Appendix G

Groundwater Data Validation Reports

1 Appendix G – Groundwater Round 1 Quality Assurance and Quality Control

BlueSphere has adopted quality assurance and quality control procedures consistent with guidance from the following sources:

- EPA Victoria, 2009, Sampling and Analysis of Waters, Wastewaters, Soils and Waste, Industrial Waste Resource Guidelines (IWRG) Publication 701
- NEPC 1999. National Environmental Protection (Assessment of Site Contamination) Measure 1999, National Environment Protection Council as amended 15 May 2013, Comlaw No. F2013C00288
- Standards Australia AS/NZ, Australian/New Zealand Standard 2005, AS4482.1:2005 Guide to the Sampling and Investigation of Potentially Contaminated Soil – Non-Volatile and Semi-Volatile Compounds.
- Standards Australia AS/NZ, Australian/New Zealand Standard 1998, AS 5667.1:1998 Water Quality – Sampling Part 1: Guidance on the Design of Sampling Programs, Sampling Techniques and the Preservation and Handling of Samples.
- USEPA 2006, Guidance on Systematic Planning Using the Data Quality Objective Process (EPA QA/G-4), EPA/240/B-06, February 2006.
- USEPA 2008, Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8), EPA/240/R-02/004, published November 2007, re-issued 7 January 2008.
- USEPA – Contract Laboratory Program http://www.epa.gov/superfund/programs/clp/index.htm

2 Field Procedures

A summary of the field quality assurance and quality control procedures conducted as part of the investigation is summarised below in **Table 1**.

Table 1 Summary of Field Procedures

Data Quality Objectives		Acceptability Limits	Reference	Pass	Comments
Field Calibration	All instruments to be calibrated correctly prior to use in field	Field instrumentation calibrated prior to use. Calibration certificates and records documented	AS4482.1-2005 NEPM (2013) Schedule B 2	Y	Calibration of field equipment was completed by the relevant equipment providers prior to the commencement of works. All calibration certificates are presented **Appendix D**.
Sample Preservation and Storage	Samples preserved, stored and transported in such a manner such that sample integrity is maintained	0 – 4 degrees Celsius	AS4482.1-2005, ASC NEPM (Schedule B3)	N	Sample batches were received by the laboratory at temperatures outside of the adopted acceptability limits of 0 - 4°C. Laboratory sample receipt records are provided in **Appendix L**. Further comment is provided in **Section 2.1** below.
	Field blanks, field duplicates and triplicates are	Field duplicate and field triplicate samples at one per	AS4482.1-2005	Y	Field duplicate and field triplicate samples were collected and analysed

Table 1 Summary of Field Procedures

Data Quality Objectives		Acceptability Limits	Reference	Pass	Comments
Frequency of Quality Control Measurements	above minimum requirements	20 samples collected.	ASC NEPM (Schedule B3)		at a rate above the minimum requirements for both Round 1 on-Site and off-Site groundwater investigations. See **Table G1** for a full list of QA/QC samples collected during the Round 1 groundwater field program.
		One rinsate blank per equipment piece per day requiring decontamination.	AS4482.1-2005 ASC NEPM (Schedule B2)	Y	Rinsate samples were collected and analysed at a rate of one per piece of equipment requiring decontamination per day. See **Table G1** for a full list of QA/QC samples collected during the Round 1 groundwater field program. The table includes details on the piece of equipment that each rinsate sample was taken from.
		One trip blank per esky where volatiles are CoPC. Field blanks as required on a project basis.	AS4482.1-2005 ASC NEPM (Schedule B2)	Y	One trip blank was included and analysed for each esky sent to the laboratory for analysis. See **Table G1** for a full list of QA/QC samples collected during the Round 1 groundwater field program.
Field Duplicates	Relative percentage difference (RPD) between parent sample and duplicate sample within acceptable range	Results >10 x LOR = RPD between 0-30% for water and soil vapour. Compliance rate > 95% of samples. (Where results <10 x LOR = no RPD range was applied in recognition of the low absolute differences at these concentrations).	ASC NEPM (Schedule B3)	Y	There were no RPDs reported outside of the acceptable range between the primary and field duplicate samples. See **Table G2** for analytical results and RPD calculations.

Table 1 Summary of Field Procedures

Data Quality Objectives		Acceptability Limits	Reference	Pass	Comments
Field Triplicates	Relative percentage difference (RPD) between parent sample and triplicate sample within acceptable range	Results >10 x LOR = RPD between 0-30% for water and soil vapour. Compliance rate > 95% of samples. (Where results <10 x LOR = no RPD range was applied in recognition of the low absolute differences at these concentrations).	ASC NEPM (Schedule B3)	Y	There were no RPDs reported outside of the acceptable range between the primary and field triplicate samples. See **Table G2** for analytical results and RPD calculations.
Rinsate Blanks	Analytes reported at concentrations <LOR	<LOR	AS4482.1-2005 ASC NEPM (Schedule B2)	Y	All analytes were reported below the laboratory LOR. See **Table G3** for analytical results.
Trip Blanks	Analytes reported at concentrations <LOR	<LOR	AS4482.1-2005 ASC NEPM (Schedule B2)	Y	All analytes were reported below the laboratory LOR. See **Table G3** for analytical results.

2.1 Sample Preservation and Storage

Groundwater samples, along with rinsate and trip blank (water) samples were transported from the Site to the laboratory in coolers filled with bagged ice. In all cases, the temperature was not maintained below the recommended storage temperature of 4°C for organics, hexavalent chromium, mercury and other analytes, in accordance with AS4482.1 (2005). The majority of batches reported a marginal exceedance of <4.4°C, and these marginal exceedances are not considered to greatly affect the interpretation and analysis of soil analytical results.

A summary of the batches, samples affected and laboratory receipt recorded temperatures is provided in **Table 2** below:

Table 2 Summary of Sample Receipt Temperatures – Groundwater Round 1

Batch Number	Samples Affected	Receipt Temperature (°C)
On-Site		
EM1803015	See laboratory analytical reports provided in **Appendix L**.	8.3
EM1803129	See laboratory analytical reports provided in **Appendix L**.	6.0
EM1803438	See laboratory analytical reports provided in **Appendix L**.	5.2

Table 2 Summary of Sample Receipt Temperatures – Groundwater Round 1

Batch Number	Samples Affected	Receipt Temperature (°C)
EM1804485	See laboratory analytical reports provided in **Appendix L**.	6.0
131131	Inter-laboratory QA/QC samples	14.0
Off-Site		
EM1801660	See laboratory analytical reports provided in **Appendix L**.	14.9
EM1801973	See laboratory analytical reports provided in **Appendix L**.	5.2
EM1802178	See laboratory analytical reports provided in **Appendix L**.	4.8
EM1803017	See laboratory analytical reports provided in **Appendix L**.	8.3
EM1803439	See laboratory analytical reports provided in **Appendix L**.	5.2
12936	Inter-laboratory QA/QC samples	4.6
205948	Inter-laboratory QA/QC samples	23.0
206885	Inter-laboratory QA/QC samples	12.0

The receipt temperature of 14.9°C for off-Site batch EM1801660 occurred due to the day of courier transport coinciding with a period of extreme heat, resulting in a high rate of ice melt within the cooler box containing the samples. The analytical results from this batch have been compared against both historical and subsequent analysis for the sampling locations affected. Following the review, this sample receipt temperature exceedance is considered to have minimal impact on the results and interpretation of the data.

The high receipt temperatures from Envirolab batches 131131, 205948 and 206885 are deemed to have minimal impact on the results and interpretation of the data as no primary samples were within these batches. The inter-laboratory QA/QC samples were consistent in reported results with their parent samples analysed by the primary laboratory (ALS) and no RPD exceedances of adopted acceptability limits were noted.

3 Laboratory Procedures

BlueSphere's nominated laboratories were Australian Laboratory Services Pty Ltd (ALS) and Envirolab Services Pty Ltd (Envirolab). A summary of the laboratory quality assurance and quality control procedures conducted as part of the investigation are summarised in **Table 3** below.

Table 3 Summary of Laboratory Procedures

Data Quality Indicators		Acceptability Limits	Reference	Pass	Comments
Sample Holding Times	Samples received and extracted by the laboratory within recommended holding times.	As specified by a NATA accredited laboratory.	AS4482.1-2005; IWRG 701; ALS QC Requirements	N	Samples from two batches were received and extracted by the laboratory outside of the recommended holding times. Further comment is provided in **Section 3.1** below.
Frequency of Quality Control Samples	QC samples analysed at a rate equal to or greater than the minimum requirements	1:10 Laboratory Duplicates; 1:20 Matrix Spikes 1:20 LCS; 1:20 Method Blanks	NEPM 2013 B3 & ALS QC Standard	N	Some batches reported a QC sample frequency below the minimum recommended requirements. Further comment is provided in **Section 3.2** below.
Sample Analysis	Samples analysed for chemicals as required on COC via appropriate laboratory techniques.	Samples analysed by a NATA accredited laboratory.	BlueSphere Field Procedures	Y	Samples were submitted to the laboratory and analysed for the selected suite as required via appropriate analytical techniques.
Limits of Reporting	Laboratory reporting limits to be below relevant screening criteria.	LOR< lowest applicable screening/assessment criteria.	AS4482.1-2005	Y	All analytes were reported with laboratory LORs below the adopted screening and assessment criteria.
Laboratory Method Blank	Analytes reported at concentrations below the laboratory limit or reporting.	<LOR	US EPA Contract Laboratory Program	Y	All laboratory method blanks were reported <LOR.

Table 3 Summary of Laboratory Procedures

Data Quality Indicators		Acceptability Limits	Reference	Pass	Comments
Laboratory Duplicates	RPD between duplicate samples within an acceptable range.	Results <10 x the LOR – No RPD range Results between 10-20 x the LOR – RPD between 0-50% Results >20 x LOR – RPD between 0-20%	NATA laboratory practice.	Y	All laboratory duplicates were reported within acceptable range.
Matrix Spike Recoveries	Recoveries within adopted acceptability range.	As specified in laboratory QC report, if applicable. If not specified 70-130% adopted.	NATA laboratory practice.	N	Samples from five batches reported matrix spike recoveries outside of the adopted acceptability limits. See **Section 3.3** below for further comment.
Laboratory Control Spike (LCS) Recoveries	Recoveries within adopted acceptability range.	Specific to chemicals analysed.	Dynamic recovery limits for individual compounds.	Y	There were no LCS recoveries reported outside of the acceptable range.
Surrogate Spike Recoveries	Recoveries within adopted acceptability range.	As specified in laboratory QC report, if applicable. If not specified 70-130% adopted.	NATA laboratory practice.	Y	There were no surrogate spike recoveries reported outside the acceptable range.

3.1 Sample Holding Times

A small number of samples from two (2) on-Site batches (EM1803015 and EM1804485) were extracted and analysed by the laboratory outside of the recommended holding times.

In batch EM1803015, samples MWS17_01A, MWS18_02A and QC01_T were two days overdue when extracted for TPH and TRH analytical fractions only. In batch EM1804485, sample MWS11_01 was overdue by 14 – 21 days for VOC, TRH and BTEXN analysis. This was due to an error being made on the initial COC documentation by field staff, resulting in MWS11_01 needing to be re-batched past holding time the above mentioned analytes. This well was subsequently resampled in Round 2 in recognition of the uncertainty with regard to the quality of the data.

Given the limited number of samples and analytes affected by these holding time exceedances, they are not considered to have an impact on the outcome of the investigation.

3.2 Frequency of Laboratory Quality Control Samples

Four (4) on-Site batches (EM1803015, EM1803129, EM1803438 and EM1804485) reported frequency of quality control sample outliers for Laboratory Duplicates, Laboratory Control Samples and Matric Spikes. A summary of these outliers is provided in **Table 4** below:

Table 4 Frequency of Laboratory Quality Control Sample Summary

Batch	QC Sample Type	Analyte(s)	Count		Rate	
			QC	Regular	Actual	Expected
EM1803015	Laboratory Duplicates	TRH – Semivolatile Fraction	1	11	9.09	10
EM1803015	Matrix Spikes	TRH – Semivolatile Fraction	0	11	0	5
EM1803129	Laboratory Duplicates	TRH – Semivolatile Fraction	0	16	0	10
EM1803129	Laboratory Control Samples	Sulfate (Turbidimetric) as SO_4^{2-}	1	20	5	10
EM1803129	Matrix Spikes	TRH – Semivolatile Fraction	0	16	0	5
EM1803438	Laboratory Duplicates	TRH – Semivolatile Fraction	1	16	5.56	10
EM1804485	Laboratory Duplicates	TRH – Semivolatile Fraction	0	11	0	10
EM1804485	Matrix Spikes	TRH – Semivolatile Fraction	0	11	0	5

Given the limited range of analytes affected by these frequency of quality control sample outliers, they are not considered to have an impact on the outcome of the investigation.

3.3 Matrix Spike Recoveries

Matrix spike outliers were reported in three Round 1 groundwater sample batches (EM1803129, EM1803438 and EM1803017). A summary is presented in **Table 5**, below.

Table 5 Matrix Spike Outliers

Batch	Analyte	Sample ID	Recovery (%)	Limits (%)	Laboratory Comments
EM1803129	TCE	GW42_URS	Not determined	-	MS recovery not determined, background level greater than or equal to 4 x spike level.

Table 5 Matrix Spike Outliers

Batch	Analyte	Sample ID	Recovery (%)	Limits (%)	Laboratory Comments
EM1803129	C6 – C9 Fraction	GW42_URS	Not determined	-	MS recovery not determined, background level greater than or equal to 4 x spike level.
EM1803129	C6 – C10 Fraction	GW42_URS	Not determined	-	MS recovery not determined, background level greater than or equal to 4 x spike level.
EM1803428	1,1-DCE	QC11_T	130%	63 – 129%	Recovery greater than upper data quality objective
EM1803428	Chlorobenzene	BSE_GW09	120%	81 – 119%	Recovery greater than upper data quality objective
EM1803017	TCE	MW_EPA11	Not determined	-	MS recovery not determined, background level greater than or equal to 4 x spike level.

In all cases, the recovery limit was either marginally (≤1%) outside the acceptability limits, or the recovery limit could not be determined due to the background level being greater than or equal to 4x the spike level. Given this information, the noted matrix spike outliers are not considered to have any impact on the outcome of the investigation, or interpretation of this round of data.

4 Data Collation and Data Assessment Procedures

A summary of the data collation and data assessment quality assurance and quality control procedures conducted as part of the investigation are summarised in **Table 6** below.

Table 6 Summary of Data Collation and Data Assessment Procedures

Data Quality Objectives		Acceptability Limits	Reference	Pass	Comment
Comparison of field screening and laboratory results	100% check of field screening results (e.g. PID readings, water quality parameters) against laboratory results to determine if the results were compatible.	Field and laboratory samples were relatively consistent (i.e. samples with high PID readings reported comparably high readings of volatile compounds (soil, soil vapour) Samples with high electrical conductivity	BlueSphere Internal Data Review Procedure	Y	100% check of gauging data and water quality parameters completed.

Table 6 Summary of Data Collation and Data Assessment Procedures

Data Quality Objectives		Acceptability Limits	Reference	Pass	Comment
		(EC) or pH reported consistent laboratory results.			
The data received from the laboratory is consistent between the laboratory provided Certificate of Analysis (COA) and excel spreadsheet	10% check of excel spreadsheet used for Esdat data entry compared to COA. 100% check to be completed if any errors noted.	Any differences in data are not acceptable. Any differences are to be reported to the laboratory and clarification sought with laboratory internal review initiated.	BlueSphere Internal Data Review Procedure	Y	10% check completed, no differences in laboratory provided data noted.
The data presented in report tables is consistent with laboratory provided data	10% check of report table compared to Certificate of Analysis. 100% check to be completed if any errors noted.	Any differences in data are not acceptable and are required to be resolved. Review of data entry process to be initiated to find source of error.	BlueSphere Internal Esdat Request Form and BlueSphere Internal Peer Review Procedure	Y	10% check completed, no differences in report tables and laboratory reported data noted.
Appropriate assessment criteria for data has been used in report tables.	100% check of adopted guidelines against published guideline values	Any differences in guidelines are not acceptable and are required to be resolved. Review of data entry and guideline import template to be initiated to find source of error.	BlueSphere Internal Esdat Request Form and BlueSphere Internal Peer Review Procedure	N/A	No guideline values have been included in the presentation of this groundwater analytical data.

5 Anomalous Results

There were no anomalous results reported.

6 Overall Data Assessment

Based on the above review, BlueSphere considers the data to be of a suitable precision and accuracy to meet the data quality objectives for the project.

Table G1 - Groundwater Round 1 QA/QC Sample Register

Sample ID	Date	QC Type	Sampling Method	Matrix	Parent Sample	Analysis	Lab
On-Site							
QC01_T	06-02-18	Rinsate	From Pump	Water	N/A	BTEXN, TRH (C6-C40), VOCs	ALS
QC02_T	06-02-18	Trip Blank	Laboratory Supplied	Water	N/A	BTEXN, TRH (C6-C10)	ALS
QC03_T	09-02-18	Rinsate	From Pump	Water	N/A	BTEXN, TRH (C6-C40), VOCs	ALS
QC04_T	12-02-18	Rinsate	From Pump	Water	N/A	BTEXN, TRH (C6-C40), VOCs	ALS
QC05_T	13-02-18	Rinsate	From Pump	Water	N/A	BTEXN, TRH (C6-C40), VOCs	ALS
QC06_T	13-02-18	Trip Blank	Laboratory Supplied	Water	N/A	BTEXN, TRH (C6-C10)	ALS
QC07_T	14-02-18	Rinsate	From Pump	Water	N/A	BTEXN, TRH (C6-C40), VOCs	ALS
QC08_T	15-02-18	Trip Blank	Laboratory Supplied	Water	N/A	BTEXN, TRH (C6-C10)	ALS
QC09_T	15-02-18	Rinsate	From Pump	Water	N/A	BTEXN, TRH (C6-C40), VOCs	ALS
QC10_T	15-02-18	Trip Blank	Laboratory Supplied	Water	N/A	BTEXN, TRH (C6-C10)	ALS
QC11_T	16-02-18	Duplicate	MicroPurge	Water	MWS17_07	BTEXN, TRH (C6-C40), VOCs	ALS
QC12_T	16-02-18	Triplicate	MicroPurge	Water	MWS17_07	BTEXN, TRH (C6-C40), VOCs	Envirolab
QC13_T	16-02-18	Rinsate	From Pump	Water	N/A	BTEXN, TRH (C6-C40), VOCs	ALS
QC14_T	20-02-18	Duplicate	MicroPurge	Water	BSE_GW05	BTEXN, TRH (C6-C40), VOCs, Biodeg Indicators	ALS
QC15_T	20-02-18	Triplicate	MicroPurge	Water	BSE_GW05	BTEXN, TRH (C6-C40), VOCs, Biodeg Indicators	Envirolab
QC16_T	20-02-18	Rinsate	From Bailer	Water	N/A	BTEXN, TRH (C6-C40), VOCs	ALS
QC17_T	20-02-18	Rinsate	From Pump	Water	N/A	BTEXN, TRH (C6-C40), VOCs	ALS
QC18_T	20-02-18	Trip Blank	Laboratory Supplied	Water	N/A	BTEXN, TRH (C6-C10)	ALS
QC19_T	20-02-18	Trip Blank	Laboratory Supplied	Water	N/A	BTEXN, TRH (C6-C10)	ALS
Off-Site							
QC01	15-01-18	Rinsate	From Pump	Water	N/A	VOCs	ALS
QC02	15-01-18	Trip Blank	Laboratory Supplied	Water	N/A	BTEXN, TRH (C6-C10)	ALS
QC03	16-01-18	Rinsate	From Pump	Water	N/A	VOCs	ALS
QC04	17-01-18	Duplicate	MicroPurge	Water	BSE_DW06	VOCs	ALS
QC05	17-01-18	Triplicate	MicroPurge	Water	BSE_DW06	VOCs	ALS
QC06	17-01-18	Rinsate	From Pump	Water	N/A	VOCs	ALS
QC07	17-01-18	Trip Blank	Laboratory Supplied	Water	N/A	BTEXN, TRH (C6-C10)	ALS
QC08	18-01-18	Rinsate	From Pump	Water	N/A	VOCs	ALS
QC09	19-01-18	Rinsate	From Pump	Water	N/A	VOCs	ALS
QC10	22-01-18	Trip Blank	Laboratory Supplied	Water	N/A	BTEXN, TRH (C6-C10)	ALS
QC11	22-01-18	Rinsate	From Pump	Water	N/A	VOCs	ALS
QC12	23-01-18	Rinsate	From Pump	Water	N/A	VOCs	ALS
QC13	24-01-18	Trip Blank	Laboratory Supplied	Water	N/A	BTEXN, TRH (C6-C10)	ALS
QC14	24-01-18	Rinsate	From Pump	Water	N/A	VOCs	ALS
QC15	25-01-18	Rinsate	From Pump	Water	N/A	VOCs	ALS
QC16	29-01-18	Duplicate	MicroPurge	Water	MW_EPA21	VOCs	ALS
QC17	29-01-18	Triplicate	MicroPurge	Water	MW_EPA21	VOCs	Envirolab
QC18	29-01-18	Rinsate	From Pump	Water	N/A	VOCs	ALS
QC19	29-01-18	Trip Blank	Laboratory Supplied	Water	N/A	BTEXN, TRH (C6-C10)	ALS
QC20	02-02-18	Duplicate	Bailer	Water	MW_EPA13	VOCs	ALS
QC21	02-02-18	Triplicate	Bailer	Water	MW_EPA13	VOCs	Envirolab
QC22	02-02-18	Rinsate	From Bailer	Water	N/A	VOCs	ALS
QC23	02-02-18	Trip Blank	Laboratory Supplied	Water	N/A	BTEXN, TRH (C6-C10)	ALS
QC24	20-02-18	Rinsate	From Bailer	Water	N/A	VOCs	ALS
QC25	20-02-18	Trip Blank	Laboratory Supplied	Water	N/A	BTEXN, TRH (C6-C10)	ALS

Table G2 - Groundwater Round 1 Duplicate and Triplicate Analysis

		Sample Type	Parent	Duplicate	RPD	Parent	Duplicate	RPD	Parent	Duplicate	RPD
		Lab SDG	EM1801660	EM1801660		EM1802178	EM1802178		EM1803017	EM1803017	
		Field ID	BSE_DW06	QC04		MW_EPA21	QC16		MW_EPA13	QC20	
		Date Sampled	17-01-18	17-01-18		29-01-18	29-01-18		02-02-18	02-02-18	
ChemName	Units	EQL									
Sulfate (Turbidimetric) as SO4											
Sulfate as SO4 - Turbidimetric (Filtered)	mg/l	1									
Inorganics											
Ferrous Iron	mg/l	0.05									
Nitrate (as N)	mg/l	0.01									
Metals											
Manganese (Filtered)	mg/l	0.001 (Primary): 0.005 (Interlab)									
PAHs											
Naphthalene	µg/L	5 (Primary): 1 (Interlab)	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0
Naphthalene	µg/L	5 (Primary): 1 (Interlab)									
Chlorinated Hydrocarbons											
1,1,1,2-tetrachloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
1,1,1-trichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
1,1,2,2-tetrachloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
1,1,2-trichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
1,1-dichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
1,1-dichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	2	2	0
1,1-dichloropropene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
1,2,3-trichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
1,2-dibromo-3-chloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
1,2-dichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
1,2-dichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
1,3-dichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
2,2-dichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Bromochloromethane	µg/L	1 (Primary): 0.5 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Bromodichloromethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Bromoform	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Carbon tetrachloride	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Chlorodibromomethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Chloroethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0
Chloroform	µg/L	1 (Primary): 0.5 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Chloromethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0
cis-1,2-dichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	24	24	0	42	44	5
cis-1,3-dichloropropene	µg/L	2 (Primary): 0.1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0
Dibromomethane	µg/L	1 (Primary): 0.5 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Dichloromethane	µg/L	2	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0
Hexachlorobutadiene	µg/L	0.5 (Primary): 0.2 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Trichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	134	136	1	711	768	8
Tetrachloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	2	1	67
trans-1,2-dichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	2	2	0
trans-1,3-dichloropropene	µg/L	2 (Primary): 0.1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0
Vinyl chloride	µg/L	0.2 (Primary): 0.3 (Interlab)	<0.2	<0.2	0	<0.2	<0.2	0	1	0.9	11
Halogenated Hydrocarbons											
1,2-dibromoethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Bromomethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0
Dichlorodifluoromethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0

Table G2 - Groundwater Round 1 Duplicate and Triplicate Analysis

		Sample Type	Parent	Duplicate	RPD	Parent	Duplicate	RPD	Parent	Duplicate	RPD
		Lab SDG	EM1801660	EM1801660		EM1802178	EM1802178		EM1803017	EM1803017	
		Field ID	BSE_DW06	QC04		MW_EPA21	QC16		MW_EPA13	QC20	
		Date Sampled	17-01-18	17-01-18		29-01-18	29-01-18		02-02-18	02-02-18	
ChemName		Units	EQL								
	Iodomethane	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Trichlorofluoromethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0
Solvents												
	2-hexanone (MBK)	µg/L	10	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0
	Methyl Ethyl Ketone	µg/L	10	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0
	4-Methyl-2-pentanone	µg/L	10	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0
	Carbon disulfide	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Vinyl acetate	µg/L	10	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0
BTEX												
	Benzene	µg/L	1 (Primary): 0.1 (Interlab)									
	Benzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Ethylbenzene	µg/L	2 (Primary): 1 (Interlab)									
	Ethylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Toluene	µg/L	2 (Primary): 1 (Interlab)									
	Toluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Total BTEX	µg/L	1									
	Xylene (m & p)	µg/L	2 (Primary): 0.2 (Interlab)									
	Xylene (m & p)	µg/L	1 (Primary): 2 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Xylene (o)	µg/L	2 (Primary): 1 (Interlab)									
	Xylene (o)	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Xylene Total	µg/L	2									
	Xylene Total	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
MAH												
	1,2,4-trimethylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	1,3,5-trimethylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Isopropylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	n-butylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	n-propylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	p-isopropyltoluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	sec-butylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Styrene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	tert-butylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Halogenated Benzenes												
	1,2,3-trichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	1,2,4-trichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	1,2-dichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	1,3-dichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	1,4-dichlorobenzene	µg/L	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
	2-chlorotoluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	4-chlorotoluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Bromobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Chlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Trichlorobenzene (total)	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0
VOCs												
	cis-1,4-Dichloro-2-butene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Pentachloroethane	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0

Table G2 - Groundwater Round 1 Duplicate and Triplicate Analysis

		Sample Type	Parent	Duplicate	RPD	Parent	Duplicate	RPD	Parent	Duplicate	RPD
		Lab SDG	EM1801660	EM1801660		EM1802178	EM1802178		EM1803017	EM1803017	
		Field ID	BSE_DW06	QC04		MW_EPA21	QC16		MW_EPA13	QC20	
		Date Sampled	17-01-18	17-01-18		29-01-18	29-01-18		02-02-18	02-02-18	
ChemName		Units	EQL								
	Trihalomethanes	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0
	trans-1,4-Dichloro-2-butene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
TRH												
	C10-C16	µg/L	100 (Primary): 50 (Interlab)									
	C16-C34	µg/L	100									
	C34-C40	µg/L	100									
	F2-NAPHTHALENE	mg/l	0.1 (Primary): 0.05 (Interlab)									
	C10 - C40 (Sum of total)	µg/L	100									
	C6-C10 less BTEX (F1)	µg/L	20 (Primary): 10 (Interlab)									
	C6-C10	µg/L	20 (Primary): 10 (Interlab)									
TPH												
	C6 - C9	µg/L	20 (Primary): 10 (Interlab)									
	C10 - C14	µg/L	50									
	+C10 - C36 (Sum of total)	µg/L	50									
	C15 - C28	µg/L	100									
	C29-C36	µg/L	50 (Primary): 100 (Interlab)									
Organic												
	Methane	mg/l	0.01 (Primary): 0.005 (Interlab)									

Table G2 - Groundwater Round 1 Duplicate and Triplicate Analysis

		Sample Type	Parent	Duplicate	RPD	Parent	Duplicate	RPD	Parent	Triplicate	RPD
		Lab SDG	EM1803438	EM1803438		EM1803438	EM1803438		EM1802178	12936	
		Field ID	MWS17_07	QC11_T		BSE_GW05	QC14_T		MW_EPA21	QC17	
		Date Sampled	16-02-18	16-02-18		20-02-18	20-02-18		29-01-18	29-01-18	
ChemName	Units	EQL									
Sulfate (Turbidimetric) as SO4											
Sulfate as SO4 - Turbidimetric (Filtered)	mg/l	1				90	89	1			
Inorganics											
Ferrous Iron	mg/l	0.05				<0.05	<0.05	0			
Nitrate (as N)	mg/l	0.01				11.8	11.7	1			
Metals											
Manganese (Filtered)	mg/l	0.001 (Primary): 0.005 (Interlab)				<0.001	<0.001	0			
PAHs											
Naphthalene	µg/L	5 (Primary): 1 (Interlab)	<5.0	<5.0	0	<5.0	<5.0	0	<5.0		
Naphthalene	µg/L	5 (Primary): 1 (Interlab)	<5.0	<5.0	0	<5.0	<5.0	0			
Chlorinated Hydrocarbons											
1,1,1,2-tetrachloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,1,1-trichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,1,2,2-tetrachloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,1,2-trichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	0.2	0
1,1-dichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,1-dichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,1-dichloropropene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,2,3-trichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,2-dibromo-3-chloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,2-dichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,2-dichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,3-dichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
2,2-dichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Bromochloromethane	µg/L	1 (Primary): 0.5 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.5	0
Bromodichloromethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Bromoform	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Carbon tetrachloride	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Chlorodibromomethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Chloroethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<2.0	0
Chloroform	µg/L	1 (Primary): 0.5 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	0.6	0
Chloromethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<2.0	0
cis-1,2-dichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	24	20	18
cis-1,3-dichloropropene	µg/L	2 (Primary): 0.1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<0.1	0
Dibromomethane	µg/L	1 (Primary): 0.5 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.5	0
Dichloromethane	µg/L	2	<2.0	<2.0	0	<2.0	<2.0	0	<2.0		
Hexachlorobutadiene	µg/L	0.5 (Primary): 0.2 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.2	0
Trichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	134	120	11
Tetrachloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	0.6	0
trans-1,2-dichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	0.2	0
trans-1,3-dichloropropene	µg/L	2 (Primary): 0.1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<0.1	0
Vinyl chloride	µg/L	0.2 (Primary): 0.3 (Interlab)	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.3	0
Halogenated Hydrocarbons											
1,2-dibromoethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Bromomethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<2.0	0
Dichlorodifluoromethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<2.0	0

Table G2 - Groundwater Round 1 Duplicate and Triplicate Analysis

		Sample Type	Parent	Duplicate	RPD	Parent	Duplicate	RPD	Parent	Triplicate	RPD
		Lab SDG	EM1803438	EM1803438		EM1803438	EM1803438		EM1802178	12936	
		Field ID	MWS17_07	QC11_T		BSE_GW05	QC14_T		MW_EPA21	QC17	
		Date Sampled	16-02-18	16-02-18		20-02-18	20-02-18		29-01-18	29-01-18	
ChemName	Units	EQL									
Iodomethane	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0		
Trichlorofluoromethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<2.0	0
Solvents											
2-hexanone (MBK)	µg/L	10	<10.0	<10.0	0	<10.0	<10.0	0	<10.0		
Methyl Ethyl Ketone	µg/L	10	<10.0	<10.0	0	<10.0	<10.0	0	<10.0		
4-Methyl-2-pentanone	µg/L	10	<10.0	<10.0	0	<10.0	<10.0	0	<10.0		
Carbon disulfide	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0		
Vinyl acetate	µg/L	10	<10.0	<10.0	0	<10.0	<10.0	0	<10.0		
BTEX											
Benzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0			
Benzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Ethylbenzene	µg/L	2 (Primary): 1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0			
Ethylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Toluene	µg/L	2 (Primary): 1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0			
Toluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Total BTEX	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0			
Xylene (m & p)	µg/L	2 (Primary): 0.2 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0			
Xylene (m & p)	µg/L	1 (Primary): 2 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.2	0
Xylene (o)	µg/L	2 (Primary): 1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0			
Xylene (o)	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Xylene Total	µg/L	2	<2.0	<2.0	0	<2.0	<2.0	0			
Xylene Total	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0		
MAH											
1,2,4-trimethylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,3,5-trimethylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Isopropylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
n-butylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
n-propylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
p-isopropyltoluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
sec-butylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Styrene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
tert-butylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Halogenated Benzenes											
1,2,3-trichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,2,4-trichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,2-dichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,3-dichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
1,4-dichlorobenzene	µg/L	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
2-chlorotoluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
4-chlorotoluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Bromobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Chlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0
Trichlorobenzene (total)	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001		
VOCs											
cis-1,4-Dichloro-2-butene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0		
Pentachloroethane	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0		

Table G2 - Groundwater Round 1 Duplicate and Triplicate Analysis

		Sample Type	Parent	Duplicate	RPD	Parent	Duplicate	RPD	Parent	Triplicate	RPD
		Lab SDG	EM1803438	EM1803438		EM1803438	EM1803438		EM1802178	12936	
		Field ID	MWS17_07	QC11_T		BSE_GW05	QC14_T		MW_EPA21	QC17	
		Date Sampled	16-02-18	16-02-18		20-02-18	20-02-18		29-01-18	29-01-18	
ChemName		Units	EQL								
	Trihalomethanes	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001		
	trans-1,4-Dichloro-2-butene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0		
TRH												
	C10-C16	µg/L	100 (Primary): 50 (Interlab)	<100.0	<100.0	0	<100.0	<100.0	0			
	C16-C34	µg/L	100	<100.0	<100.0	0	<100.0	<100.0	0			
	C34-C40	µg/L	100	<100.0	<100.0	0	<100.0	<100.0	0			
	F2-NAPHTHALENE	mg/l	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.1	0			
	C10 - C40 (Sum of total)	µg/L	100	<100.0	<100.0	0	<100.0	<100.0	0			
	C6-C10 less BTEX (F1)	µg/L	20 (Primary): 10 (Interlab)	<20.0	<20.0	0	<20.0	<20.0	0			
	C6-C10	µg/L	20 (Primary): 10 (Interlab)	<20.0	<20.0	0	<20.0	<20.0	0			
TPH												
	C6 - C9	µg/L	20 (Primary): 10 (Interlab)	<20.0	<20.0	0	<20.0	<20.0	0			
	C10 - C14	µg/L	50	<50.0	<50.0	0	<50.0	<50.0	0			
	+C10 - C36 (Sum of total)	µg/L	50	<50.0	<50.0	0	<50.0	<50.0	0			
	C15 - C28	µg/L	100	<100.0	<100.0	0	<100.0	<100.0	0			
	C29-C36	µg/L	50 (Primary): 100 (Interlab)	<50.0	<50.0	0	<50.0	<50.0	0			
Organic												
	Methane	mg/l	0.01 (Primary): 0.005 (Interlab)				<0.01	<0.01	0			

Table G2 - Groundwater Round 1 Duplicate and Triplicate Analysis

			Sample Type	Parent	Triplicate	RPD	Parent	Triplicate	RPD	Parent	Triplicate	RPD
			Lab SDG	EM1803438	13131		EM1803438	13131		EM1801660	205948	
			Field ID	MWS17_07	QC12_T		BSE_GW05	QC15_T		BSE_DW06	QC05	
			Date Sampled	16-02-18	16-02-18		20-02-18	20-02-18		17-01-18	17-01-18	
ChemName		Units	EQL									
Sulfate (Turbidimetric) as SO4												
	Sulfate as SO4 - Turbidimetric (Filtered)	mg/l	1				90					
Inorganics												
	Ferrous Iron	mg/l	0.05				<0.05	<0.05	0			
	Nitrate (as N)	mg/l	0.01				11.8					
Metals												
	Manganese (Filtered)	mg/l	0.001 (Primary): 0.005 (Interlab)				<0.001	<0.005	0			
PAHs												
	Naphthalene	µg/L	5 (Primary): 1 (Interlab)	<5.0	<1.0	0	<5.0	<1.0	0	<5.0		
	Naphthalene	µg/L	5 (Primary): 1 (Interlab)	<5.0	<1.0	0	<5.0	<1.0	0			
Chlorinated Hydrocarbons												
	1,1,1,2-tetrachloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	1,1,1-trichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	1,1,2,2-tetrachloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	1,1,2-trichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	1,1-dichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	1,1-dichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	1,1-dichloropropene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	1,2,3-trichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	1,2-dibromo-3-chloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	1,2-dichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	1,2-dichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	1,3-dichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	2,2-dichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	Bromochloromethane	µg/L	1 (Primary): 0.5 (Interlab)	<1.0	<0.5	0	<1.0	<0.5	0	<1.0	<0.5	0
	Bromodichloromethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	Bromoform	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	Carbon tetrachloride	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	Chlorodibromomethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	Chloroethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<2.0	0	<10.0	<2.0	0	<10.0	<2.0	0
	Chloroform	µg/L	1 (Primary): 0.5 (Interlab)	<1.0	<0.5	0	<1.0	<0.5	0	<1.0	<0.5	0
	Chloromethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<2.0	0	<10.0	<2.0	0	<10.0	<2.0	0
	cis-1,2-dichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	cis-1,3-dichloropropene	µg/L	2 (Primary): 0.1 (Interlab)	<2.0	<0.1	0	<2.0	<0.1	0	<2.0	<0.1	0
	Dibromomethane	µg/L	1 (Primary): 0.5 (Interlab)	<1.0	<0.5	0	<1.0	<0.5	0	<1.0	<0.5	0
	Dichloromethane	µg/L	2	<2.0			<2.0			<2.0		
	Hexachlorobutadiene	µg/L	0.5 (Primary): 0.2 (Interlab)	<0.5	<0.2	0	<0.5	<0.2	0	<0.5	<0.2	0
	Trichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.05	0
	Tetrachloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.05	0
	trans-1,2-dichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	trans-1,3-dichloropropene	µg/L	2 (Primary): 0.1 (Interlab)	<2.0	<0.1	0	<2.0	<0.1	0	<2.0	<0.1	0
	Vinyl chloride	µg/L	0.2 (Primary): 0.3 (Interlab)	<0.2	<0.3	0	<0.2	<0.3	0	<0.2	<0.2	0
Halogenated Hydrocarbons												
	1,2-dibromoethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	Bromomethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<2.0	0	<10.0	<2.0	0	<10.0	<2.0	0
	Dichlorodifluoromethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<2.0	0	<10.0	<2.0	0	<10.0	<2.0	0

Table G2 - Groundwater Round 1 Duplicate and Triplicate Analysis

		Sample Type	Parent	Triplicate	RPD	Parent	Triplicate	RPD	Parent	Triplicate	RPD
		Lab SDG	EM1803438	13131		EM1803438	13131		EM1801660	205948	
		Field ID	MWS17_07	QC12_T		BSE_GW05	QC15_T		BSE_DW06	QC05	
		Date Sampled	16-02-18	16-02-18		20-02-18	20-02-18		17-01-18	17-01-18	
ChemName	Units	EQL									
Iodomethane	µg/L	1	<1.0			<1.0			<1.0		
Trichlorofluoromethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<2.0	0	<10.0	<2.0	0	<10.0	<2.0	0
Solvents											
2-hexanone (MBK)	µg/L	10	<10.0			<10.0			<10.0		
Methyl Ethyl Ketone	µg/L	10	<10.0			<10.0			<10.0		
4-Methyl-2-pentanone	µg/L	10	<10.0			<10.0			<10.0		
Carbon disulfide	µg/L	1	<1.0			<1.0			<1.0		
Vinyl acetate	µg/L	10	<10.0			<10.0			<10.0		
BTEX											
Benzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0			
Benzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
Ethylbenzene	µg/L	2 (Primary): 1 (Interlab)	<2.0	<0.1	0	<2.0	<0.1	0			
Ethylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
Toluene	µg/L	2 (Primary): 1 (Interlab)	<2.0	<0.1	0	<2.0	<0.1	0			
Toluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
Total BTEX	µg/L	1	<1.0			<1.0					
Xylene (m & p)	µg/L	2 (Primary): 0.2 (Interlab)	<2.0	<0.2	0	<2.0	<0.2	0			
Xylene (m & p)	µg/L	1 (Primary): 2 (Interlab)	<1.0	<0.2	0	<1.0	<0.2	0	<1.0	<0.2	0
Xylene (o)	µg/L	2 (Primary): 1 (Interlab)	<2.0	<0.1	0	<2.0	<0.1	0			
Xylene (o)	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
Xylene Total	µg/L	2	<2.0			<2.0					
Xylene Total	µg/L	1	<1.0			<1.0			<1.0		
MAH											
1,2,4-trimethylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
1,3,5-trimethylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
Isopropylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
n-butylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
n-propylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
p-isopropyltoluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
sec-butylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
Styrene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	0.1	0
tert-butylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
Halogenated Benzenes											
1,2,3-trichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
1,2,4-trichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
1,2-dichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
1,3-dichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
1,4-dichlorobenzene	µg/L	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
2-chlorotoluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
4-chlorotoluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
Bromobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
Chlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
Trichlorobenzene (total)	mg/l	0.001	<0.001			<0.001			<0.001		
VOCs											
cis-1,4-Dichloro-2-butene	µg/L	1	<1.0			<1.0			<1.0		
Pentachloroethane	µg/L	1	<1.0			<1.0			<1.0		

Table G2 - Groundwater Round 1 Duplicate and Triplicate Analysis

		Sample Type	Parent	Triplicate	RPD	Parent	Triplicate	RPD	Parent	Triplicate	RPD
		Lab SDG	EM1803438	13131		EM1803438	13131		EM1801660	205948	
		Field ID	MWS17_07	QC12_T		BSE_GW05	QC15_T		BSE_DW06	QC05	
		Date Sampled	16-02-18	16-02-18		20-02-18	20-02-18		17-01-18	17-01-18	
ChemName		Units	EQL								
	Trihalomethanes	mg/l	0.001	<0.001		<0.001			<0.001		
	trans-1,4-Dichloro-2-butene	µg/L	1	<1.0		<1.0			<1.0		
TRH											
	C10-C16	µg/L	100 (Primary): 50 (Interlab)	<100.0	<50.0	0	<100.0	<50.0	0			
	C16-C34	µg/L	100	<100.0	<100.0	0	<100.0	<100.0	0			
	C34-C40	µg/L	100	<100.0	<100.0	0	<100.0	<100.0	0			
	F2-NAPHTHALENE	mg/l	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.05	0	<0.1	<0.05	0			
	C10 - C40 (Sum of total)	µg/L	100	<100.0			<100.0					
	C6-C10 less BTEX (F1)	µg/L	20 (Primary): 10 (Interlab)	<20.0	<10.0	0	<20.0	<10.0	0			
	C6-C10	µg/L	20 (Primary): 10 (Interlab)	<20.0	<10.0	0	<20.0	<10.0	0			
TPH											
	C6 - C9	µg/L	20 (Primary): 10 (Interlab)	<20.0	<10.0	0	<20.0	<10.0	0			
	C10 - C14	µg/L	50	<50.0	<50.0	0	<50.0	<50.0	0			
	+C10 - C36 (Sum of total)	µg/L	50	<50.0			<50.0					
	C15 - C28	µg/L	100	<100.0	<100.0	0	<100.0	<100.0	0			
	C29-C36	µg/L	50 (Primary): 100 (Interlab)	<50.0	<100.0	0	<50.0	<100.0	0			
Organic											
	Methane	mg/l	0.01 (Primary): 0.005 (Interlab)				<0.01	<0.005	0			

Table G2 - Groundwater Round 1 Duplicate and Triplicate Analysis

		Sample Type	Parent	Triplicate	RPD
		Lab SDG	EM1803017	206855	
		Field ID	MW_EPA13	QC21	
		Date Sampled	02-02-18	02-02-18	
ChemName	Units	EQL			
Sulfate (Turbidimetric) as SO4					
Sulfate as SO4 - Turbidimetric (Filtered)	mg/l	1			
Inorganics					
Ferrous Iron	mg/l	0.05			
Nitrate (as N)	mg/l	0.01			
Metals					
Manganese (Filtered)	mg/l	0.001 (Primary): 0.005 (Interlab)			
PAHs					
Naphthalene	µg/L	5 (Primary): 1 (Interlab)	<5.0		
Naphthalene	µg/L	5 (Primary): 1 (Interlab)			
Chlorinated Hydrocarbons					
1,1,1,2-tetrachloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
1,1,1-trichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
1,1,2,2-tetrachloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
1,1,2-trichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	0.4	0
1,1-dichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
1,1-dichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	2	3	40
1,1-dichloropropene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
1,2,3-trichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
1,2-dibromo-3-chloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
1,2-dichloroethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	0.2	0
1,2-dichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
1,3-dichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
2,2-dichloropropane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Bromochloromethane	µg/L	1 (Primary): 0.5 (Interlab)	<1.0	<0.5	0
Bromodichloromethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Bromoform	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Carbon tetrachloride	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Chlorodibromomethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Chloroethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<2.0	0
Chloroform	µg/L	1 (Primary): 0.5 (Interlab)	<1.0	<0.5	0
Chloromethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<2.0	0
cis-1,2-dichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	42	52	21
cis-1,3-dichloropropene	µg/L	2 (Primary): 0.1 (Interlab)	<2.0	<0.1	0
Dibromomethane	µg/L	1 (Primary): 0.5 (Interlab)	<1.0	<0.5	0
Dichloromethane	µg/L	2	<2.0		
Hexachlorobutadiene	µg/L	0.5 (Primary): 0.2 (Interlab)	<0.5	<0.2	0
Trichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	711	640	11
Tetrachloroethene	µg/L	1 (Primary): 0.1 (Interlab)	2	1.9	5
trans-1,2-dichloroethene	µg/L	1 (Primary): 0.1 (Interlab)	2	1.8	11
trans-1,3-dichloropropene	µg/L	2 (Primary): 0.1 (Interlab)	<2.0	<0.1	0
Vinyl chloride	µg/L	0.2 (Primary): 0.3 (Interlab)	1	1.5	40
Halogenated Hydrocarbons					
1,2-dibromoethane	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Bromomethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<2.0	0
Dichlorodifluoromethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<2.0	0

Table G2 - Groundwater Round 1 Duplicate and Triplicate Analysis

		Sample Type	Parent	Triplicate	RPD
		Lab SDG	EM1803017	206855	
		Field ID	MW_EPA13	QC21	
		Date Sampled	02-02-18	02-02-18	
ChemName	Units	EQL			
Iodomethane	µg/L	1	<1.0		
Trichlorofluoromethane	µg/L	10 (Primary): 2 (Interlab)	<10.0	<2.0	0
Solvents					
2-hexanone (MBK)	µg/L	10	<10.0		
Methyl Ethyl Ketone	µg/L	10	<10.0		
4-Methyl-2-pentanone	µg/L	10	<10.0		
Carbon disulfide	µg/L	1	<1.0		
Vinyl acetate	µg/L	10	<10.0		
BTEX					
Benzene	µg/L	1 (Primary): 0.1 (Interlab)			
Benzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Ethylbenzene	µg/L	2 (Primary): 1 (Interlab)			
Ethylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Toluene	µg/L	2 (Primary): 1 (Interlab)			
Toluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Total BTEX	µg/L	1			
Xylene (m & p)	µg/L	2 (Primary): 0.2 (Interlab)			
Xylene (m & p)	µg/L	1 (Primary): 2 (Interlab)	<1.0	<0.2	0
Xylene (o)	µg/L	2 (Primary): 1 (Interlab)			
Xylene (o)	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Xylene Total	µg/L	2			
Xylene Total	µg/L	1	<1.0		
MAH					
1,2,4-trimethylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
1,3,5-trimethylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Isopropylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
n-butylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
n-propylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
p-isopropyltoluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
sec-butylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Styrene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
tert-butylbenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Halogenated Benzenes					
1,2,3-trichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
1,2,4-trichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
1,2-dichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
1,3-dichlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
1,4-dichlorobenzene	µg/L	0.1	<0.1	<0.1	0
2-chlorotoluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
4-chlorotoluene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Bromobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Chlorobenzene	µg/L	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0
Trichlorobenzene (total)	mg/l	0.001	<0.001		
VOCs					
cis-1,4-Dichloro-2-butene	µg/L	1	<1.0		
Pentachloroethane	µg/L	1	<1.0		

Table G2 - Groundwater Round 1 Duplicate and Triplicate Analysis

		Sample Type		Parent	Triplicate	RPD
		Lab SDG		EM1803017	206855	
		Field ID		MW_EPA13	QC21	
		Date Sampled		02-02-18	02-02-18	
ChemName		Units	EQL			
	Trihalomethanes	mg/l	0.001	<0.001		
	trans-1,4-Dichloro-2-butene	µg/L	1	<1.0		
TRH						
	C10-C16	µg/L	100 (Primary): 50 (Interlab)			
	C16-C34	µg/L	100			
	C34-C40	µg/L	100			
	F2-NAPHTHALENE	mg/l	0.1 (Primary): 0.05 (Interlab)			
	C10 - C40 (Sum of total)	µg/L	100			
	C6-C10 less BTEX (F1)	µg/L	20 (Primary): 10 (Interlab)			
	C6-C10	µg/L	20 (Primary): 10 (Interlab)			
TPH						
	C6 - C9	µg/L	20 (Primary): 10 (Interlab)			
	C10 - C14	µg/L	50			
	+C10 - C36 (Sum of total)	µg/L	50			
	C15 - C28	µg/L	100			
	C29-C36	µg/L	50 (Primary): 100 (Interlab)			
Organic						
	Methane	mg/l	0.01 (Primary): 0.005 (Interlab)			

Table G3 - Groundwater Round 1 Rinsate and Trip Blank Analysis

Sample Type		Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Lab SDG		EM1801660	EM1801660	EM1801660	EM1801660	EM1801973	EM1801973	EM1801973	EM1802178	EM1802178	EM1802178	EM1803015	EM1803015	EM1803015	EM1803017
Field ID		QC01	QC03	QC06	QC08	QC09	QC11	QC12	QC14	QC15	QC18	QC01_T	QC03_T	QC04_T	QC22
Date Sampled		15-01-18	16-01-18	17-01-18	18-01-18	19-01-18	22-01-18	23-01-18	24-01-18	25-01-18	29-01-18	06-02-18	09-02-18	12-02-18	02-02-18
ChemName	Units														
BTEX															
Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<2	<1
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<2	<1
Total BTEX	µg/L											<1	<1	<1	
Xylene (m & p)	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<2	<1
Xylene (o)	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<2	<1
Xylene Total	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<2	<2	<1
Chlorinated Hydrocarbons															
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorodibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichloromethane	µg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Hexachlorobutadiene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Vinyl chloride	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Halogenated Benzenes															
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Table G3 - Groundwater Round 1 Rinsate and Trip Blank Analysis

Sample Type		Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Lab SDG		EM1801660	EM1801660	EM1801660	EM1801660	EM1801973	EM1801973	EM1801973	EM1802178	EM1802178	EM1802178	EM1803015	EM1803015	EM1803015	EM1803017
Field ID		QC01	QC03	QC06	QC08	QC09	QC11	QC12	QC14	QC15	QC18	QC01_T	QC03_T	QC04_T	QC22
Date Sampled		15-01-18	16-01-18	17-01-18	18-01-18	19-01-18	22-01-18	23-01-18	24-01-18	25-01-18	29-01-18	06-02-18	09-02-18	12-02-18	02-02-18
ChemName	Units														
1,4-dichlorobenzene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorobenzene (total)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Halogenated Hydrocarbons															
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Iodomethane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Inorganics															
Ferrous Iron	mg/l														
Nitrate (as N)	mg/l														
Nitrate (as N) (Filtered)	mg/l														
MAH															
1,2,4-trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Major Anions															
Sulphate	mg/l														
Metals															
Manganese	mg/l														
Manganese (Filtered)	mg/l														
Organic															
Methane	mg/l														
PAHs															
Naphthalene	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Solvents															
2-hexanone (MBK)	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Methyl Ethyl Ketone	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4-Methyl-2-pentanone	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MTBE	mg/l														
Vinyl acetate	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sulfate (Turbidimetric) as SO4															
Sulfate as SO4 - Turbidimetric (Filtered	mg/l														
TPH															

Table G3 - Groundwater Round 1 Rinsate and Trip Blank Analysis

Sample Type		Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Lab SDG		EM1801660	EM1801660	EM1801660	EM1801660	EM1801973	EM1801973	EM1801973	EM1802178	EM1802178	EM1802178	EM1803015	EM1803015	EM1803015	EM1803017
Field ID		QC01	QC03	QC06	QC08	QC09	QC11	QC12	QC14	QC15	QC18	QC01_T	QC03_T	QC04_T	QC22
Date Sampled		15-01-18	16-01-18	17-01-18	18-01-18	19-01-18	22-01-18	23-01-18	24-01-18	25-01-18	29-01-18	06-02-18	09-02-18	12-02-18	02-02-18
ChemName	Units														
C6 - C9	µg/L											<20	<20	<20	
C10 - C14	µg/L											<50	<50	<50	
+C10 - C36 (Sum of total)	µg/L											<50	<50	<50	
C15 - C28	µg/L											<100	<100	<100	
C29-C36	µg/L											<50	<50	<50	
TRH															
C10-C16	µg/L											<100	<100	<100	
C16-C34	µg/L											<100	<100	<100	
C34-C40	µg/L											<100	<100	<100	
F2-NAPHTHALENE	mg/l											<0.1	<0.1	<0.1	
C10 - C40 (Sum of total)	µg/L											<100	<100	<100	
C6-C10 less BTEX (F1)	µg/L											<20	<20	<20	
C6-C10	µg/L											<20	<20	<20	
VOCs															
cis-1,4-Dichloro-2-butene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pentachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trihalomethanes	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
trans-1,4-Dichloro-2-butene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Table G3 - Groundwater Round 1 Rinsate and Trip Blank Analysis

Sample Type		Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Lab SDG		EM1803129	EM1803129	EM1803438	EM1803438	EM1803438	EM1803438	EM1803439	EM1801660	EM1801660	EM1801973	EM1802178	EM1802178	EM1803015	EM1803017
Field ID		QC05_T	QC07_T	QC13_T	QC16_T	QC17_T	QC09_T	QC24	QC02	QC07	QC10	QC13	QC19	QC02_T	QC23
Date Sampled		13-02-18	14-02-18	16-02-18	20-02-18	20-02-18	15-02-18	20-02-18	15-01-18	17-01-18	22-01-18	24-01-18	29-01-18	06-02-18	02-02-18
ChemName	Units														
BTEX															
Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<2	<2	<2	<2	<2	<2	<1	<2	<2	<2	<2	<2	<2	<2
Toluene	µg/L	<2	<2	<2	<2	<2	<2	<1	<2	<2	<2	<2	<2	<2	<2
Total BTEX	µg/L	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1
Xylene (m & p)	µg/L	<2	<2	<2	<2	<2	<2	<1	<2	<2	<2	<2	<2	<2	<2
Xylene (o)	µg/L	<2	<2	<2	<2	<2	<2	<1	<2	<2	<2	<2	<2	<2	<2
Xylene Total	µg/L	<2	<2	<2	<2	<2	<2	<1	<2	<2	<2	<2	<2	<2	<2
Chlorinated Hydrocarbons															
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,1-dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1							
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1							
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1							
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1							
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1							
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1							
Chlorodibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1							
Chloroethane	µg/L	<10	<10	<10	<10	<10	<10	<10							
Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1							
Chloromethane	µg/L	<10	<10	<10	<10	<10	<10	<10							
cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1							
cis-1,3-dichloropropene	µg/L	<2	<2	<2	<2	<2	<2	<2							
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1							
Dichloromethane	µg/L	<2	<2	<2	<2	<2	<2	<2							
Hexachlorobutadiene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5							
Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1							
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1							
trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1							
trans-1,3-dichloropropene	µg/L	<2	<2	<2	<2	<2	<2	<2							
Vinyl chloride	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2							
Halogenated Benzenes															
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1							

Table G3 - Groundwater Round 1 Rinsate and Trip Blank Analysis

Sample Type		Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Lab SDG		EM1803129	EM1803129	EM1803438	EM1803438	EM1803438	EM1803438	EM1803439	EM1801660	EM1801660	EM1801973	EM1802178	EM1802178	EM1803015	EM1803017
Field ID		QC05_T	QC07_T	QC13_T	QC16_T	QC17_T	QC09_T	QC24	QC02	QC07	QC10	QC13	QC19	QC02_T	QC23
Date Sampled		13-02-18	14-02-18	16-02-18	20-02-18	20-02-18	15-02-18	20-02-18	15-01-18	17-01-18	22-01-18	24-01-18	29-01-18	06-02-18	02-02-18
ChemName	Units														
1,4-dichlorobenzene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1							
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1							
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1							
Chlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1							
Trichlorobenzene (total)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001							
Halogenated Hydrocarbons															
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1							
Bromomethane	µg/L	<10	<10	<10	<10	<10	<10	<10							
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10	<10	<10							
Iodomethane	µg/L	<1	<1	<1	<1	<1	<1	<1							
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10	<10	<10							
Inorganics															
Ferrous Iron	mg/l														
Nitrate (as N)	mg/l														
Nitrate (as N) (Filtered)	mg/l														
MAH															
1,2,4-trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1							
1,3,5-trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1							
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1							
n-butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1							
n-propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1							
p-isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1							
sec-butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1							
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1							
tert-butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1							
Major Anions															
Sulphate	mg/l														
Metals															
Manganese	mg/l		<0.001		<0.001	<0.001	<0.001								
Manganese (Filtered)	mg/l														
Organic															
Methane	mg/l														
PAHs															
Naphthalene	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Solvents															
2-hexanone (MBK)	µg/L	<10	<10	<10	<10	<10	<10	<10							
Methyl Ethyl Ketone	µg/L	<10	<10	<10	<10	<10	<10	<10							
4-Methyl-2-pentanone	µg/L	<10	<10	<10	<10	<10	<10	<10							
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1							
MTBE	mg/l														
Vinyl acetate	µg/L	<10	<10	<10	<10	<10	<10	<10							
Sulfate (Turbidimetric) as SO4															
Sulfate as SO4 - Turbidimetric (Filtered	mg/l														
TPH															

Table G3 - Groundwater Round 1 Rinsate and Trip Blank Analysis

Sample Type		Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Lab SDG		EM1803129	EM1803129	EM1803438	EM1803438	EM1803438	EM1803438	EM1803439	EM1801660	EM1801660	EM1801973	EM1802178	EM1802178	EM1803015	EM1803017
Field ID		QC05_T	QC07_T	QC13_T	QC16_T	QC17_T	QC09_T	QC24	QC02	QC07	QC10	QC13	QC19	QC02_T	QC23
Date Sampled		13-02-18	14-02-18	16-02-18	20-02-18	20-02-18	15-02-18	20-02-18	15-01-18	17-01-18	22-01-18	24-01-18	29-01-18	06-02-18	02-02-18
ChemName	Units														
C6 - C9	µg/L	<20	<20	<20	<20	<20	<20		<20	<20	<20	<20	<20	<20	<20
C10 - C14	µg/L	<50	<50	<50	<50	<50	<50								
+C10 - C36 (Sum of total)	µg/L	<50	<50	<50	<50	<50	<50								
C15 - C28	µg/L	<100	<100	<100	<100	<100	<100								
C29-C36	µg/L	<50	<50	<50	<50	<50	<50								
TRH															
C10-C16	µg/L	<100	<100	<100	<100	<100	<100								
C16-C34	µg/L	<100	<100	<100	<100	<100	<100								
C34-C40	µg/L	<100	<100	<100	<100	<100	<100								
F2-NAPHTHALENE	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1								
C10 - C40 (Sum of total)	µg/L	<100	<100	<100	<100	<100	<100								
C6-C10 less BTEX (F1)	µg/L	<20	<20	<20	<20	<20	<20		<20	<20	<20	<20	<20	<20	<20
C6-C10	µg/L	<20	<20	<20	<20	<20	<20		<20	<20	<20	<20	<20	<20	<20
VOCs															
cis-1,4-Dichloro-2-butene	µg/L	<1	<1	<1	<1	<1	<1	<1							
Pentachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1							
Trihalomethanes	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001							
trans-1,4-Dichloro-2-butene	µg/L	<1	<1	<1	<1	<1	<1	<1							

Table G3 - Groundwater Round 1 Rinsate and Trip Blank Analysis

Sample Type		Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Lab SDG		EM1803129	EM1803129	EM1803438	EM1803438	EM1803438	EM1803439
Field ID		QC06_T	QC08_T	QC18_T	QC19_T	QC10_T	QC25
Date Sampled		13-02-18	15-02-18	20-02-18	20-02-18	15-02-18	20-02-18
ChemName	Units						
BTEX							
Benzene	µg/L	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<2	<2	<2	<2	<2	<2
Toluene	µg/L	<2	<2	<2	<2	<2	<2
Total BTEX	µg/L	<1	<1	<1	<1	<1	<1
Xylene (m & p)	µg/L	<2	<2	<2	<2	<2	<2
Xylene (o)	µg/L	<2	<2	<2	<2	<2	<2
Xylene Total	µg/L	<2	<2	<2	<2	<2	<2
Chlorinated Hydrocarbons							
1,1,1,2-tetrachloroethane	µg/L						
1,1,1-trichloroethane	µg/L						
1,1,2,2-tetrachloroethane	µg/L						
1,1,2-trichloroethane	µg/L						
1,1-dichloroethane	µg/L						
1,1-dichloroethene	µg/L						
1,1-dichloropropene	µg/L						
1,2,3-trichloropropane	µg/L						
1,2-dibromo-3-chloropropane	µg/L						
1,2-dichloroethane	µg/L						
1,2-dichloropropane	µg/L						
1,3-dichloropropane	µg/L						
2,2-dichloropropane	µg/L						
Bromochloromethane	µg/L						
Bromodichloromethane	µg/L						
Bromoform	µg/L						
Carbon tetrachloride	µg/L						
Chlorodibromomethane	µg/L						
Chloroethane	µg/L						
Chloroform	µg/L						
Chloromethane	µg/L						
cis-1,2-dichloroethene	µg/L						
cis-1,3-dichloropropene	µg/L						
Dibromomethane	µg/L						
Dichloromethane	µg/L						
Hexachlorobutadiene	µg/L						
Trichloroethene	µg/L						
Tetrachloroethene	µg/L						
trans-1,2-dichloroethene	µg/L						
trans-1,3-dichloropropene	µg/L						
Vinyl chloride	µg/L						
Halogenated Benzenes							
1,2,3-trichlorobenzene	µg/L						
1,2,4-trichlorobenzene	µg/L						
1,2-dichlorobenzene	µg/L						
1,3-dichlorobenzene	µg/L						

Table G3 - Groundwater Round 1 Rinsate and Trip Blank Analysis

Sample Type		Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Lab SDG		EM1803129	EM1803129	EM1803438	EM1803438	EM1803438	EM1803439
Field ID		QC06_T	QC08_T	QC18_T	QC19_T	QC10_T	QC25
Date Sampled		13-02-18	15-02-18	20-02-18	20-02-18	15-02-18	20-02-18
ChemName	Units						
1,4-dichlorobenzene	µg/L						
2-chlorotoluene	µg/L						
4-chlorotoluene	µg/L						
Bromobenzene	µg/L						
Chlorobenzene	µg/L						
Trichlorobenzene (total)	mg/l						
Halogenated Hydrocarbons							
1,2-dibromoethane	µg/L						
Bromomethane	µg/L						
Dichlorodifluoromethane	µg/L						
Iodomethane	µg/L						
Trichlorofluoromethane	µg/L						
Inorganics							
Ferrous Iron	mg/l						
Nitrate (as N)	mg/l						
Nitrate (as N) (Filtered)	mg/l						
MAH							
1,2,4-trimethylbenzene	µg/L						
1,3,5-trimethylbenzene	µg/L						
Isopropylbenzene	µg/L						
n-butylbenzene	µg/L						
n-propylbenzene	µg/L						
p-isopropyltoluene	µg/L						
sec-butylbenzene	µg/L						
Styrene	µg/L						
tert-butylbenzene	µg/L						
Major Anions							
Sulphate	mg/l						
Metals							
Manganese	mg/l						
Manganese (Filtered)	mg/l						
Organic							
Methane	mg/l						
PAHs							
Naphthalene	µg/L	<5	<5	<5	<5	<5	<5
Solvents							
2-hexanone (MBK)	µg/L						
Methyl Ethyl Ketone	µg/L						
4-Methyl-2-pentanone	µg/L						
Carbon disulfide	µg/L						
MTBE	mg/l						
Vinyl acetate	µg/L						
Sulfate (Turbidimetric) as SO4							
Sulfate as SO4 - Turbidimetric (Filtered	mg/l						
TPH							

Table G3 - Groundwater Round 1 Rinsate and Trip Blank Analysis

Sample Type		Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Lab SDG		EM1803129	EM1803129	EM1803438	EM1803438	EM1803438	EM1803439
Field ID		QC06_T	QC08_T	QC18_T	QC19_T	QC10_T	QC25
Date Sampled		13-02-18	15-02-18	20-02-18	20-02-18	15-02-18	20-02-18
ChemName	Units						
C6 - C9	µg/L	<20	<20	<20	<20	<20	<20
C10 - C14	µg/L						
+C10 - C36 (Sum of total)	µg/L						
C15 - C28	µg/L						
C29-C36	µg/L						
TRH							
C10-C16	µg/L						
C16-C34	µg/L						
C34-C40	µg/L						
F2-NAPHTHALENE	mg/l						
C10 - C40 (Sum of total)	µg/L						
C6-C10 less BTEX (F1)	µg/L	<20	<20	<20	<20	<20	<20
C6-C10	µg/L	<20	<20	<20	<20	<20	<20
VOCs							
cis-1,4-Dichloro-2-butene	µg/L						
Pentachloroethane	µg/L						
Trihalomethanes	mg/l						
trans-1,4-Dichloro-2-butene	µg/L						

1 Appendix G – Groundwater Round 2 Quality Assurance and Quality Control

BlueSphere has adopted quality assurance and quality control procedures consistent with guidance from the following sources:

- EPA Victoria, 2009, Sampling and Analysis of Waters, Wastewaters, Soils and Waste, Industrial Waste Resource Guidelines (IWRG) Publication 701
- NEPC 1999. National Environmental Protection (Assessment of Site Contamination) Measure 1999, National Environment Protection Council as amended 15 May 2013, Comlaw No. F2013C00288
- Standards Australia AS/NZ, Australian/New Zealand Standard 2005, AS4482.1:2005 Guide to the Sampling and Investigation of Potentially Contaminated Soil – Non-Volatile and Semi-Volatile Compounds.
- Standards Australia AS/NZ, Australian/New Zealand Standard 1998, AS 5667.1:1998 Water Quality – Sampling Part 1: Guidance on the Design of Sampling Programs, Sampling Techniques and the Preservation and Handling of Samples.
- USEPA 2006, Guidance on Systematic Planning Using the Data Quality Objective Process (EPA QA/G-4), EPA/240/B-06, February 2006.
- USEPA 2008, Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8), EPA/240/R-02/004, published November 2007, re-issued 7 January 2008.
- USEPA – Contract Laboratory Program http://www.epa.gov/superfund/programs/clp/index.htm

2 Field Procedures

A summary of the field quality assurance and quality control procedures conducted as part of the investigation is summarised below in **Table 1**.

Table 1 Summary of Field Procedures

Data Quality Objectives		Acceptability Limits	Reference	Pass	Comments
Field Calibration	All instruments to be calibrated correctly prior to use in field	Field instrumentation calibrated prior to use. Calibration certificates and records documented	AS4482.1-2005 NEPM (2013) Schedule B 2	Y	Calibration of field equipment was completed by the relevant equipment providers prior to the commencement of works. All calibration certificates are presented **Appendix D**.
Sample Preservation and Storage	Samples preserved, stored and transported in such a manner such that sample integrity is maintained	0 – 4 degrees Celsius	AS4482.1-2005 ASC NEPM (Schedule B3)	N	Sample batches were received by the laboratory at temperatures outside of the adopted acceptability limits of 0 - 4°C. Laboratory sample receipt records are provided in **Appendix L**. Further comment is provided in **Section 2.1** below.
	Field blanks, field duplicates and triplicates are	Field duplicate and field triplicate samples at one per	AS4482.1-2005	Y	Field duplicate and field triplicate samples were collected and analysed

Table 1 Summary of Field Procedures

Data Quality Objectives		Acceptability Limits	Reference	Pass	Comments
Frequency of Quality Control Measurements	above minimum requirements	20 samples collected.	ASC NEPM (Schedule B3)		at a rate above the minimum requirements for both Round 2 on-Site and off-Site groundwater investigations. See **Table G4** for a full list of QA/QC samples collected during the Round 1 groundwater field program.
		One rinsate blank per equipment piece per day requiring decontamination.	AS4482.1-2005 ASC NEPM (Schedule B2)	Y	Rinsate samples were collected and analysed at a rate of one per piece of equipment requiring decontamination per day. See **Table G4** for a full list of QA/QC samples collected during the Round 2 groundwater field program. The table includes details on the piece of equipment that each rinsate sample was taken from.
		One trip blank per esky where volatiles are CoPC. Field blanks as required on a project basis.	AS4482.1-2005 ASC NEPM (Schedule B2)	Y	One trip blank was included and analysed for each esky sent to the laboratory for analysis. See **Table G4** for a full list of QA/QC samples collected during the Round 1 groundwater field program.
Field Duplicates	Relative percentage difference (RPD) between parent sample and duplicate sample within acceptable range	Results >10 x LOR = RPD between 0-30% for water and soil vapour. Compliance rate > 95% of samples. (Where results <10 x LOR = no RPD range was applied in recognition of the low absolute differences at these concentrations).	ASC NEPM (Schedule B3)	Y	There were no RPDs reported outside of the acceptable range between the primary and field duplicate samples. See **Table G5** for analytical results and RPD calculations.

Table 1 Summary of Field Procedures

Data Quality Objectives		Acceptability Limits	Reference	Pass	Comments
Field Triplicates	Relative percentage difference (RPD) between parent sample and triplicate sample within acceptable range	Results >10 x LOR = RPD between 0-30% for water and soil vapour. Compliance rate > 95% of samples. (Where results <10 x LOR = no RPD range was applied in recognition of the low absolute differences at these concentrations).	ASC NEPM (Schedule B3)	Y	There were no RPDs reported outside of the acceptable range between the primary and field triplicate samples. See **Table G5** for analytical results and RPD calculations.
Rinsate Blanks	Analytes reported at concentrations <LOR	<LOR	AS4482.1-2005 ASC NEPM (Schedule B2)	Y	All analytes were reported below the laboratory LOR. See **Table G6** for analytical results.
Trip Blanks	Analytes reported at concentrations <LOR	<LOR	AS4482.1-2005 ASC NEPM (Schedule B2)	Y	All analytes were reported below the laboratory LOR. See **Table G6** for analytical results.

2.1 Sample Preservation and Storage

Groundwater samples, along with rinsate and trip blank (water) samples were transported from the Site to the laboratory in coolers filled with bagged ice. In all cases, the temperature was not maintained below the recommended storage temperature of 4°C for organics, hexavalent chromium, mercury and other analytes, in accordance with AS4482.1 (2005). The majority of batches reported a marginal exceedance of <3.3°C, and these marginal exceedances are not considered to greatly affect the interpretation and analysis of soil analytical results.

A summary of the batches, samples affected and laboratory receipt recorded temperatures is provided in **Table 2** below:

Table 2 Summary of Sample Receipt Temperatures – Groundwater Round 2

Batch Number	Samples Affected	Receipt Temperature (°C)
EM1806837	See laboratory analytical reports provided in **Appendix L**.	5.8
EM1806939	See laboratory analytical reports provided in **Appendix L**.	6.8
EM1806661	See laboratory analytical reports provided in **Appendix L**.	7.3

Table 2 Summary of Sample Receipt Temperatures – Groundwater Round 2

Batch Number	Samples Affected	Receipt Temperature (°C)
EM1806844	See laboratory analytical reports provided in **Appendix L**.	5.8
EM1806845	See laboratory analytical reports provided in **Appendix L**.	5.8
13597	Inter-laboratory QA/QC samples	5.0
13622	Inter-laboratory QA/QC samples	4.3

3 Laboratory Procedures

BlueSphere's nominated laboratories were Australian Laboratory Services Pty Ltd (ALS) and Envirolab Services Pty Ltd (Envirolab). A summary of the laboratory quality assurance and quality control procedures conducted as part of the investigation are summarised in **Table 3** below.

Table 3 Summary of Laboratory Procedures

Data Quality Indicators		Acceptability Limits	Reference	Pass	Comments
Sample Holding Times	Samples received and extracted by the laboratory within recommended holding times.	As specified by a NATA accredited laboratory.	AS4482.1-2005; IWRG 701; ALS QC Requirements	Y	All samples were received and extracted by the laboratory within the required holding times.
Frequency of Quality Control Samples	QC samples analysed at a rate equal to or greater than the minimum requirements	1:10 Laboratory Duplicates; 1:20 Matrix Spikes 1:20 LCS; 1:20 Method Blanks	NEPM 2013 B3 & ALS QC Standard	N	One sample batch reported a QC sample frequency below the minimum recommended requirements. Further comment is provided in **Section 3.1** below.
Sample Analysis	Samples analysed for chemicals as required on COC via appropriate laboratory techniques.	Samples analysed by a NATA accredited laboratory.	BlueSphere Field Procedures	Y	Samples were submitted to the laboratory and analysed for the selected suite as required via appropriate analytical techniques.

Table 3 Summary of Laboratory Procedures

Data Quality Indicators		Acceptability Limits	Reference	Pass	Comments
Limits of Reporting	Laboratory reporting limits to be below relevant screening criteria.	LOR< lowest applicable screening/assessment criteria.	AS4482.1-2005	Y	All analytes were reported with laboratory LORs below the adopted screening and assessment criteria.
Laboratory Method Blank	Analytes reported at concentrations below the laboratory limit or reporting.	<LOR	US EPA Contract Laboratory Program	Y	All laboratory method blanks were reported <LOR.
Laboratory Duplicates	RPD between duplicate samples within an acceptable range.	Results <10 x the LOR – No RPD range Results between 10-20 x the LOR – RPD between 0-50% Results >20 x LOR – RPD between 0-20%	NATA laboratory practice.	Y	All laboratory duplicates were reported within acceptable range.
Matrix Spike Recoveries	Recoveries within adopted acceptability range.	As specified in laboratory QC report, if applicable. If not specified 70-130% adopted.	NATA laboratory practice.	N	One sample reported a matrix spike recovery outside of the adopted acceptability limits. See **Section 3.2** below for further comment.
Laboratory Control Spike (LCS) Recoveries	Recoveries within adopted acceptability range.	Specific to chemicals analysed.	Dynamic recovery limits for individual compounds.	Y	There were no LCS recoveries reported outside of the acceptable range.
Surrogate Spike Recoveries	Recoveries within adopted acceptability range.	As specified in laboratory QC report, if applicable. If not specified 70-130% adopted.	NATA laboratory practice.	Y	There were no surrogate spike recoveries reported outside the acceptable range.

3.1 Frequency of Quality Control Samples

One (1) batch (EM1806845) reported an outlier for the frequency of quality control samples for laboratory duplicates and matrix spikes in TRH – semivolatile fraction. The outliers only affect field QA/QC samples (duplicates, rinsates and trip blanks) and are not considered to have an impact on the interpretation of the data or outcome of the investigation.

3.2 Matrix Spike Recoveries

Matrix spike outliers were reported in one sample, MW_EPA10A (from batch EM1806661) for trichloroethene. A summary is provided in **Table 4**, below.

Table 4 Matrix Spike Outliers

Analyte	Sample ID	Recovery (%)	Limits (%)	Laboratory Comments
TCE	MW_EPA10A	Not Determined	-	Matrix spike not determined, background level greater than or equal to 4 x spike level.

The matrix spike could not be determined for trichloroethene as background concentrations were greater than or equal to 4 x the spike level. As a recovery limit could not be determined, an assessment of the impact of the sample matrix on analytical accuracy for these samples cannot be made.

4 Data Collation and Data Assessment Procedures

A summary of the data collation and data assessment quality assurance and quality control procedures conducted as part of the investigation are summarised in **Table 5** below.

Table 5 Summary of Data Collation and Data Assessment Procedures

Data Quality Objectives		Acceptability Limits	Reference	Pass	Comment
Comparison of field screening and laboratory results	100% check of field screening results (e.g. PID readings, water quality parameters) against laboratory results to determine if the results were compatible.	Field and laboratory samples were relatively consistent (i.e. samples with high PID readings reported comparably high readings of volatile compounds (soil, soil vapour) Samples with high electrical conductivity (EC) or pH reported consistent laboratory results.	BlueSphere Internal Data Review Procedure	Y	100% check of gauging data and water quality parameters completed.
The data received from the laboratory is consistent between the	10% check of excel spreadsheet used for Esdat data entry	Any differences in data are not acceptable. Any differences are to be reported	BlueSphere Internal Data Review Procedure	Y	10% check completed, no differences in laboratory

Table 5 Summary of Data Collation and Data Assessment Procedures

Data Quality Objectives		Acceptability Limits	Reference	Pass	Comment
laboratory provided Certificate of Analysis (COA) and excel spreadsheet	compared to COA. 100% check to be completed if any errors noted.	to the laboratory and clarification sought with laboratory internal review initiated.			provided data noted.
The data presented in report tables is consistent with laboratory provided data	10% check of report table compared to Certificate of Analysis. 100% check to be completed if any errors noted.	Any differences in data are not acceptable and are required to be resolved. Review of data entry process to be initiated to find source of error.	BlueSphere Internal Esdat Request Form and BlueSphere Internal Peer Review Procedure	Y	10% check completed, no differences in report tables and laboratory reported data noted.
Appropriate assessment criteria for data has been used in report tables.	100% check of adopted guidelines against published guideline values	Any differences in guidelines are not acceptable and are required to be resolved. Review of data entry and guideline import template to be initiated to find source of error.	BlueSphere Internal Esdat Request Form and BlueSphere Internal Peer Review Procedure	N/A	No guideline values have been included in the presentation of this groundwater analytical data.

5 Anomalous Results

There were no anomalous results reported.

6 Overall Data Assessment

Based on the above review, BlueSphere considers the data to be of a suitable precision and accuracy to meet the data quality objectives for the project.