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	----	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	----	----	----	----	<0.05
Ethion	563-12-2	0.05	mg/kg	----	----	----	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	----	----	----	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	----	----	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	----	----	----	----	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH02_0.5-0.6	BH02_1.0-1.1	BH02_1.5-1.6	BH02_1.7-1.8	BH03_0.1-0.2
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-026	ES1816942-027	ES1816942-028	ES1816942-029	ES1816942-030
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
Isopropylbenzene	98-82-8	0.5	mg/kg		----	----	----	----	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg		----	----	----	----	<0.5
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg		----	----	----	----	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg		----	----	----	----	<0.5
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg		----	----	----	----	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg		----	----	----	----	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg		----	----	----	----	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg		----	----	----	----	<0.5
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		----	----	----	----	<5
2-Butanone (MEK)	78-93-3	5	mg/kg		----	----	----	----	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		----	----	----	----	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg		----	----	----	----	<5
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		----	----	----	----	<0.5
EP074D: Fumigants									
2,2-Dichloropropane	594-20-7	0.5	mg/kg		----	----	----	----	<0.5
1,2-Dichloropropane	78-87-5	0.5	mg/kg		----	----	----	----	<0.5
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg		----	----	----	----	<0.5
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg		----	----	----	----	<0.5
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		----	----	----	----	<0.5
EP074E(SIM): Halogenated Aliphatic Compounds									
Vinyl chloride	75-01-4	0.4	mg/kg		----	----	----	----	<0.4
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		----	----	----	----	<5
Chloromethane	74-87-3	5	mg/kg		----	----	----	----	<5
Vinyl chloride	75-01-4	5	mg/kg		----	----	----	----	<5
Bromomethane	74-83-9	5	mg/kg		----	----	----	----	<5
Chloroethane	75-00-3	5	mg/kg		----	----	----	----	<5
Trichlorofluoromethane	75-69-4	5	mg/kg		----	----	----	----	<5
1,1-Dichloroethene	75-35-4	0.5	mg/kg		----	----	----	----	<0.5
Iodomethane	74-88-4	0.5	mg/kg		----	----	----	----	<0.5
trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg		----	----	----	----	<0.5
1,1-Dichloroethane	75-34-3	0.5	mg/kg		----	----	----	----	<0.5

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH02_0.5-0.6	BH02_1.0-1.1	BH02_1.5-1.6	BH02_1.7-1.8	BH03_0.1-0.2
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1816942-026	ES1816942-027	ES1816942-028	ES1816942-029	ES1816942-030	
				Result	Result	Result	Result	Result	
EP074E: Halogenated Aliphatic Compounds - Continued									
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	----	----	<0.5	
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	----	----	<0.5	
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	----	----	<0.5	
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	----	----	<0.5	
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	----	----	<0.5	
Trichloroethene	79-01-6	0.5	mg/kg	----	----	----	----	<0.5	
Dibromomethane	74-95-3	0.5	mg/kg	----	----	----	----	<0.5	
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	----	----	<0.5	
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	----	----	<0.5	
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	----	----	<0.5	
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	----	----	<0.5	
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	----	----	<0.5	
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	----	----	<0.5	
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	----	----	<0.5	
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	----	----	<0.5	
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	----	----	<0.5	
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	----	----	<0.5	
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	----	<0.5	
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	----	----	<0.5	
Bromobenzene	108-86-1	0.5	mg/kg	----	----	----	----	<0.5	
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	----	----	<0.5	
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	----	----	<0.5	
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	----	<0.5	
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	----	<0.5	
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	----	<0.5	
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	----	<0.5	
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	----	----	<0.5	
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg	----	----	----	----	<0.5	
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	----	----	<0.5	
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	----	----	<0.5	
Bromoform	75-25-2	0.5	mg/kg	----	----	----	----	<0.5	
EP074H: Naphthalene									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				BH02_0.5-0.6	BH02_1.0-1.1	BH02_1.5-1.6	BH02_1.7-1.8	BH03_0.1-0.2
Compound				ES1816942-026	ES1816942-027	ES1816942-028	ES1816942-029	ES1816942-030
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP074H: Naphthalene - Continued								
Naphthalene	91-20-3	1	mg/kg	----	----	----	----	<1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH02_0.5-0.6	BH02_1.0-1.1	BH02_1.5-1.6	BH02_1.7-1.8	BH03_0.1-0.2
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1816942-026	ES1816942-027	ES1816942-028	ES1816942-029	ES1816942-030	
				Result	Result	Result	Result	Result	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
meta- & para-Xylene	108-38-3	106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	112	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	----	----	----	----	107	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	----	----	----	----	87.0	
EP074S(SIM) : VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	----	86.7	
EP074S: VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.5	%	----	----	----	----	90.2	
Toluene-D8	2037-26-5	0.5	%	----	----	----	----	92.5	
4-Bromofluorobenzene	460-00-4	0.5	%	----	----	----	----	77.8	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	69.1	68.5	69.2	68.4	68.6	
2-Chlorophenol-D4	93951-73-6	0.5	%	74.6	73.0	74.5	74.9	74.6	
2,4,6-Tribromophenol	118-79-6	0.5	%	72.5	66.2	67.2	66.7	72.9	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	87.5	85.1	86.5	86.6	83.1	
Anthracene-d10	1719-06-8	0.5	%	84.2	80.9	82.1	82.1	79.8	
4-Terphenyl-d14	1718-51-0	0.5	%	76.6	74.3	75.2	75.4	73.4	
EP080S: TPH(V)/BTEX Surrogates									

Page : 16 of 70
 Work Order : ES1816942 Amendment 1
 Client : PRENSA
 Project : Enviro Ass Forestway Shopping Centre



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH02_0.5-0.6	BH02_1.0-1.1	BH02_1.5-1.6	BH02_1.7-1.8	BH03_0.1-0.2
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-026	ES1816942-027	ES1816942-028	ES1816942-029	ES1816942-030
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		85.2	87.3	92.0	88.4	93.9
Toluene-D8	2037-26-5	0.2	%		85.4	85.3	93.5	90.4	85.0
4-Bromofluorobenzene	460-00-4	0.2	%		83.7	83.9	86.5	85.0	77.0



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH03_0.5-0.6	BH03_1.0-1.1	BH03_1.5-1.6	BH04_0.2-0.3	BH04_0.6-0.7
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-031	ES1816942-032	ES1816942-033	ES1816942-034	ES1816942-035
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		13.2	13.2	12.1	15.5	11.0
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		10	15	11	11	24
Copper	7440-50-8	5	mg/kg		<5	<5	<5	6	<5
Lead	7439-92-1	5	mg/kg		12	11	20	64	41
Nickel	7440-02-0	2	mg/kg		3	<2	<2	11	12
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	45	12
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH03_0.5-0.6	BH03_1.0-1.1	BH03_1.5-1.6	BH04_0.2-0.3	BH04_0.6-0.7
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-031	ES1816942-032	ES1816942-033	ES1816942-034	ES1816942-035
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		69.5	69.1	67.1	67.6	67.2
2-Chlorophenol-D4	93951-73-6	0.5	%		74.9	74.2	72.4	69.9	73.3
2,4,6-Tribromophenol	118-79-6	0.5	%		73.2	61.1	59.5	57.9	62.0
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		88.5	85.0	82.9	78.0	86.8
Anthracene-d10	1719-06-8	0.5	%		81.0	79.0	77.0	72.3	82.3
4-Terphenyl-d14	1718-51-0	0.5	%		75.2	75.8	75.4	68.2	73.2
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		88.7	88.6	95.1	92.0	96.2
Toluene-D8	2037-26-5	0.2	%		91.9	90.3	94.1	92.7	93.4

Page : 19 of 70
 Work Order : ES1816942 Amendment 1
 Client : PRENSA
 Project : Enviro Ass Forestway Shopping Centre



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH03_0.5-0.6	BH03_1.0-1.1	BH03_1.5-1.6	BH04_0.2-0.3	BH04_0.6-0.7
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-031	ES1816942-032	ES1816942-033	ES1816942-034	ES1816942-035
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		85.9	85.7	88.3	83.6	84.2



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH05_0.1-0.2	BH05_0.3-0.4	BH05_0.5-0.6	BH05_0.8-0.9	BH06_0.1-0.2
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-036	ES1816942-037	ES1816942-038	ES1816942-039	ES1816942-040
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		9.5	9.3	10.5	12.5	10.8
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples									
Asbestos (Trace)	1332-21-4	5	Fibres		----	----	----	----	No
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		----	----	----	----	No
Asbestos Type	1332-21-4	-	--		----	----	----	----	-
Sample weight (dry)	----	0.01	g		----	----	----	----	163
APPROVED IDENTIFIER:	----	-	--		----	----	----	----	G.MORGAN
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		104	26	27	43	108
Copper	7440-50-8	5	mg/kg		31	6	<5	<5	30
Lead	7439-92-1	5	mg/kg		<5	8	9	6	5
Nickel	7440-02-0	2	mg/kg		102	11	12	4	95
Zinc	7440-66-6	5	mg/kg		59	<5	<5	9	51
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		----	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	----	----	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	----	----	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg		----	----	----	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		----	----	----	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg		----	----	----	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg		----	----	----	----	<0.05
Aldrin	309-00-2	0.05	mg/kg		----	----	----	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	----	----	----	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		----	----	----	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		----	----	----	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	----	----	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		----	----	----	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg		----	----	----	----	<0.05



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				BH05_0.1-0.2	BH05_0.3-0.4	BH05_0.5-0.6	BH05_0.8-0.9	BH06_0.1-0.2
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1816942-036	ES1816942-037	ES1816942-038	ES1816942-039	ES1816942-040
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4'-DDE	72-55-9	0.05	mg/kg	----	----	----	----	<0.05
Endrin	72-20-8	0.05	mg/kg	----	----	----	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	----	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	----	----	<0.05
4.4'-DDD	72-54-8	0.05	mg/kg	----	----	----	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	----	<0.05
4.4'-DDT	50-29-3	0.2	mg/kg	----	----	----	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	----	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	----	----	----	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	----	----	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	----	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	----	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg	----	----	----	----	<0.05
Diazinon	333-41-5	0.05	mg/kg	----	----	----	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	----	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	----	----	<0.2
Malathion	121-75-5	0.05	mg/kg	----	----	----	----	<0.05
Fenthion	55-38-9	0.05	mg/kg	----	----	----	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	----	----	<0.05
Parathion	56-38-2	0.2	mg/kg	----	----	----	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	----	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	----	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	----	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	----	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	----	----	----	----	<0.05
Ethion	563-12-2	0.05	mg/kg	----	----	----	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	----	----	----	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	----	----	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	----	----	----	----	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH05_0.1-0.2	BH05_0.3-0.4	BH05_0.5-0.6	BH05_0.8-0.9	BH06_0.1-0.2
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-036	ES1816942-037	ES1816942-038	ES1816942-039	ES1816942-040
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
Isopropylbenzene	98-82-8	0.5	mg/kg		----	----	----	----	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg		----	----	----	----	<0.5
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg		----	----	----	----	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg		----	----	----	----	<0.5
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg		----	----	----	----	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg		----	----	----	----	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg		----	----	----	----	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg		----	----	----	----	<0.5
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		----	----	----	----	<5
2-Butanone (MEK)	78-93-3	5	mg/kg		----	----	----	----	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		----	----	----	----	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg		----	----	----	----	<5
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		----	----	----	----	<0.5
EP074D: Fumigants									
2,2-Dichloropropane	594-20-7	0.5	mg/kg		----	----	----	----	<0.5
1,2-Dichloropropane	78-87-5	0.5	mg/kg		----	----	----	----	<0.5
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg		----	----	----	----	<0.5
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg		----	----	----	----	<0.5
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		----	----	----	----	<0.5
EP074E(SIM): Halogenated Aliphatic Compounds									
Vinyl chloride	75-01-4	0.4	mg/kg		----	----	----	----	<0.4
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		----	----	----	----	<5
Chloromethane	74-87-3	5	mg/kg		----	----	----	----	<5
Vinyl chloride	75-01-4	5	mg/kg		----	----	----	----	<5
Bromomethane	74-83-9	5	mg/kg		----	----	----	----	<5
Chloroethane	75-00-3	5	mg/kg		----	----	----	----	<5
Trichlorofluoromethane	75-69-4	5	mg/kg		----	----	----	----	<5
1,1-Dichloroethene	75-35-4	0.5	mg/kg		----	----	----	----	<0.5
Iodomethane	74-88-4	0.5	mg/kg		----	----	----	----	<0.5
trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg		----	----	----	----	<0.5
1,1-Dichloroethane	75-34-3	0.5	mg/kg		----	----	----	----	<0.5

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH05_0.1-0.2	BH05_0.3-0.4	BH05_0.5-0.6	BH05_0.8-0.9	BH06_0.1-0.2
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	
Compound	CAS Number	LOR	Unit	ES1816942-036	ES1816942-037	ES1816942-038	ES1816942-039	ES1816942-040	
				Result	Result	Result	Result	Result	
EP074E: Halogenated Aliphatic Compounds - Continued									
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	----	----	<0.5	
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	----	----	<0.5	
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	----	----	<0.5	
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	----	----	<0.5	
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	----	----	<0.5	
Trichloroethene	79-01-6	0.5	mg/kg	----	----	----	----	<0.5	
Dibromomethane	74-95-3	0.5	mg/kg	----	----	----	----	<0.5	
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	----	----	<0.5	
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	----	----	<0.5	
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	----	----	<0.5	
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	----	----	<0.5	
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	----	----	<0.5	
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	----	----	<0.5	
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	----	----	<0.5	
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	----	----	<0.5	
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	----	----	<0.5	
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	----	----	<0.5	
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	----	<0.5	
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	----	----	<0.5	
Bromobenzene	108-86-1	0.5	mg/kg	----	----	----	----	<0.5	
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	----	----	<0.5	
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	----	----	<0.5	
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	----	<0.5	
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	----	<0.5	
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	----	<0.5	
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	----	<0.5	
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	----	----	<0.5	
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg	----	----	----	----	<0.5	
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	----	----	<0.5	
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	----	----	<0.5	
Bromoform	75-25-2	0.5	mg/kg	----	----	----	----	<0.5	
EP074H: Naphthalene									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				BH05_0.1-0.2	BH05_0.3-0.4	BH05_0.5-0.6	BH05_0.8-0.9	BH06_0.1-0.2
Compound				ES1816942-036	ES1816942-037	ES1816942-038	ES1816942-039	ES1816942-040
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP074H: Naphthalene - Continued								
Naphthalene	91-20-3	1	mg/kg	----	----	----	----	<1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	190	<100	<100	<100	290
^ C10 - C36 Fraction (sum)	----	50	mg/kg	190	<50	<50	<50	290
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	190	<100	<100	<100	260

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH05_0.1-0.2	BH05_0.3-0.4	BH05_0.5-0.6	BH05_0.8-0.9	BH06_0.1-0.2
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	
Compound	CAS Number	LOR	Unit	ES1816942-036	ES1816942-037	ES1816942-038	ES1816942-039	ES1816942-040	
				Result	Result	Result	Result	Result	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg	210	<100	<100	<100	410	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	400	<50	<50	<50	670	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	0.6	<0.5	<0.5	<0.5	2.9	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	1.1	
^ Sum of BTEX	----	0.2	mg/kg	0.6	<0.2	<0.2	<0.2	4.0	
^ Total Xylenes	----	0.5	mg/kg	0.6	<0.5	<0.5	<0.5	4.0	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	89.0	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	----	----	----	----	110	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	----	----	----	----	84.8	
EP074S(SIM) : VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	----	84.9	
EP074S: VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.5	%	----	----	----	----	96.0	
Toluene-D8	2037-26-5	0.5	%	----	----	----	----	99.8	
4-Bromofluorobenzene	460-00-4	0.5	%	----	----	----	----	84.6	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	69.6	68.0	69.2	71.4	67.2	
2-Chlorophenol-D4	93951-73-6	0.5	%	75.6	70.8	76.2	82.2	73.0	
2,4,6-Tribromophenol	118-79-6	0.5	%	64.6	59.3	74.2	72.5	65.8	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	84.5	79.6	101	101	81.3	
Anthracene-d10	1719-06-8	0.5	%	79.9	75.7	87.6	82.5	79.2	
4-Terphenyl-d14	1718-51-0	0.5	%	74.2	70.2	78.8	83.3	73.6	
EP080S: TPH(V)/BTEX Surrogates									

Page : 26 of 70
 Work Order : ES1816942 Amendment 1
 Client : PRENSA
 Project : Enviro Ass Forestway Shopping Centre



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				BH05_0.1-0.2	BH05_0.3-0.4	BH05_0.5-0.6	BH05_0.8-0.9	BH06_0.1-0.2
Client sampling date / time				05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1816942-036	ES1816942-037	ES1816942-038	ES1816942-039	ES1816942-040
				Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued								
1,2-Dichloroethane-D4	17060-07-0	0.2	%	96.2	95.0	93.1	94.8	99.9
Toluene-D8	2037-26-5	0.2	%	94.9	92.8	90.1	90.8	90.4
4-Bromofluorobenzene	460-00-4	0.2	%	85.5	87.7	82.0	85.3	81.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH06_0.4-0.5	BH06_0.6-0.7	BH06_0.8-0.9	BH06_1.0-1.1	BH06_1.5-1.6
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-041	ES1816942-042	ES1816942-043	ES1816942-044	ES1816942-045
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		10.8	14.4	14.4	17.1	12.4
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		4	3	4	8	8
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg		<5	<5	7	14	8
Nickel	7440-02-0	2	mg/kg		2	<2	<2	2	<2
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	128	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH06_0.4-0.5	BH06_0.6-0.7	BH06_0.8-0.9	BH06_1.0-1.1	BH06_1.5-1.6
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-041	ES1816942-042	ES1816942-043	ES1816942-044	ES1816942-045
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	210	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	189	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	1.8	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	14.2	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	5.1	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	21.1	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	19.3	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	3	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		71.3	72.6	73.1	71.8	68.3
2-Chlorophenol-D4	93951-73-6	0.5	%		81.0	80.2	82.7	79.0	79.6
2,4,6-Tribromophenol	118-79-6	0.5	%		66.0	69.0	71.0	63.4	62.3
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		95.3	93.1	95.3	93.6	88.3
Anthracene-d10	1719-06-8	0.5	%		85.5	69.7	84.1	84.6	89.4
4-Terphenyl-d14	1718-51-0	0.5	%		77.0	69.6	77.1	73.6	79.7
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		89.4	90.8	89.4	105	93.6
Toluene-D8	2037-26-5	0.2	%		86.8	87.3	88.3	94.2	103

Page : 29 of 70
 Work Order : ES1816942 Amendment 1
 Client : PRENSA
 Project : Enviro Ass Forestway Shopping Centre



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH06_0.4-0.5	BH06_0.6-0.7	BH06_0.8-0.9	BH06_1.0-1.1	BH06_1.5-1.6
Client sampling date / time					05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00	05-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-041	ES1816942-042	ES1816942-043	ES1816942-044	ES1816942-045
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		83.3	83.4	83.4	96.5	98.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH06_1.8-1.9	BH07_0.1-0.2	BH07_0.2-0.3	BH07_0.5-0.6	BH07_1.0-1.1
Client sampling date / time					05-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-046	ES1816942-047	ES1816942-048	ES1816942-049	ES1816942-050
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		8.7	12.0	14.0	15.8	13.2
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		82	88	53	46	31
Copper	7440-50-8	5	mg/kg		<5	24	<5	<5	<5
Lead	7439-92-1	5	mg/kg		<5	7	11	13	12
Nickel	7440-02-0	2	mg/kg		<2	83	19	5	4
Zinc	7440-66-6	5	mg/kg		<5	54	10	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH06_1.8-1.9	BH07_0.1-0.2	BH07_0.2-0.3	BH07_0.5-0.6	BH07_1.0-1.1
Client sampling date / time					05-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-046	ES1816942-047	ES1816942-048	ES1816942-049	ES1816942-050
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	110	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	110	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	130	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	130	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	260	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		68.6	66.3	71.3	70.8	65.4
2-Chlorophenol-D4	93951-73-6	0.5	%		78.7	74.7	77.0	76.2	77.9
2,4,6-Tribromophenol	118-79-6	0.5	%		62.0	65.9	62.1	69.3	74.7
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		88.2	88.8	94.9	100	100
Anthracene-d10	1719-06-8	0.5	%		75.9	84.2	87.8	91.5	86.2
4-Terphenyl-d14	1718-51-0	0.5	%		70.5	72.4	78.9	71.6	72.2
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		101	92.6	95.4	99.1	98.5
Toluene-D8	2037-26-5	0.2	%		110	103	107	106	103

Page : 32 of 70
 Work Order : ES1816942 Amendment 1
 Client : PRENSA
 Project : Enviro Ass Forestway Shopping Centre



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH06_1.8-1.9	BH07_0.1-0.2	BH07_0.2-0.3	BH07_0.5-0.6	BH07_1.0-1.1
Client sampling date / time					05-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-046	ES1816942-047	ES1816942-048	ES1816942-049	ES1816942-050
				Result	Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		107	101	104	106	104



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH07_1.5-1.6	BH07_1.9-2.0	BH07_2.4-2.5	BH07_2.9-3.0	BH07_3.5-3.6
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-051	ES1816942-052	ES1816942-053	ES1816942-054	ES1816942-055
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		17.1	13.0	16.8	10.0	13.2
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	15	12	<5	10
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		9	45	23	18	14
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg		10	12	12	9	16
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	<2
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH07_1.5-1.6	BH07_1.9-2.0	BH07_2.4-2.5	BH07_2.9-3.0	BH07_3.5-3.6
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-051	ES1816942-052	ES1816942-053	ES1816942-054	ES1816942-055
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		68.8	67.3	68.2	71.4	67.6
2-Chlorophenol-D4	93951-73-6	0.5	%		77.8	78.0	80.0	75.1	77.0
2,4,6-Tribromophenol	118-79-6	0.5	%		58.4	60.7	59.4	59.6	58.3
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		86.8	89.1	87.5	97.5	95.6
Anthracene-d10	1719-06-8	0.5	%		85.1	86.0	77.8	86.2	90.2
4-Terphenyl-d14	1718-51-0	0.5	%		75.0	77.6	74.0	72.6	74.9
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		98.8	99.4	93.7	101	97.6
Toluene-D8	2037-26-5	0.2	%		104	100	96.6	102	96.8

Page : 35 of 70
 Work Order : ES1816942 Amendment 1
 Client : PRENSA
 Project : Enviro Ass Forestway Shopping Centre



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH07_1.5-1.6	BH07_1.9-2.0	BH07_2.4-2.5	BH07_2.9-3.0	BH07_3.5-3.6
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-051	ES1816942-052	ES1816942-053	ES1816942-054	ES1816942-055
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		102	98.0	95.7	99.2	92.2



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH07_4.0-4.1	BH07_4.3-4.4	BH08_0.1-0.2	BH08_0.2-0.3	BH08_0.5-0.6
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-056	ES1816942-057	ES1816942-058	ES1816942-059	ES1816942-060
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		12.3	13.4	13.8	16.4	17.7
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		8	39	86	6	6
Copper	7440-50-8	5	mg/kg		<5	<5	20	<5	<5
Lead	7439-92-1	5	mg/kg		6	8	6	15	13
Nickel	7440-02-0	2	mg/kg		<2	<2	70	2	<2
Zinc	7440-66-6	5	mg/kg		<5	<5	35	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH07_4.0-4.1	BH07_4.3-4.4	BH08_0.1-0.2	BH08_0.2-0.3	BH08_0.5-0.6
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-056	ES1816942-057	ES1816942-058	ES1816942-059	ES1816942-060
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		69.8	69.5	68.5	69.4	67.5
2-Chlorophenol-D4	93951-73-6	0.5	%		73.6	78.4	77.3	77.7	71.2
2,4,6-Tribromophenol	118-79-6	0.5	%		55.2	57.6	59.0	55.3	47.8
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		94.0	96.2	99.7	93.9	82.3
Anthracene-d10	1719-06-8	0.5	%		82.8	81.2	86.0	81.4	79.9
4-Terphenyl-d14	1718-51-0	0.5	%		74.4	76.3	75.2	73.6	73.3
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		103	98.1	102	93.3	105
Toluene-D8	2037-26-5	0.2	%		100	98.0	102	93.6	104

Page : 38 of 70
 Work Order : ES1816942 Amendment 1
 Client : PRENSA
 Project : Enviro Ass Forestway Shopping Centre



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH07_4.0-4.1	BH07_4.3-4.4	BH08_0.1-0.2	BH08_0.2-0.3	BH08_0.5-0.6
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-056	ES1816942-057	ES1816942-058	ES1816942-059	ES1816942-060
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		94.2	92.4	96.1	87.4	97.2



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH08_0.7-0.8	BH08_1.0-1.1	BH08_1.4-1.5	BH08_1.9-2.0	BH08_2.2-2.3
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-061	ES1816942-062	ES1816942-063	ES1816942-064	ES1816942-065
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		18.4	12.0	14.6	10.2	11.1
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	24	29	<5	21
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		7	48	30	19	36
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg		25	18	10	14	10
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	<2
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH08_0.7-0.8	BH08_1.0-1.1	BH08_1.4-1.5	BH08_1.9-2.0	BH08_2.2-2.3
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-061	ES1816942-062	ES1816942-063	ES1816942-064	ES1816942-065
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		67.9	65.3	65.6	69.8	69.5
2-Chlorophenol-D4	93951-73-6	0.5	%		72.4	71.6	71.1	71.2	77.5
2,4,6-Tribromophenol	118-79-6	0.5	%		51.4	51.5	48.4	50.9	55.0
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		88.3	92.8	87.1	89.3	96.8
Anthracene-d10	1719-06-8	0.5	%		82.0	79.2	77.7	74.6	84.8
4-Terphenyl-d14	1718-51-0	0.5	%		70.4	73.4	70.6	68.8	77.8
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		89.4	97.0	99.8	110	116
Toluene-D8	2037-26-5	0.2	%		88.3	93.8	93.5	95.2	107

Page : 41 of 70
 Work Order : ES1816942 Amendment 1
 Client : PRENSA
 Project : Enviro Ass Forestway Shopping Centre



Analytical Results

Sub-Matrix: **SOIL**
 (Matrix: **SOIL**)

Client sample ID

				BH08_0.7-0.8	BH08_1.0-1.1	BH08_1.4-1.5	BH08_1.9-2.0	BH08_2.2-2.3
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1816942-061	ES1816942-062	ES1816942-063	ES1816942-064	ES1816942-065
				Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued								
4-Bromofluorobenzene	460-00-4	0.2	%	82.5	87.8	85.4	108	118



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH09_0.2-0.3	BH09_0.4-0.5	BH09_0.8-0.9	BH09_1.1-1.2	BH09_1.5-1.6
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-066	ES1816942-067	ES1816942-068	ES1816942-069	ES1816942-070
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		15.4	10.6	13.6	9.3	8.7
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples									
Asbestos (Trace)	1332-21-4	5	Fibres		No	----	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		No	----	----	----	----
Asbestos Type	1332-21-4	-	--		-	----	----	----	----
Sample weight (dry)	----	0.01	g		98.6	----	----	----	----
APPROVED IDENTIFIER:	----	-	--		G.MORGAN	----	----	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		11	35	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		54	81	6	21	21
Copper	7440-50-8	5	mg/kg		11	8	<5	<5	<5
Lead	7439-92-1	5	mg/kg		9	7	9	<5	7
Nickel	7440-02-0	2	mg/kg		45	34	<2	<2	<2
Zinc	7440-66-6	5	mg/kg		24	16	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	----	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	----	----	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				BH09_0.2-0.3	BH09_0.4-0.5	BH09_0.8-0.9	BH09_1.1-1.2	BH09_1.5-1.6
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1816942-066	ES1816942-067	ES1816942-068	ES1816942-069	ES1816942-070
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	----
4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	<0.5	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH09_0.2-0.3	BH09_0.4-0.5	BH09_0.8-0.9	BH09_1.1-1.2	BH09_1.5-1.6
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-066	ES1816942-067	ES1816942-068	ES1816942-069	ES1816942-070
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	----	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	----	----	----	----
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	----	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	----	----	----	----
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	----	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	----	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	----	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	----	----	----	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	----	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	----	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	----	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	----	----	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	----	----	----	----
EP074D: Fumigants									
2,2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	----	----	----	----
1,2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	----	----	----	----
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	----	----	----	----
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	----	----	----	----
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	----	----	----	----
EP074E(SIM): Halogenated Aliphatic Compounds									
Vinyl chloride	75-01-4	0.4	mg/kg		<0.4	----	----	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	----	----	----	----
Chloromethane	74-87-3	5	mg/kg		<5	----	----	----	----
Vinyl chloride	75-01-4	5	mg/kg		<5	----	----	----	----
Bromomethane	74-83-9	5	mg/kg		<5	----	----	----	----
Chloroethane	75-00-3	5	mg/kg		<5	----	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	----	----	----	----
1,1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	----	----	----	----
Iodomethane	74-88-4	0.5	mg/kg		<0.5	----	----	----	----
trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	----	----	----	----
1,1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	----	----	----	----

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH09_0.2-0.3	BH09_0.4-0.5	BH09_0.8-0.9	BH09_1.1-1.2	BH09_1.5-1.6
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	
Compound	CAS Number	LOR	Unit	ES1816942-066	ES1816942-067	ES1816942-068	ES1816942-069	ES1816942-070	
				Result	Result	Result	Result	Result	
EP074E: Halogenated Aliphatic Compounds - Continued									
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	----	----	----	
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	----	----	----	
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	----	----	----	
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	----	----	----	
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	----	----	----	
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	----	----	----	
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	----	----	----	
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	----	----	----	
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	----	----	----	
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	----	----	----	
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	----	----	----	
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	----	----	----	
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	----	----	----	
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	----	----	----	
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	----	----	----	
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	----	----	----	
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	----	----	----	
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	----	----	----	
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	----	----	----	
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	----	----	----	
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	----	----	----	
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	----	----	----	
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	----	----	----	
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	----	----	----	
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	----	----	----	
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	----	----	----	
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	----	----	----	
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	----	----	----	
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	----	----	----	
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	----	----	----	
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	----	----	----	
EP074H: Naphthalene									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID				
Client sampling date / time				BH09_0.2-0.3	BH09_0.4-0.5	BH09_0.8-0.9	BH09_1.1-1.2	BH09_1.5-1.6
Compound				ES1816942-066	ES1816942-067	ES1816942-068	ES1816942-069	ES1816942-070
CAS Number LOR Unit				Result	Result	Result	Result	Result
EP074H: Naphthalene - Continued								
Naphthalene	91-20-3	1	mg/kg	<1	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH09_0.2-0.3	BH09_0.4-0.5	BH09_0.8-0.9	BH09_1.1-1.2	BH09_1.5-1.6
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	
Compound	CAS Number	LOR	Unit	ES1816942-066	ES1816942-067	ES1816942-068	ES1816942-069	ES1816942-070	
				Result	Result	Result	Result	Result	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	119	----	----	----	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	125	----	----	----	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	85.5	----	----	----	----	
EP074S(SIM) : VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.1	%	83.5	----	----	----	----	
EP074S: VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.5	%	94.8	----	----	----	----	
Toluene-D8	2037-26-5	0.5	%	103	----	----	----	----	
4-Bromofluorobenzene	460-00-4	0.5	%	83.2	----	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	68.9	68.0	72.1	70.6	66.2	
2-Chlorophenol-D4	93951-73-6	0.5	%	74.9	73.4	74.6	78.1	75.1	
2,4,6-Tribromophenol	118-79-6	0.5	%	69.3	56.9	50.7	57.4	50.9	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	84.6	88.7	79.0	91.0	91.3	
Anthracene-d10	1719-06-8	0.5	%	81.6	77.6	77.7	83.0	79.4	
4-Terphenyl-d14	1718-51-0	0.5	%	74.6	72.6	75.2	78.7	73.2	
EP080S: TPH(V)/BTEX Surrogates									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH09_0.2-0.3	BH09_0.4-0.5	BH09_0.8-0.9	BH09_1.1-1.2	BH09_1.5-1.6
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-066	ES1816942-067	ES1816942-068	ES1816942-069	ES1816942-070
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		98.6	124	120	118	125
Toluene-D8	2037-26-5	0.2	%		93.5	116	109	121	119
4-Bromofluorobenzene	460-00-4	0.2	%		78.0	125	121	120	124



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH09_1.7-1.8	BH010_0.0-0.2	BH010_0.2-0.3	BH010_0.5-0.6	BH010_0.9-1.0
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-071	ES1816942-072	ES1816942-073	ES1816942-074	ES1816942-075
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		7.8	6.3	10.0	13.5	7.7
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples									
Asbestos (Trace)	1332-21-4	5	Fibres		----	No	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		----	No	----	----	----
Asbestos Type	1332-21-4	-	--		----	-	----	----	----
Sample weight (dry)	----	0.01	g		----	96.7	----	----	----
APPROVED IDENTIFIER:	----	-	--		----	G.MORGAN	----	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	7	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		86	6	30	50	41
Copper	7440-50-8	5	mg/kg		<5	12	7	<5	<5
Lead	7439-92-1	5	mg/kg		6	125	18	23	14
Nickel	7440-02-0	2	mg/kg		<2	3	26	5	5
Zinc	7440-66-6	5	mg/kg		<5	71	18	5	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		----	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		----	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		----	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		----	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg		----	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		----	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		----	<0.05	----	----	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				BH09_1.7-1.8	BH010_0.0-0.2	BH010_0.2-0.3	BH010_0.5-0.6	BH010_0.9-1.0
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1816942-071	ES1816942-072	ES1816942-073	ES1816942-074	ES1816942-075
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	----	----
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	----	----
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	----	----
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	----	----
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	----	----
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	----	<0.5	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH09_1.7-1.8	BH010_0.0-0.2	BH010_0.2-0.3	BH010_0.5-0.6	BH010_0.9-1.0
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-071	ES1816942-072	ES1816942-073	ES1816942-074	ES1816942-075
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
Isopropylbenzene	98-82-8	0.5	mg/kg		----	<0.5	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg		----	<0.5	----	----	----
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg		----	<0.5	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg		----	<0.5	----	----	----
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg		----	<0.5	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg		----	<0.5	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg		----	<0.5	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg		----	<0.5	----	----	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		----	<5	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg		----	<5	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		----	<5	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg		----	<5	----	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		----	<0.5	----	----	----
EP074D: Fumigants									
2,2-Dichloropropane	594-20-7	0.5	mg/kg		----	<0.5	----	----	----
1,2-Dichloropropane	78-87-5	0.5	mg/kg		----	<0.5	----	----	----
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg		----	<0.5	----	----	----
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg		----	<0.5	----	----	----
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		----	<0.5	----	----	----
EP074E(SIM): Halogenated Aliphatic Compounds									
Vinyl chloride	75-01-4	0.4	mg/kg		----	<0.4	----	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		----	<5	----	----	----
Chloromethane	74-87-3	5	mg/kg		----	<5	----	----	----
Vinyl chloride	75-01-4	5	mg/kg		----	<5	----	----	----
Bromomethane	74-83-9	5	mg/kg		----	<5	----	----	----
Chloroethane	75-00-3	5	mg/kg		----	<5	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg		----	<5	----	----	----
1,1-Dichloroethene	75-35-4	0.5	mg/kg		----	<0.5	----	----	----
Iodomethane	74-88-4	0.5	mg/kg		----	<0.5	----	----	----
trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg		----	<0.5	----	----	----
1,1-Dichloroethane	75-34-3	0.5	mg/kg		----	<0.5	----	----	----

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH09_1.7-1.8	BH010_0.0-0.2	BH010_0.2-0.3	BH010_0.5-0.6	BH010_0.9-1.0
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	
Compound	CAS Number	LOR	Unit	ES1816942-071	ES1816942-072	ES1816942-073	ES1816942-074	ES1816942-075	
				Result	Result	Result	Result	Result	
EP074E: Halogenated Aliphatic Compounds - Continued									
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	<0.5	----	----	----	
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	<0.5	----	----	----	
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	<0.5	----	----	----	
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	<0.5	----	----	----	
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	<0.5	----	----	----	
Trichloroethene	79-01-6	0.5	mg/kg	----	<0.5	----	----	----	
Dibromomethane	74-95-3	0.5	mg/kg	----	<0.5	----	----	----	
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	<0.5	----	----	----	
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	<0.5	----	----	----	
Tetrachloroethene	127-18-4	0.5	mg/kg	----	<0.5	----	----	----	
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	<0.5	----	----	----	
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	<0.5	----	----	----	
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	<0.5	----	----	----	
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	<0.5	----	----	----	
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	<0.5	----	----	----	
Pentachloroethane	76-01-7	0.5	mg/kg	----	<0.5	----	----	----	
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	<0.5	----	----	----	
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<0.5	----	----	----	
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg	----	<0.5	----	----	----	
Bromobenzene	108-86-1	0.5	mg/kg	----	<0.5	----	----	----	
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	<0.5	----	----	----	
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	<0.5	----	----	----	
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	<0.5	----	----	----	
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	<0.5	----	----	----	
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	<0.5	----	----	----	
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	<0.5	----	----	----	
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	<0.5	----	----	----	
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg	----	<0.5	----	----	----	
Bromodichloromethane	75-27-4	0.5	mg/kg	----	<0.5	----	----	----	
Dibromochloromethane	124-48-1	0.5	mg/kg	----	<0.5	----	----	----	
Bromoform	75-25-2	0.5	mg/kg	----	<0.5	----	----	----	
EP074H: Naphthalene									



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				BH09_1.7-1.8	BH010_0.0-0.2	BH010_0.2-0.3	BH010_0.5-0.6	BH010_0.9-1.0
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1816942-071	ES1816942-072	ES1816942-073	ES1816942-074	ES1816942-075
				Result	Result	Result	Result	Result
EP074H: Naphthalene - Continued								
Naphthalene	91-20-3	1	mg/kg	----	<1	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH09_1.7-1.8	BH010_0.0-0.2	BH010_0.2-0.3	BH010_0.5-0.6	BH010_0.9-1.0
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	
Compound	CAS Number	LOR	Unit	ES1816942-071	ES1816942-072	ES1816942-073	ES1816942-074	ES1816942-075	
				Result	Result	Result	Result	Result	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	0.5	<0.5	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	<0.2	0.5	<0.2	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	0.5	<0.5	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	----	118	----	----	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	----	90.1	----	----	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	----	63.4	----	----	----	
EP074S(SIM) : VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.1	%	----	110	----	----	----	
EP074S: VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.5	%	----	95.2	----	----	----	
Toluene-D8	2037-26-5	0.5	%	----	95.6	----	----	----	
4-Bromofluorobenzene	460-00-4	0.5	%	----	81.4	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	66.9	70.0	66.8	69.3	68.9	
2-Chlorophenol-D4	93951-73-6	0.5	%	74.5	75.9	72.6	76.4	69.4	
2,4,6-Tribromophenol	118-79-6	0.5	%	45.4	68.5	49.4	58.0	47.5	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	90.1	84.6	87.6	91.2	81.1	
Anthracene-d10	1719-06-8	0.5	%	78.5	80.6	79.2	81.7	73.7	
4-Terphenyl-d14	1718-51-0	0.5	%	74.0	78.1	70.1	70.3	67.2	
EP080S: TPH(V)/BTEX Surroqates									

Page : 55 of 70
 Work Order : ES1816942 Amendment 1
 Client : PRENSA
 Project : Enviro Ass Forestway Shopping Centre



Analytical Results

Sub-Matrix: **SOIL**
 (Matrix: **SOIL**)

Client sample ID

				BH09_1.7-1.8	BH010_0.0-0.2	BH010_0.2-0.3	BH010_0.5-0.6	BH010_0.9-1.0
Client sampling date / time				06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit	ES1816942-071	ES1816942-072	ES1816942-073	ES1816942-074	ES1816942-075
				Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued								
1,2-Dichloroethane-D4	17060-07-0	0.2	%	119	99.6	106	109	125
Toluene-D8	2037-26-5	0.2	%	111	86.3	106	95.7	115
4-Bromofluorobenzene	460-00-4	0.2	%	122	80.4	115	106	125



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH010_1.5-1.6	BH010_1.9-2.0	BH010_2.2-2.3	FD1	FD3
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-076	ES1816942-077	ES1816942-078	ES1816942-079	ES1816942-080
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		7.9	5.8	4.1	11.4	10.4
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		5	<5	9	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		26	56	79	36	7
Copper	7440-50-8	5	mg/kg		<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg		14	10	11	47	11
Nickel	7440-02-0	2	mg/kg		2	<2	<2	17	<2
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	13	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH010_1.5-1.6	BH010_1.9-2.0	BH010_2.2-2.3	FD1	FD3
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-076	ES1816942-077	ES1816942-078	ES1816942-079	ES1816942-080
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		69.6	69.0	70.7	69.9	69.2
2-Chlorophenol-D4	93951-73-6	0.5	%		77.1	74.6	73.8	74.5	77.0
2,4,6-Tribromophenol	118-79-6	0.5	%		52.2	50.6	47.7	50.9	51.3
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		89.9	87.5	89.9	88.5	88.6
Anthracene-d10	1719-06-8	0.5	%		83.0	78.2	78.9	81.3	82.0
4-Terphenyl-d14	1718-51-0	0.5	%		72.3	72.7	71.6	72.3	74.6
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		120	122	126	117	112
Toluene-D8	2037-26-5	0.2	%		112	120	122	103	101

Page : 58 of 70
 Work Order : ES1816942 Amendment 1
 Client : PRENSA
 Project : Enviro Ass Forestway Shopping Centre



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH010_1.5-1.6	BH010_1.9-2.0	BH010_2.2-2.3	FD1	FD3
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-076	ES1816942-077	ES1816942-078	ES1816942-079	ES1816942-080
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		122	125	128	110	110



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	FD5	BH10_0.3-0.4	TS (15)	TSC (15)	TS (16)
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	30-May-2018 00:00	30-May-2018 00:00	30-May-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-081	ES1816942-085	ES1816942-086	ES1816942-087	ES1816942-088
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		13.2	14.4	----	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		11	7	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg		30	45	----	----	----
Copper	7440-50-8	5	mg/kg		<5	<5	----	----	----
Lead	7439-92-1	5	mg/kg		11	21	----	----	----
Nickel	7440-02-0	2	mg/kg		<2	5	----	----	----
Zinc	7440-66-6	5	mg/kg		<5	6	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	FD5	BH10_0.3-0.4	TS (15)	TSC (15)	TS (16)
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	30-May-2018 00:00	30-May-2018 00:00	30-May-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-081	ES1816942-085	ES1816942-086	ES1816942-087	ES1816942-088
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	11	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	1.7	2.2	1.4
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	1.3	2.0	2.0
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	0.5	0.9	0.9
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	3.5	5.1	4.3
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	1.8	2.9	2.9
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		88.9	84.3	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		103	97.8	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		65.2	81.0	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		82.4	87.5	----	----	----
Anthracene-d10	1719-06-8	0.5	%		95.6	105	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		99.9	102	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		100	97.9	99.5	102	105
Toluene-D8	2037-26-5	0.2	%		81.8	96.4	78.5	86.2	86.6

Page : 61 of 70
 Work Order : ES1816942 Amendment 1
 Client : PRENSA
 Project : Enviro Ass Forestway Shopping Centre



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	FD5	BH10_0.3-0.4	TS (15)	TSC (15)	TS (16)
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	30-May-2018 00:00	30-May-2018 00:00	30-May-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-081	ES1816942-085	ES1816942-086	ES1816942-087	ES1816942-088
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		92.5	104	98.0	104	90.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TSC (16)	----	----	----	----
Client sampling date / time					30-May-2018 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1816942-089	-----	-----	-----	-----
					Result	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		11	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		2.3	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		2.0	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		0.9	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		5.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg		2.9	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		99.8	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		87.8	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		106	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW1	MW2	MW3	MW4	MW5
Client sampling date / time					07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-001	ES1816942-002	ES1816942-003	ES1816942-004	ES1816942-005
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		7.79	5.88	4.09	4.02	4.28
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		438	147	543	641	289
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		1740	720	660	3160	<20
C10 - C14 Fraction	----	50	µg/L		240	110	760	700	<50
C15 - C28 Fraction	----	100	µg/L		<100	<100	290	190	<100
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L		240	110	1050	890	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		1870	760	730	3440	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		520	150	200	830	<20
>C10 - C16 Fraction	----	100	µg/L		190	<100	900	690	<100
>C16 - C34 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L		190	<100	900	690	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		130	<100	880	480	<100
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		539	495	304	1630	<1
Toluene	108-88-3	2	µg/L		403	36	63	117	<2
Ethylbenzene	100-41-4	2	µg/L		85	31	30	251	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		204	8	94	487	<2
ortho-Xylene	95-47-6	2	µg/L		120	43	39	125	<2
^ Total Xylenes	----	2	µg/L		324	51	133	612	<2
^ Sum of BTEX	----	1	µg/L		1350	613	530	2610	<1
Naphthalene	91-20-3	5	µg/L		58	<5	16	209	<5
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%		90.6	93.3	92.5	88.4	110
Toluene-D8	2037-26-5	2	%		111	111	108	110	108
4-Bromofluorobenzene	460-00-4	2	%		111	112	109	106	108



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW6	MW7	MW8	MW12	MW3
Client sampling date / time					07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-006	ES1816942-007	ES1816942-008	ES1816942-009	ES1816942-010
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		3.53	4.63	10.2	4.32	4.08
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		2780	333	251	278	908
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		12000	9820	1730	3990	6430
C10 - C14 Fraction	----	50	µg/L		1440	1030	1500	440	1090
C15 - C28 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L		1440	1030	1500	440	1090
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		13500	10400	4200	4160	7650
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		4580	2920	3170	440	2800
>C10 - C16 Fraction	----	100	µg/L		930	620	900	400	740
>C16 - C34 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L		930	620	900	400	740
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		660	460	660	240	630
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		336	2510	6	3040	1040
Toluene	108-88-3	2	µg/L		3170	1530	52	15	1220
Ethylbenzene	100-41-4	2	µg/L		636	432	105	230	333
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		3250	2130	580	372	1560
ortho-Xylene	95-47-6	2	µg/L		1530	878	289	68	699
^ Total Xylenes	----	2	µg/L		4780	3010	869	440	2260
^ Sum of BTEX	----	1	µg/L		8920	7480	1030	3720	4850
Naphthalene	91-20-3	5	µg/L		267	162	245	158	109
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%		84.8	89.3	79.4	89.5	98.2
Toluene-D8	2037-26-5	2	%		103	104	109	102	108
4-Bromofluorobenzene	460-00-4	2	%		102	105	103	105	115



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW14	MW17	MW18	MW22	EMW1
Client sampling date / time					06-Jun-2018 00:00	06-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00	07-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-011	ES1816942-012	ES1816942-013	ES1816942-014	ES1816942-015
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		7.33	6.36	4.67	6.24	7.79
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		357	290	395	181	876
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		120	60	<20	210	<20
C10 - C14 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		120	60	<20	220	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		120	60	<20	50	<20
>C10 - C16 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	<100	<100	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	<100	<100	<100
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	126	<1
Toluene	108-88-3	2	µg/L		<2	<2	<2	2	<2
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	11	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	29	<2
^ Total Xylenes	----	2	µg/L		<2	<2	<2	29	<2
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	168	<1
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	<5
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%		111	112	113	110	94.2
Toluene-D8	2037-26-5	2	%		100.0	99.3	101	98.5	93.7
4-Bromofluorobenzene	460-00-4	2	%		103	103	103	101	90.7



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	EMW4	BH50	FD2	RIN1	RIN2
Client sampling date / time					07-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	06-Jun-2018 00:00	07-Jun-2018 00:00
Compound	CAS Number	LOR	Unit		ES1816942-016	ES1816942-017	ES1816942-018	ES1816942-019	ES1816942-020
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		4.88	9.92	7.66	6.66	5.73
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		820	438	342	<10	<10
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	1050	140	<20	<20
C10 - C14 Fraction	----	50	µg/L		<50	580	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	580	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	1330	130	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	560	130	<20	<20
>C10 - C16 Fraction	----	100	µg/L		<100	390	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	390	<100	<100	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	330	<100	<100	<100
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	43	<1	<1	<1
Toluene	108-88-3	2	µg/L		<2	167	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L		<2	62	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	336	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L		<2	158	<2	<2	<2
^ Total Xylenes	----	2	µg/L		<2	494	<2	<2	<2
^ Sum of BTEX	----	1	µg/L		<1	766	<1	<1	<1
Naphthalene	91-20-3	5	µg/L		<5	57	<5	<5	<5
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%		114	116	110	109	106
Toluene-D8	2037-26-5	2	%		101	106	104	98.8	96.9
4-Bromofluorobenzene	460-00-4	2	%		104	108	104	103	98.9



Analytical Results

Sub-Matrix: **WATER**
 (Matrix: **WATER**)

Client sample ID

				RIN3	RIN4	TB	TS	----
Client sampling date / time				05-Jun-2018 00:00	06-Jun-2018 00:00	01-Jun-2018 00:00	01-Jun-2018 00:00	----
Compound	CAS Number	LOR	Unit	ES1816942-082	ES1816942-083	ES1816942-090	ES1816942-091	-----
				Result	Result	Result	Result	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	----	----	----



Analytical Results

Sub-Matrix: **WATER**
 (Matrix: **WATER**)

Client sample ID

				RIN3	RIN4	TB	TS	----
Client sampling date / time				05-Jun-2018 00:00	06-Jun-2018 00:00	01-Jun-2018 00:00	01-Jun-2018 00:00	----
Compound	CAS Number	LOR	Unit	ES1816942-082	ES1816942-083	ES1816942-090	ES1816942-091	-----
				Result	Result	Result	Result	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	----	----
>C10 - C16 Fraction	----	100	µg/L	<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	15	----
Toluene	108-88-3	2	µg/L	<2	<2	<2	14	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	15	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	14	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	15	----
^ Total Xylenes	----	2	µg/L	<2	<2	<2	29	----
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	73	----
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	18	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	20.7	19.6	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%	62.7	63.5	----	----	----
2,4,6-Tribromophenol	118-79-6	1.0	%	66.1	53.4	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	73.1	81.2	----	----	----
Anthracene-d10	1719-06-8	1.0	%	100	85.1	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%	94.9	98.1	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	2	%	114	110	109	110	----
Toluene-D8	2037-26-5	2	%	104	100	98.2	111	----
4-Bromofluorobenzene	460-00-4	2	%	105	101	100	107	----



Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	BH01_0.1-0.2 - 05-Jun-2018 00:00	Mid brown sandy soil.
EA200: Description	BH03_0.1-0.2 - 05-Jun-2018 00:00	Mid brown sandy soil.
EA200: Description	BH06_0.1-0.2 - 05-Jun-2018 00:00	Mid brown sandy soil.
EA200: Description	BH09_0.2-0.3 - 06-Jun-2018 00:00	Mid brown sandy soil.
EA200: Description	BH010_0.0-0.2 - 06-Jun-2018 00:00	Mid brown sandy soil.



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S(SIM) : VOC Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	131
EP074S: VOC Surrogates			
1,2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2,4,6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

CERTIFICATE OF ANALYSIS 193693

Client Details

Client	Prensa Pty Ltd
Attention	Darren Fernandez, Maddi Jones
Address	Level 1, 261-271 Wattletree Rd, Malvern, VIC, 3144

Sample Details

Your Reference	<u>58328 / Enviro Ass Forestway Shopping Centre</u>
Number of Samples	1 WATER, 3 SOIL
Date samples received	08/06/2018
Date completed instructions received	08/06/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	18/06/2018
Date of Issue	15/06/2018
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Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Dragana Tomas, Senior Chemist
 Jeremy Faircloth, Organics Supervisor
 Long Pham, Team Leader, Metals
 Priya Samarawickrama, Senior Chemist
 Steven Luong, Senior Chemist

Authorised By



Jacinta Hurst, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil				
Our Reference		193693-2	193693-3	193693-4
Your Reference	UNITS	FD2	FD4	FD6
Date Sampled		06/06/2018	06/06/2018	07/06/2018
Type of sample		SOIL	SOIL	SOIL
Date extracted	-	12/06/2018	12/06/2018	12/06/2018
Date analysed	-	13/06/2018	13/06/2018	13/06/2018
TRH C ₆ - C ₉	mg/kg	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	90	104	95

svTRH (C10-C40) in Soil				
Our Reference		193693-2	193693-3	193693-4
Your Reference	UNITS	FD2	FD4	FD6
Date Sampled		06/06/2018	06/06/2018	07/06/2018
Type of sample		SOIL	SOIL	SOIL
Date extracted	-	12/06/2018	12/06/2018	12/06/2018
Date analysed	-	13/06/2018	13/06/2018	13/06/2018
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50
Surrogate o-Terphenyl	%	95	96	96

PAHs in Soil				
Our Reference		193693-2	193693-3	193693-4
Your Reference	UNITS	FD2	FD4	FD6
Date Sampled		06/06/2018	06/06/2018	07/06/2018
Type of sample		SOIL	SOIL	SOIL
Date extracted	-	12/06/2018	12/06/2018	12/06/2018
Date analysed	-	13/06/2018	13/06/2018	13/06/2018
Naphthalene	mg/kg	<0.1	0.2	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	0.2	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	108	94	92

Acid Extractable metals in soil				
Our Reference		193693-2	193693-3	193693-4
Your Reference	UNITS	FD2	FD4	FD6
Date Sampled		06/06/2018	06/06/2018	07/06/2018
Type of sample		SOIL	SOIL	SOIL
Date prepared	-	12/06/2018	12/06/2018	12/06/2018
Date analysed	-	12/06/2018	12/06/2018	12/06/2018
Arsenic	mg/kg	<4	<4	7
Cadmium	mg/kg	<0.4	<0.4	<0.4
Chromium	mg/kg	22	7	23
Copper	mg/kg	5	<1	<1
Lead	mg/kg	54	5	8
Mercury	mg/kg	<0.1	<0.1	<0.1
Nickel	mg/kg	12	<1	<1
Zinc	mg/kg	17	<1	<1

Moisture				
Our Reference		193693-2	193693-3	193693-4
Your Reference	UNITS	FD2	FD4	FD6
Date Sampled		06/06/2018	06/06/2018	07/06/2018
Type of sample		SOIL	SOIL	SOIL
Date prepared	-	12/06/2018	12/06/2018	12/06/2018
Date analysed	-	13/06/2018	13/06/2018	13/06/2018
Moisture	%	9.8	9.7	13

vTRH(C6-C10)/BTEXN in Water		
Our Reference		193693-1
Your Reference	UNITS	FD1
Date Sampled		06/06/2018
Type of sample		WATER
Date extracted	-	12/06/2018
Date analysed	-	13/06/2018
TRH C ₆ - C ₉	µg/L	260
TRH C ₆ - C ₁₀	µg/L	260
TRH C ₆ - C ₁₀ less BTEX (F1)	µg/L	260
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	97
Surrogate toluene-d8	%	97
Surrogate 4-BFB	%	98

svTRH (C10-C40) in Water		
Our Reference		193693-1
Your Reference	UNITS	FD1
Date Sampled		06/06/2018
Type of sample		WATER
Date extracted	-	12/06/2018
Date analysed	-	12/06/2018
TRH C ₁₀ - C ₁₄	µg/L	<50
TRH C ₁₅ - C ₂₈	µg/L	<100
TRH C ₂₉ - C ₃₆	µg/L	<100
TRH >C ₁₀ - C ₁₆	µg/L	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	µg/L	<50
TRH >C ₁₆ - C ₃₄	µg/L	<100
TRH >C ₃₄ - C ₄₀	µg/L	<100
Surrogate o-Terphenyl	%	87

Miscellaneous Inorganics		
Our Reference		193693-1
Your Reference	UNITS	FD1
Date Sampled		06/06/2018
Type of sample		WATER
Date prepared	-	08/06/2018
Date analysed	-	08/06/2018
pH	pH Units	6.9
Total Dissolved Solids (grav)	mg/L	230

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180+/-10°C.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-013	Water samples are analysed directly by purge and trap GC-MS.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	[NT]
Date extracted	-			12/06/2018	[NT]	[NT]	[NT]	[NT]	12/06/2018	[NT]
Date analysed	-			13/06/2018	[NT]	[NT]	[NT]	[NT]	13/06/2018	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	[NT]	[NT]	106	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	[NT]	[NT]	106	[NT]
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	[NT]	[NT]	90	[NT]
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	[NT]	[NT]	104	[NT]
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	[NT]	[NT]	112	[NT]
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	116	[NT]
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	103	[NT]	[NT]	[NT]	[NT]	107	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	[NT]
Date extracted	-			12/06/2018	[NT]	[NT]	[NT]	[NT]	12/06/2018	[NT]
Date analysed	-			13/06/2018	[NT]	[NT]	[NT]	[NT]	13/06/2018	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	121	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	95	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	77	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	121	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	95	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	77	[NT]
Surrogate o-Terphenyl	%		Org-003	102	[NT]	[NT]	[NT]	[NT]	104	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	[NT]
Date extracted	-			12/06/2018	[NT]	[NT]	[NT]	[NT]	12/06/2018	[NT]
Date analysed	-			13/06/2018	[NT]	[NT]	[NT]	[NT]	13/06/2018	[NT]
Naphthalene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Phenanthrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	112	[NT]
Anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	112	[NT]
Pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	[NT]	[NT]	[NT]	[NT]	114	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	102	[NT]	[NT]	[NT]	[NT]	118	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	[NT]
Date prepared	-			12/06/2018	[NT]	[NT]	[NT]	[NT]	12/06/2018	[NT]
Date analysed	-			12/06/2018	[NT]	[NT]	[NT]	[NT]	12/06/2018	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	105	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	101	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			12/06/2018	[NT]	[NT]	[NT]	[NT]	12/06/2018	[NT]
Date analysed	-			13/06/2018	[NT]	[NT]	[NT]	[NT]	13/06/2018	[NT]
TRH C ₆ - C ₉	µg/L	10	Org-016	<10	[NT]	[NT]	[NT]	[NT]	106	[NT]
TRH C ₆ - C ₁₀	µg/L	10	Org-016	<10	[NT]	[NT]	[NT]	[NT]	106	[NT]
Benzene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Toluene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Ethylbenzene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
m+p-xylene	µg/L	2	Org-016	<2	[NT]	[NT]	[NT]	[NT]	106	[NT]
o-xylene	µg/L	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Naphthalene	µg/L	1	Org-013	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-016	98	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate toluene-d8	%		Org-016	95	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-016	96	[NT]	[NT]	[NT]	[NT]	103	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			12/06/2018	[NT]	[NT]	[NT]	[NT]	12/06/2018	[NT]
Date analysed	-			12/06/2018	[NT]	[NT]	[NT]	[NT]	12/06/2018	[NT]
TRH C ₁₀ - C ₁₄	µg/L	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	118	[NT]
TRH C ₁₅ - C ₂₈	µg/L	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	121	[NT]
TRH C ₂₉ - C ₃₆	µg/L	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
TRH >C ₁₀ - C ₁₆	µg/L	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	118	[NT]
TRH >C ₁₆ - C ₃₄	µg/L	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	121	[NT]
TRH >C ₃₄ - C ₄₀	µg/L	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
Surrogate o-Terphenyl	%		Org-003	76	[NT]	[NT]	[NT]	[NT]	104	[NT]

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate		Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			08/06/2018	[NT]	[NT]	[NT]	[NT]	08/06/2018	[NT]
Date analysed	-			08/06/2018	[NT]	[NT]	[NT]	[NT]	08/06/2018	[NT]
pH	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	102	[NT]
Total Dissolved Solids (grav)	mg/L	5	Inorg-018	<5	[NT]	[NT]	[NT]	[NT]	88	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

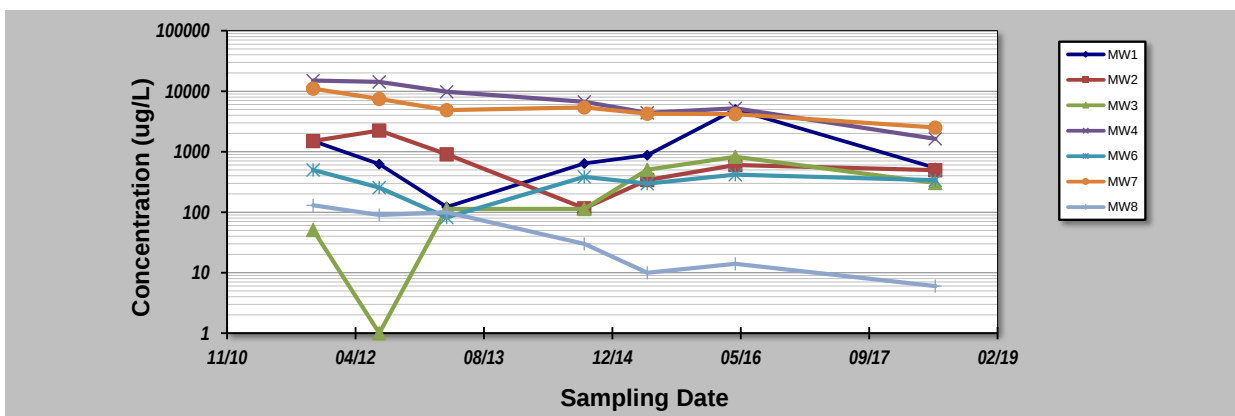
Measurement Uncertainty estimates are available for most tests upon request.

Appendix D: Mann-Kendall Trend Analysis Data

GSI MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **7-Jun-18** Job ID: **58328**
 Facility Name: **Forestway Shopping Centre** Constituent: **Benzene**
 Conducted By: **MXJ** Concentration Units: **ug/L**

Sampling Point ID:		MW1	MW2	MW3	MW4	MW6	MW7	MW8
Sampling Event	Sampling Date	BENZENE CONCENTRATION (ug/L)						
1	19-Oct-11	1500	1500	51	15000	500	11000	130
2	3-Jul-12	625	2240	1	14300	254	7470	90
3	22-Mar-13	122	904	113	9780	82	4880	100
4	9-Sep-14	640	116	113	6650	382	5400	30
5	12-May-15	880	341	503	4400	296	4250	10
6	19-Apr-16	4990	600	824	5210	417	4190	14
7	7-Jun-18	539	495	304	1630	336	2510	6
8								
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15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.26	0.84	1.09	0.62	0.41	0.49	0.94
Mann-Kendall Statistic (S):		1	-9	14	-19	1	-19	-17
Confidence Factor:		50.0%	88.1%	97.5%	99.9%	50.0%	99.9%	99.5%
Concentration Trend:		No Trend	Stable	Increasing	Decreasing	No Trend	Decreasing	Decreasing



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

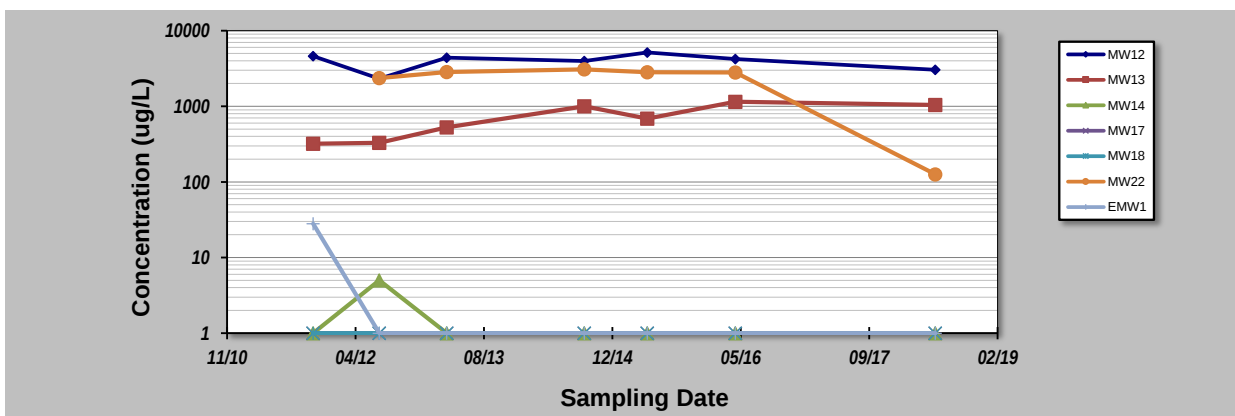
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GSI MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **7-Jun-18** Job ID: **58328**
 Facility Name: **Forestway Shopping Centre** Constituent: **Benzene**
 Conducted By: **MXJ** Concentration Units: **ug/L**

Sampling Point ID:		MW12	MW13	MW14	MW17	MW18	MW22	EMW1
Sampling Event	Sampling Date	BENZENE CONCENTRATION (ug/L)						
1	19-Oct-11	4600	320	1	1	1		28
2	3-Jul-12	2320	329	5	1	1	2370	1
3	22-Mar-13	4400	528	1	1	1	2850	1
4	9-Sep-14	3960	1000	1	1	1	3080	1
5	12-May-15	5160	687	1	1	1	2820	1
6	19-Apr-16	4220	1150	1	1	1	2800	1
7	7-Jun-18	3040	1040	1	1	1	126	1
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10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.25	0.48	0.96	0.00	0.00	0.47	2.10
Mann-Kendall Statistic (S):		-3	17	-4	0	0	-5	-6
Confidence Factor:		61.4%	99.5%	66.7%	37.9%	37.9%	76.5%	76.4%
Concentration Trend:		Stable	Increasing	Stable	Stable	Stable	Stable	No Trend



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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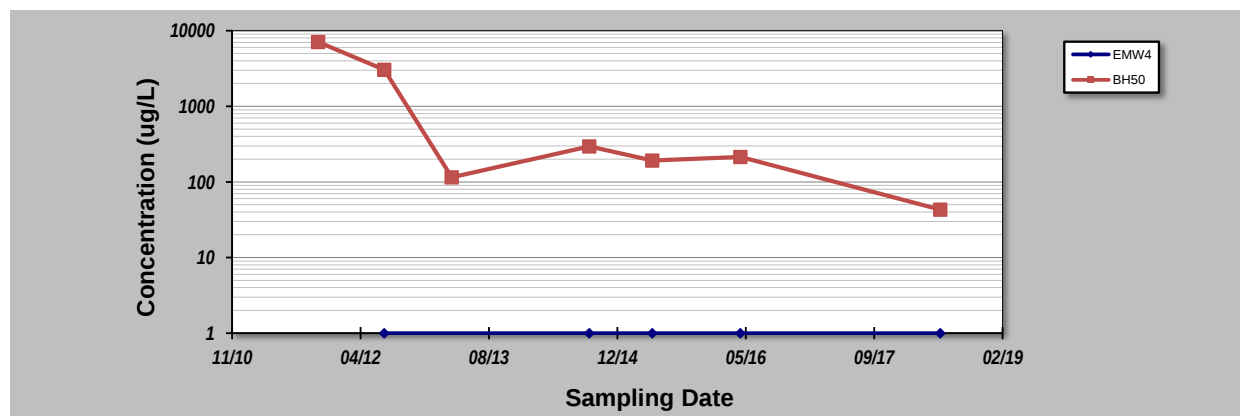
GSI MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **7-Jun-18** Job ID: **58328**
 Facility Name: **Forestway Shopping Centre** Constituent: **Benzene**
 Conducted By: **MXJ** Concentration Units: **ug/L**

Sampling Point ID: **EMW4** **BH50**

Sampling Event	Sampling Date	BENZENE CONCENTRATION (ug/L)					
1	19-Oct-11		7100				
2	3-Jul-12	1	3040				
3	22-Mar-13		115				
4	9-Sep-14	1	296				
5	12-May-15	1	192				
6	19-Apr-16	1	214				
7	7-Jun-18	1	43				
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

Coefficient of Variation:	0.00	1.69					
Mann-Kendall Statistic (S):	0	-13					
Confidence Factor:	40.8%	96.5%					
Concentration Trend:	Stable	Decreasing					



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

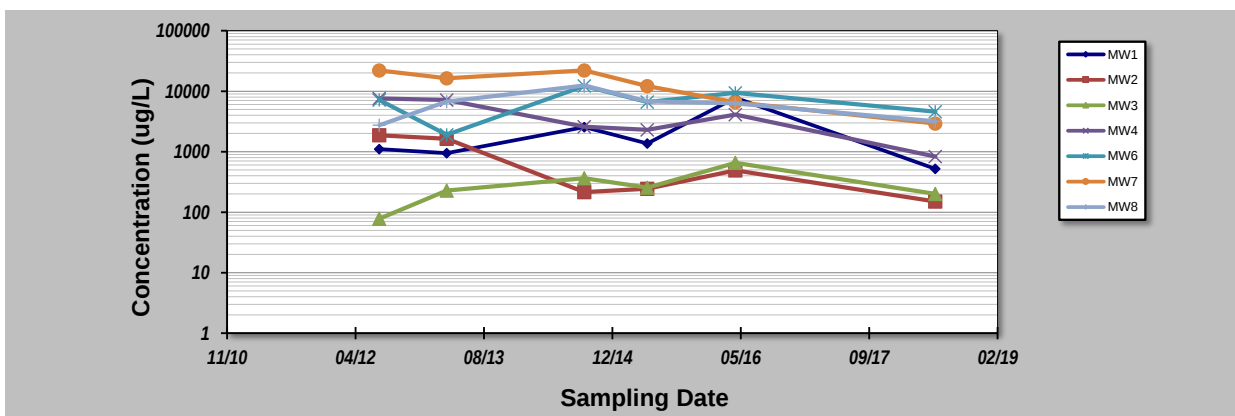
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GSI MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **7-Jun-18** Job ID: **58328**
 Facility Name: **Forestway Shopping Centre** Constituent: **TRH F1**
 Conducted By: **MXJ** Concentration Units: **ug/L**

Sampling Point ID:		MW1	MW2	MW3	MW4	MW6	MW7	MW8
Sampling Event	Sampling Date	TRH F1 CONCENTRATION (ug/L)						
1	19-Oct-11							
2	3-Jul-12	1108	1866	78	7595	7158	22070	2739
3	22-Mar-13	950	1638	228	7164	1905	16305	6754
4	9-Sep-14	2549	215	364	2601	12206	22080	12427
5	12-May-15	1369	243	254	2299	6644	12141	6814
6	19-Apr-16	7778	491	654	4089	9393	6564	6304
7	7-Jun-18	520	150	200	830	4580	2920	3170
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.15	1.01	0.67	0.67	0.52	0.58	0.55
Mann-Kendall Statistic (S):		1	-9	5	-11	-1	-11	-1
Confidence Factor:		50.0%	93.2%	76.5%	97.2%	50.0%	97.2%	50.0%
Concentration Trend:		No Trend	Prob. Decreasing	No Trend	Decreasing	Stable	Decreasing	Stable



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

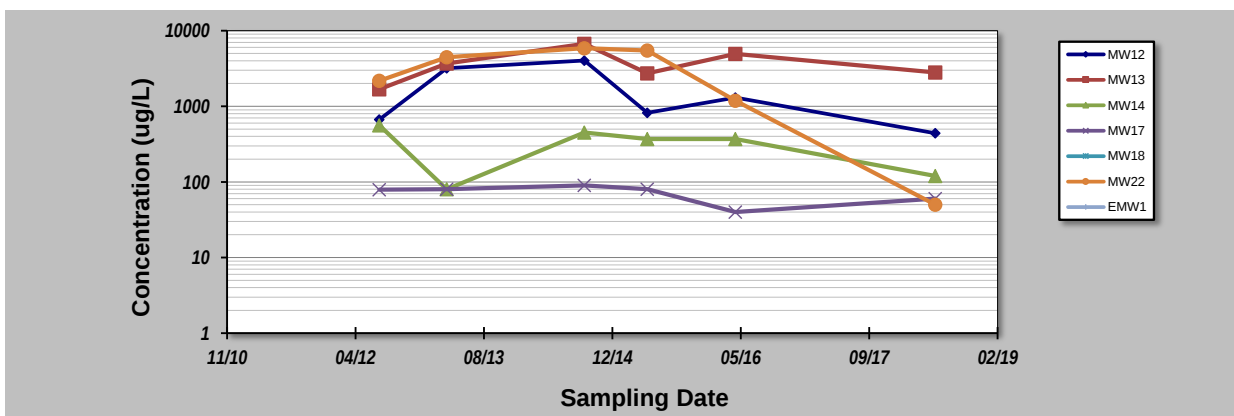
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GSI MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **7-Jun-18** Job ID: **58328**
 Facility Name: **Forestway Shopping Centre** Constituent: **F1**
 Conducted By: **MXJ** Concentration Units: **ug/L**

Sampling Point ID:		MW12	MW13	MW14	MW17	MW18	MW22	EMW1
Sampling Event	Sampling Date	F1 CONCENTRATION (ug/L)						
1	19-Oct-11							
2	3-Jul-12	671	1683	560	79		2180	
3	22-Mar-13	3191	3675	80	80		4451	
4	9-Sep-14	4033	6704	450	90		5877	
5	12-May-15	823	2723	370	80		5464	
6	19-Apr-16	1307	4953	370	40		1187	
7	7-Jun-18	440	2800	120	60		50	
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.86	0.48	0.58	0.26		0.75	
Mann-Kendall Statistic (S):		-3	3	-6	-4		-5	
Confidence Factor:		64.0%	64.0%	81.5%	70.3%		76.5%	
Concentration Trend:		Stable	No Trend	Stable	Stable		Stable	



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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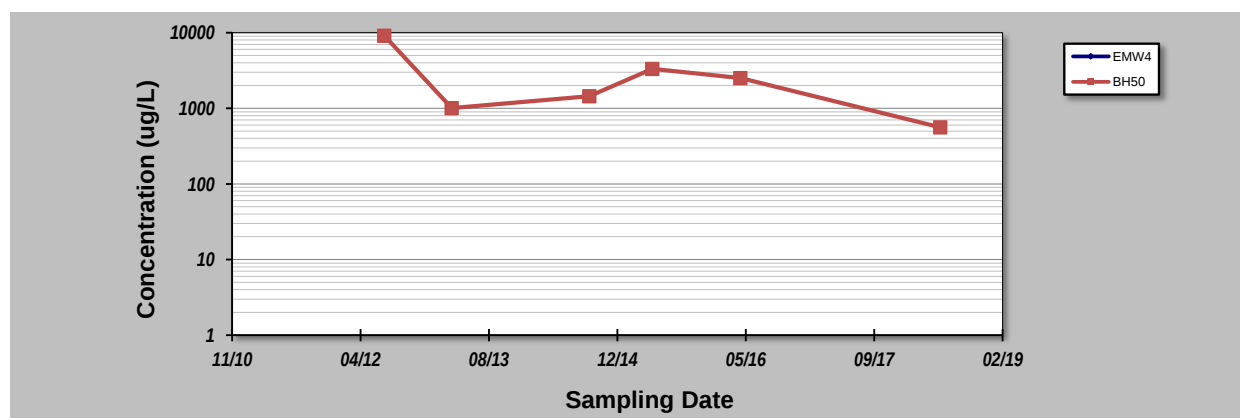
GSi MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **7-Jun-18** Job ID: **58328**
 Facility Name: **Forestway Shopping Centre** Constituent: **F1**
 Conducted By: **MXJ** Concentration Units: **ug/L**

Sampling Point ID: **EMW4** **BH50**

Sampling Event	Sampling Date	F1 CONCENTRATION (ug/L)					
1	19-Oct-11						
2	3-Jul-12		9104				
3	22-Mar-13		1008				
4	9-Sep-14		1447				
5	12-May-15		3335				
6	19-Apr-16		2513				
7	7-Jun-18		560				
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

Coefficient of Variation: 1.06
 Mann-Kendall Statistic (S): -5
 Confidence Factor: 76.5%
 Concentration Trend: No Trend



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
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Appendix E: Quality Assurance/Quality Control

Quality Assurance and Quality Control

Field QA/QC

Sampling Procedures

Fieldwork was undertaken by Prensa personnel in accordance with Prensa Work Instructions which are based on Australian industry accepted standard practice.

Sampling, decontamination and storage works were conducted in accordance with the Prensa Environmental Work Instructions.

Calibration certificates for the PID are provided in **Appendix B**.

Phosphate-free detergent was used to clean sampling instruments (the interface probe) between sample locations. The sampling instruments were rinsed in deionised water and then sprayed with deionised water to minimise the potential for cross-contamination to occur. Given that separate disposable bailers were used for sampling each well decontamination of the bailers was not required.

Groundwater samples were placed in laboratory supplied bottles with Teflon lined lids and preservatives, where required. The samples were stored in ice cooled eskies before being transported to the laboratory along with Chain of Custody documentation, which is included in **Appendix C**.

Quality Control Samples

Field Duplicate Samples

The purpose of duplicate samples were to estimate the variability of a given characteristic or contaminant associated with a population.

Field duplicate groundwater samples were collected from the same bailer by filling the two (2) sample bottles with equal portions of water to the primary. Samples were labelled so as to conceal their relationship to the primary sample from the laboratory.

The blind and split duplicate samples analysed are outlined in **Table E1**.

Table E1: Field Blind and Split Duplicate Analysed

Medium	Primary Sample	Blind Replicate	Split Sample	Analysis
Groundwater	MW14	FD2	FD1	TRH, BTEX, TDS, pH

The quantity of duplicate samples analysed was at a rate of 1:20 primary samples for the same analysis of primary samples.

Relative percent differences (RPDs) were calculated for each of the duplicate samples analysed. RPDs were calculated by dividing the difference between the primary sample and duplicate sample by the average of the two, as shown on the following page:

$$RPD = \frac{(X_1 - X_2)}{(X_1 + X_2)/2} \times 100\%$$

Where: X_1 = Primary sample result; and
 X_2 = Replicate sample result.

When calculating the RPDs, the following procedures were also considered:

- RPDs were only considered when a concentration was greater than the PQL; and
- In instances where results were greater than the PQL for the one (1) sample, but below PQL for the corresponding primary or duplicate sample, a result equal to the PQL value was adopted where necessary in order to make a calculation possible.

The following criteria were applied for calculation of the RPDs:

- 80% (where the average concentration was 1-10 x laboratory PQL);
- 50% (where the average concentration was 10-30 x laboratory PQL); and
- 30% (where the average concentration was > 30 x laboratory PQL).

RPDs for duplicate samples were calculated and the results are attached in **Table T2** in the 'Tables' section of this report. RPDs have also been summarised in **Table E2** below.

Table E2: Field Blind and Split Duplicate RPD results				
Medium	Primary Sample	Blind Replicate	Split Sample	Results
Groundwater	MW14	FD2	FD1	RPD results were within the acceptable ranges with the exception of TRH in FD1.

Based on the calculated RPDs the results were considered acceptable and the data was considered reliable with the following exception: the RPDs for TRH between the primary sample MW14 and split sample FD1. However, the elevated RPDs were considered to be due to the different extraction times and is not considered to invalidate the data set.

Blank Samples

Trip blanks were collected and submitted for laboratory analysis are outlined in Table F3. The results for the trip blank sample are summarised in **Table T3** in the 'Tables' section of this report and in the laboratory reports in **Appendix C**.

Trip blanks assess the potential for cross contamination during transits from the site to the laboratory. Samples were analysed for volatile compounds. The trip blank samples were prepared by the primary laboratory, carried to the field unopened and subjected to the same preservation methods as the primary field samples.

Rinsate blanks consist of pre-preserved bottles filled with laboratory prepared water that is passed over decontaminated field equipment and then collected in containers used for the sampling process. Rinsate blanks were preserved in a similar manner to the original samples. The rinsate blank was a check on decontamination procedures.

Two Rinsate Blanks were taken with from sampling equipment (the interface probe) coming into direct contact with groundwater that was sampled. Additionally all gloves were changed between wells locations to ensure no cross contamination occurred.

A Field Blank was taken in the field to assess the contamination from field conditions. The field blank consists of a sample of Deionised water poured into a sample jar in the field, preserved and taken to the laboratory with the field samples. The field blank was put on hold at the laboratory.

Table E3: Blank Sample Analysis and Results

Type	Sample	Date	Analysis	Results
Rinsate Blank	Rin1	06/06/2018	TRH, TDS, BETX, pH	Concentrations were less than the PQLs.
Rinsate Blank	Rin2	07/06/2018	TRH, TDS, BETX, pH	Concentrations were less than the PQLs.
Trip Blank	TB	07/06/2018	TRH C ₆ – C ₁₀ and BTEX	Concentrations were less than the PQLs.

Based on the results, the quantity of blank samples conformed to results less than the laboratory PQL for rinsate blanks and trip blanks.

Based on the results it can be considered that:

- Decontamination procedures were adequate and contaminants were unlikely to have been introduced by contact of the sampling equipment with the soil sampled; and
- Cross contamination from the atmosphere during transit of samples from the site to the laboratory was unlikely to have occurred.

Laboratory Quality Assurance/Quality Control

The laboratories conducted their own internal quality program for assessment of the repeatability of the analytical procedures and instrument accuracy under their NATA accreditation. This included analysis of laboratory blank samples, duplicate samples, spike samples, control samples and surrogate spikes. The laboratory QA/QC procedures and results are described within the laboratory reports presented in **Appendix C**.

The laboratory internal QA/QC sample results were reviewed and were consistent with the laboratory's NATA guidelines. Furthermore, the adoption of the general advisory ranges for specific recoveries has been used to screen laboratory data. Where recoveries were outside these ranges the data was assessed in relation to specific laboratory comments, published industry 'norms' for specific parameters and/or the likely impact on the interpretation of the meaning of the results.

Based on the reported laboratory QA/QC samples and methods used, the results were considered to be acceptable.

Quality Statement

The sampling methods (including sample preservation, transport and decontamination procedures) and laboratory methods followed during the assessment were consistent with Prensa Work Instructions and were found to meet the DQIs for this project. It was considered that the data was precise, accurate and representative of site conditions, and results can be relied upon for the purpose of this assessment.