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**14 July 2017**

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**2017 Second Quarter Groundwater Monitoring and Sampling Report  
Hounsfeld Heights – Briar Hill Community  
Calgary, Alberta****File CG2430.1 E25**

This report documents the second quarter groundwater monitoring and sampling event, which was carried out between 26 April and 24 May 2017. A map of the Site Location and Surrounding Land Use Plan is provided as Figure 1. A map of the Site and Surrounding Properties is provided as Figure 2. A Monitoring Well Location Plan is provided as Figure 3.

**General Site Description**

The Alberta Township System description of the Site is the northeast corner of Section 20, Township 24, Range 1, West of the 5<sup>th</sup> Meridian (NE ¼ 20-24-1-W5M). The Site occupies approximately 40 hectares (100 acres), and is currently a mixture of operating commercial properties, private residences, and parkland.

The Mall area is the portion of the Site located north of 14<sup>th</sup> Avenue NW, which includes the North Hill Shopping Centre, the former Sears property (now a Kal-Tire Automotive Centre located at 1614 – 14<sup>th</sup> Avenue NW), and a condominium complex. The Hounsfeld Heights area is the portion of the Site south of 14<sup>th</sup> Avenue NW, including Lions Park, to 10<sup>th</sup> Avenue NW.

**Site History**

The location of the Kal-Tire was originally developed as a service station and automotive centre in 1958. The service station was located at the North Hill Shopping Centre on a property owned by Sears, and operated as a Sears Service Centre from 1958 to 1984. From 1984 to 1995, the location was operated under license as a Sunoco Service Station. An addition to the automotive centre building was constructed in 1982, and a separate gas bar kiosk was added in 1989. The original USTs were replaced in 1984, and in October 1995, fuel storage and dispensing facilities at the gas bar were decommissioned. The former Sears Service Centre continues to operate under license to Kal-Tire.

**Previous Work**

Numerous environmental site assessments characterizing the petroleum hydrocarbon (PHC) impacts have been conducted. A summary of the historic environmental reports is available in the Site Management Plan (SMP) completed by Clifton on 11 July 2014, entitled *Updated Site Management Plan (2014) Final Version Hounsfield Heights – Briar Hill Community, Calgary, Alberta* (Updated SMP).

In 2015, Clifton completed a subsurface investigation, as well as three subsequent quarterly monitoring and sampling reports, which are summarized in the following reports:

- Subsurface Investigation, Mall and Hounsfield Heights Areas Calgary, Alberta (22 January 2016);
- 2015 Second Quarter Monitoring and Sampling Report Hounsfield Heights – Briar Hill Community, Calgary, Alberta (27 January 2016);
- 2015 Third Quarter Monitoring and Sampling Report Hounsfield Heights – Briar Hill Community, Calgary, Alberta (17 February 2016); and,
- 2015 Fourth Quarter Monitoring and Sampling Report Hounsfield Heights – Briar Hill Community, Calgary, Alberta (17 February 2016).

In 2016, Clifton completed quarterly monitoring, semi-annual sampling, and additional drilling on-Site. The results have been summarized in the following reports:

- 2016 Second Quarter Monitoring and Sampling Report Hounsfield Heights – Briar Hill Community, Calgary, Alberta (30 June 2016);
- 2016 Supplementary Drilling Report Hounsfield Heights – Briar Hill Community, Calgary, Alberta (5 July 2016); and,
- 2016 Fourth Quarter Monitoring and Sampling Report Hounsfield Heights – Briar Hill Community, Calgary, Alberta (02 February 2017)

Previous work identified five distinct stratigraphic units across the Site. Unit 1 (Upper Silty Sand), Unit 2 (Upper Clayey Silt), and Unit 3 (Middle Sandy Silt) have all been historically identified. Unit 4, a lower clayey silt, and Unit 5, a lower silty sand and gravel, were identified during the Subsurface Investigation completed in 2015.

A list of the acronyms mentioned in the text is provided at the end of the report.

**Objectives and Scope of Work**

The contaminants of potential concern consist of benzene, naphthalene, and 1,2-dichloroethane. These three constituents will represent BTEX and PHC fractions F1 and F2, PAHs, and VOCs, respectively. The rationale for concentrating on these three constituents is based on the following observations:

- ) They were the most frequently detected and most commonly exceeded the AEP 2016 Tier 1 Guidelines within their contaminant categories; and
- ) With few exceptions, the remainder of the constituents detected were associated with a detection of their representative constituent, benzene, naphthalene, or 1,2-dichloroethane, depending on the contaminant category.

The confirmatory groundwater monitoring and sampling program was implemented with quarterly events in 2015, and quarterly monitoring and semi-annual sampling events in 2016. The monitoring events comprised the collection of measurements of groundwater levels and total depths. The objectives of the confirmatory groundwater monitoring and sampling program were to:

- Continue to define the extents of the PHC, PAH, and VOC impacts in groundwater for each identified unit; and
- Determine if the groundwater plume is moving.

### Scope of Work

The scope of work for the 2017 Second Quarter Monitoring and Sampling Program was as follows:

- Measure organic vapour concentrations in all monitoring wells;
- Measure LNAPL thickness (if present) and depth of groundwater in all monitoring wells;
- Collect groundwater samples using the bailer method from 38 monitoring wells on-Site;
- Collect up to two discrete samples using the HYDRASleeve™ method from 56 monitoring wells on-Site;
- Collect a quality assurance/quality control (QA/QC) sample for every ten samples taken;
- Submit groundwater samples from 94 monitoring wells for laboratory analysis of BTEX, PHC fractions F1 and F2, and VOCs;
- Submit groundwater samples from 57 monitoring wells for laboratory analysis of PAHs; and,
- Compare the results to the Alberta Environment and Parks (AEP), February 2016, *Alberta Tier 1 Soil and Groundwater Remediation Guidelines* (AEP 2016 Tier 1 Guidelines).

### Applicable Guidelines

Laboratory analytical results of groundwater samples were compared to the AEP 2016 Tier 1 Guidelines for either commercial land use or residential/parkland land use for coarse-grained soil, depending on the sampling location. Coarse-grained soil was used for all sampling locations, as it is the more stringent grain size criteria.

### Discrete Groundwater Sampling

Discrete groundwater samples were collected using HYDRASleeves™ (no-purge groundwater samplers) from the 1.5 meter (five foot) interval with the highest concentration identified in previous rounds of sampling. The HYDRASleeve™ samples were taken to assess the PHC concentration distribution within the primary water-bearing unit, Unit 3.

### AEP Comparison of Bailer and HYDRASleeve™ Analytical Results

Five discrete samples collected using HYDRASleeves™ were compared against a purge and bail sample collected with a dedicated, disposable bailer for the same well.

The results of the HYDRASleeve™ and bailer sample comparison will be presented in a subsequent report, as per the proposal entitled *HYDRASleeve™ Groundwater Sampling Program Workplan, Hounsfeld Heights and North Hill, Calgary, Alberta* (Clifton, 2017). For the purposes of this report, the highest concentration between the two samples (bailer or HYDRASleeve™) will be used for discussion of the degree of PHC impacts on-Site.

**General Monitoring Program Information**

A monitoring event is comprised of collecting measurements of the depth to the groundwater and the total depth of the well. A sampling event is comprised of measurement of groundwater levels and monitoring well depths, and the collection and analysis of groundwater samples.

Monitoring Program Details	
Current monitoring date	26 April – 24 May 2017
Previous monitoring date	16 – 18 February 2017
Previous sampling date	27 October – 17 November 2016
Monitoring schedule	Quarterly
Next scheduled monitoring date	August 2017
Next scheduled sampling date	November 2017
Number of monitoring wells available to monitor on-Site (Mall area)	23
Number of monitoring wells available to monitor on-Site (Hounsfeld Heights area)	87
Number of damaged monitoring wells	1
Total number of monitoring wells on-Site	111

Fluid Level Measurements (see Table 1)					
Water level measurement instrument:	Heron Interface Oil/Water Meter				
Groundwater elevation (m above msl)	1086.19 (BH1905)	to	1062.29 (BH1946)		
Apparent local groundwater flow direction	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
	SW	S-SW	SE	Not determined	Not determined

Dry monitoring wells	BH1909, BH1920, BH1931, BH1932, BH1938, BH1960, BH1965, BH1968, BH1969, BH1970, and BH2009
Insufficient water for sampling	BH1973
Unmonitored wells	BH1983A, BH1984, BH1985, BH1986, BH1987, and BH1988

<b>LNAPL</b>	
Monitoring wells indicating LNAPL	BH1704
Previous monitoring wells indicating LNAPL	BH1704
Current LNAPL thickness	0.14 m (05 May 2017)
Previous LNAPL thickness	0.059 m (31 October 2016)
Current Vapour Equivalent LNAPL Removed (DPVE)	777.3 L (17 January 2017 – 09 April 2017)
Previous Vapour Equivalent LNAPL Removed (DPVE)	1,959.0 L (09 May 2016 – 07 December 2016)
Current LNAPL Removal (Bailer)	0.07 L (05 May 2017)
Previous LNAPL Removal (Bailer)	0.03 L (17 June 2016)

<b>Standpipe Vapour Screening (see Table 1)</b>			
Vapour measurement instrument	RKI Eagle 2 OVA gas monitor with PID		
Current hexane vapour concentrations	0 ppm	to	>11,100 ppm
Monitoring wells with hexane vapour concentrations >11,100 ppm	BH1907, BH1924, and BH1970		
Current isobutylene vapour concentrations	0 ppm	to	>2,000 ppm
Monitoring wells with isobutylene vapour concentrations >2,000 ppm	BH1907, BH1924, and BH1970		

<b>Monitor Well Purging</b>	
Purging method	Dedicated Disposable Bailer
Monitoring wells purged using a dedicated disposable bailer	BH1905, BH1907, BH1914, BH1915, BH1916, BH1924, BH1928, BH1934, BH1935, BH1939, BH1944, BH1945, BH1946, BH1947, BH1950A, BH1951, BH1955A, BH1956, BH1962, BH1964, BH1967, BH1972, BH1974, BH1975, BH1978, BH1980, BH1982, BH2001, BH2002, BH2003, BH2004, BH2006, BH2008, BH2011, BH912, BH1701, BH1704, EX1, EX2, EX3, EX4, EX6, and EX7
Maximum volume removed	57 L (BH1962)
Minimum volume removed (Dry or Insufficient Water)	BH1909, BH1920, BH1931, BH1932, BH1938, BH1960, BH1965, BH1968, BH1969, BH1970, BH1973, and BH2009

<b>Sampling Summary</b>	
Groundwater sampling method	Disposable Bailer or HYDRASleeve™
Number of monitoring wells sampled with a dedicated disposable bailer	38
Number of monitoring wells sampled using the no-purge HYDRASleeve™ method	56
Samples submitted to:	Maxxam Analytics, Calgary, Alberta
Analysis Package	Reference Table
BTEX and PHC fractions F1 – F2	Table 2
PAHs	Table 3
VOCs	Table 4

**QA/QC Program**

QA/QC Results (Table 5 – Table 11)	
<b>Trip Blank Samples</b>	
Reference Table	Trip blank results are below RDL
Table 5	Yes
<b>Equipment Blank Samples</b>	
Reference Tables	Equipment blank results are below RDL
Table 6 (BTEX, PHC fractions F1 and F2, and PAHs) Table 7 (VOCs)	Yes Yes
<b>Field Duplicate Samples</b>	
Reference Tables	Duplicate samples <80% RPD:
Table 8 (BTEX, PHC fractions F1 and F2, and PAHs) Table 9 (VOCs)	No Yes

**Groundwater Monitoring and Development Methodology**

Clifton personnel returned to the Site at various dates between 26 April and 24 May 2017 to collect field monitoring data, and collect groundwater samples in all groundwater monitoring wells.

**Organic Vapour Screening**

The ambient organic vapour concentrations in all of the completed monitoring wells were measured using an Eagle 2 combustible gas detector. The Eagle 2 was calibrated prior to use in the field by either Clifton personnel, or if it was a rental unit, by the rental staff prior to the pickup of the unit. A bump test was performed on the Eagle 2 each day prior to use. If the output reading of the Eagle 2 did not correspond to the concentration of gas introduced within an acceptable range of ±10%, the instrument was then re-calibrated.

To complete organic vapour screening, the J-Plug on the monitoring well was removed and the probe of the Eagle 2 was placed into the well, with the cap or the sampling technician’s gloved-hand placed over the top of the exposed PVC pipe. The highest PID and OVA sensor readings were then recorded. The standpipe vapour concentrations are presented in Table 1.

**Fluid Level Measurements**

Fluid levels, including groundwater and any potential LNAPL, were measured using a Heron oil/water interface meter. The probe is slowly lowered into the monitoring well until the water surface is reached. Once the probe contacts the water, it is moved back and forth to check for LNAPL. If an LNAPL layer is not identified, the probe records the

surface water interface to the nearest millimeter. Total depth measurements of the well were collected prior to sampling or monitoring well development. The oil/water interface meter was cleaned between monitoring wells using a solution of Alconox Liquinox™ and de-ionized water, followed by a de-ionized water rinse.

### **Groundwater Sampling**

Clifton deployed HYDRASleeve™ samplers at 1.5 m intervals to collect discrete groundwater samples in 56 monitoring wells on-Site. Samples were collected using dedicated, disposable bailers in 38 monitoring wells on-Site. The laboratory Certificates of Analysis have been included as Appendix A.

Upon completion of the discrete sampling, an additional sample was collected from five monitoring wells using a dedicated, disposable bailer. A comparison and discussion of these results will be included in a separate report, as per the proposal issued to AEP on 06 January 2017.

## **Results**

### **Quality Assurance/Quality Control**

Various methods of QA/QC were implemented throughout the program, including the collection and analysis of trip blanks, field equipment blanks, and duplicate samples. The results of the QA/QC program are represented in Tables 5 to 9.

### **Groundwater Flow Direction**

The monitoring results from this event show that the interpreted groundwater flow direction from wells screened in Unit 1 is to the southwest (Figure 4). This is consistent with previous results that indicated groundwater flow was to the south-southwest.

The interpreted groundwater flow direction from wells screened in Unit 2 is to the south-southeast (Figure 5). This is consistent with previous results.

The interpreted groundwater flow direction from wells screened in Unit 3 is to the southeast (Figure 6), which is consistent with previous results.

Groundwater flow direction was not determined for Unit 4 and Unit 5, as additional characterization of the geology is required to confirm the formation in which the wells are screened.

### **Groundwater Samples**

#### **BTEX and PHC fractions F1 and F2**

Previous environmental work identified the presence of PHC impacts on-Site. A confirmatory groundwater monitoring and sampling program was undertaken to verify that the PHC plume in the groundwater is no longer expanding, and that the contaminant concentrations are below appropriate Site guidelines at the lateral extents of the plume.

Only monitoring wells with detectable concentrations, during this event, or previous events, of the BTEX and PHC fractions F1 and F2 are presented in Table 2. Monitoring wells where no detections of BTEX and PHC fractions F1 and F2 were observed in any of the sampling events are not included in the summary table. A site plan showing the benzene distribution in groundwater is presented in Figure 7.



### PAHs

Only monitoring wells with detectable concentrations, during this event, or previous events, of PAHs are presented in Table 3. Monitoring wells where no detections of PAHs were observed in any of the sampling events are not included in the summary table. A site plan showing the naphthalene distribution in groundwater is presented in Figure 8.

### VOCs

Only monitoring wells with detectable concentrations, during this event, or previous events, of VOCs are presented in Table 4. Monitoring wells where no detections of VOCs were observed in any of the sampling events are not included in the summary table. A site plan showing the 1,2-dichloroethane distribution in groundwater is presented in Figure 9.

## Discussion

### Groundwater Chemistry – Monitoring Wells

#### QA/QC - Field Duplicate

BH1905 varied more than 80% from its duplicate sample (BH9905) for acridine, fluoranthene, and pyrene (PAHs), which is outside the acceptable range for organic constituents in water. The remaining PAH constituents were within the acceptable range of relative percent difference.

The results of the duplicate analyses for BH1905 will be treated as qualitative. No decisions will be made based on these results, and judgement of the usefulness of this well as a duplicate will be dependent on the results of the next monitoring event in the fourth quarter of 2017.

#### BTEX and PHC fractions F1 and F2

Ninety-four samples were submitted for laboratory analysis of BTEX and PHC fractions F1 and F2. Benzene was the most frequently detected and most commonly exceeded the AEP 2016 Tier 1 Guidelines of the BTEX and PHC fractions F1 and F2. Also, with few exceptions, the remainder of the BTEX and PHC F1 and F2 compounds detected were associated with a detection or exceedance of benzene. For these reasons, benzene is considered representative of the BTEX and PHC fractions F1 and F2 throughout this discussion. Concentrations of benzene on-Site ranged from below detection (<0.00040 mg/L) to a maximum of 6.6 mg/L in BH1982 (Unit 3). The lateral distribution of benzene is shown in Figure 7 for each stratigraphic unit mapped in the study area.

The Middle Sandy Silt (Unit 3) shows the most extensive distribution of benzene, and the lateral extent of the benzene plume is largely defined in this Unit. There is still some uncertainty with respect to the southwestern plume margin, as the concentration of benzene in BH1928 is above the AEP 2016 Tier 1 Guideline. For the BTEX and PHC F1 and F2 constituents, the plume margin is defined as a concentration of benzene of 0.005 mg/L, the AEP 2016 Tier 1 Guideline.

Concentrations of benzene in well BH1982 (Unit 3) have ranged from 2.6 mg/L in November 2016 to 13.8 mg/L in June 2015. Based on a Mann-Kendall Plume Stability Analysis of the available data (Mann, 1945; Kendall, 1975; Gilbert, 1987), the benzene plume appears to be stable at this point. The same analysis completed in the fourth quarter of 2016 indicated that the plume was declining. The PlumeStop pilot study application was implemented approximately 5 metres north of BH1982. The overall decrease in concentrations in BH1982 are likely the result of the PlumeStop application. The results of the PlumeStop application on the Site will be discussed in a separate report to be issued later.

Monitoring wells BH1981, BH1954, and BH2003 provide data for benzene concentrations near the downgradient plume margin in Unit 3. Concentrations of benzene in BH1981 have decreased relative to all previous monitoring events, as the concentration of benzene has remained below the AEP 2016 Tier 1 Guidelines for two consecutive sampling events. Based on a Mann-Kendall Plume Stability Analysis of the available data for BH1954 (Mann, 1945; Kendall, 1975; Gilbert, 1987), the benzene plume appears to be stable at this point. BH2003 was installed in 2016, and this is only the third event in which a sample has been collected. In each of the previous events, the concentration of benzene was below the analytical detection limit of 0.0004 mg/L. Further sampling is required to assess trends in this well, if they develop.

Benzene has been detected at concentrations above the AEP 2016 Tier 1 Guideline in the underlying lower clayey silt (Unit 4) in the southern portion of the study area. There is some uncertainty as to the southern extent of the plume margin in this unit. Monitoring wells BH2002, BH1980, and BH1964 currently serve as the southernmost downgradient indicators of the plume extent in Unit 4. BH2002 was installed in 2016 and as such only three samples have been collected thus far. Further sampling will be required to assess trends in this well. Mann-Kendall analyses were completed on BH1937, BH1939, and BH1943. Based on the analysis, the plume is stable in BH1937 and BH1939. In BH1939, the analysis indicates that the plume is decreasing. The PlumeStop pilot study application, implemented 03 August 2016, is within 5 meters of BH1939. The decreasing trend in benzene concentrations in BH1939 are likely the result of the PlumeStop application.

#### PAHs

Fifty-three samples were submitted for laboratory analysis of PAHs. Naphthalene was the most frequently detected PAHs, and most commonly exceeded the AEP 2016 Tier 1 Guidelines. Also, with few exceptions the remainder of the PAH compounds detected were associated with a detection or exceedance of naphthalene. For these reasons, naphthalene is considered representative of the PAHs throughout this discussion. The lateral distribution of naphthalene is shown on Figure 8 for each stratigraphic unit mapped in the study area.

The sampling plan for PAHs has been re-evaluated throughout the project as more data has been collected and reviewed. Only 17 monitoring wells have been sampled for PAHs in all six sampling events. Once more data has been collected, an assessment of potential trends in naphthalene concentrations can be completed.

Naphthalene has been detected at concentrations above the AEP 2016 Tier 1 Guidelines in the uppermost three stratigraphic units: Units 1, 2, and 3. Naphthalene is most widespread in Unit 3, the middle sandy silt, and appears to have been laterally delineated. Naphthalene has not been delineated in the monitoring wells installed in Unit 4 and Unit 5.

#### VOCs

Ninety-four samples were submitted for laboratory analysis of 1,2-DCA. 1,2-Dichloroethane (1,2-DCA) was the most frequently detected VOC, and most commonly exceeded the AEP 2016 Tier 1 Guidelines. Also, with few exceptions, the remainder of the VOC compounds detected were associated with a detection or exceedance of 1,2-DCA. For these reasons, 1,2-DCA is considered representative of the VOCs throughout this discussion. The lateral distribution of 1,2-DCA is shown on Figure 9 for each stratigraphic unit mapped in the study area. Concentrations of 1,2-DCA on-Site ranged from below detection (<0.001 mg/L) to 0.27 mg/L (BH1928).

1,2-DCA has been detected in concentrations in excess of the AEP 2016 Tier 1 Guidelines in Units 1, 2, 3, and 4. Concentrations were below the analytical detection limits in Unit 5 with the exception of BH2001 which had a detectable concentration of 0.0011 mg/L, below the AEP 2016 Tier 1 Guideline.

Some uncertainty in the downgradient plume margin in Unit 3 is observed south of BH1981. The plume margin is defined as the AEP 2016 Tier 1 Guideline of 0.005 mg/L. Monitoring wells BH1981, BH1928, and BH2003 serve as useful indicators of the 1,2-DCA concentrations near the downgradient plume margin. Concentrations of 1,2-DCA in BH1981 appear to be relatively consistent and do not indicate any obvious trends. A Mann-Kendall analysis of the plume in BH1928 indicated that the plume was expanding at this point, when it was stable in the fourth quarter of 2016. Further analysis will be required to determine if the plume will continue to grow at this location, which represents the southwestern plume margin. Only three samples have been collected in BH2003 as it was installed in 2016; as such, further monitoring will be required. A minimum of four samples is required to identify trends.

There was an exceedance of 1,2-DCA in monitoring well BH1939 installed in Unit 4, the lower clayey silt. A Mann-Kendall analysis of the 1,2-DCA plume in BH1939 indicated that the plume is stable at this point. The downgradient lateral extent of 1,2-DCA in Unit 4 may be delineated by wells BH1980 and BH2002, which have both been non-detect for 1,2-DCA in all monitoring and sampling events. There is some uncertainty as to the extents of the 1,2-DCA plume immediately south and southwest of BH1939.

### **Conclusions**

The data collected during this sampling event is generally consistent with previous sampling events. However, data has only been collected from seven sampling events, during which time some changes in sampling methods were introduced. More sampling will be required to further assess trends in the groundwater chemistry and the lateral distribution of contaminants.

### **Recommendations**

In order to assess statistical trends in the groundwater samples collected from the monitoring wells installed in the study area, continued groundwater monitoring and sampling will be required as recommended in the Updated SMP (2014).

### **Closure**

This report was prepared by Clifton Associates Ltd. for the account of Sears Canada Inc. The material in it reflects Clifton Associates Ltd. best judgment available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Clifton Associates Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

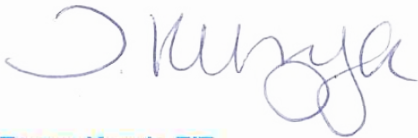
Our conclusions and recommendations are preliminary and based upon the information obtained from the referenced subsurface exploration. The Site monitoring and associated laboratory testing indicate subsurface, groundwater and chemical conditions only at the specific locations and times investigated, only to the depth penetrated and only for the soil and chemical properties tested. The subsurface conditions may vary between the investigation points and with time. The subsurface interpretation provided is a professional opinion of conditions and not a certification of the site conditions. The nature and extent of subsurface variation may not become evident until construction or further

investigation. If variations or other latent conditions do become evident, Clifton Associates Ltd. should be notified immediately so that we may re-evaluate our conclusions and recommendations.

This report has been prepared in accordance with generally accepted engineering practice common to the local area. No other warranty, expressed or implied is made.

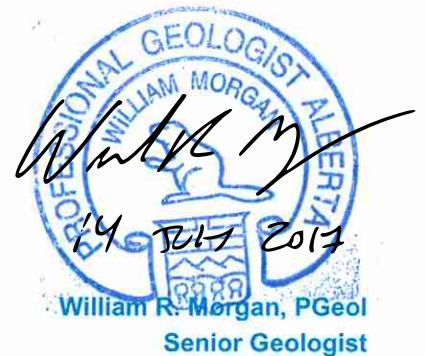
No environmental site investigation or remediation can wholly eliminate uncertainty regarding environmental conditions in connection with a property. This investigation is intended to reduce, but not eliminate the uncertainty regarding environmental conditions. Conclusions regarding the condition of the site do not represent a warranty that all areas within the site and beneath structures are of the same quality as those sampled. Further, contamination could also exist in forms not indicated by the investigation. The work was based in part upon the environmental quality guidelines and regulations in effect when the work was begun. Future regulatory changes may require reassessment of the findings of this investigation.

Clifton Associates Ltd.



**Terryn Kuzyk, EIT**  
**Environmental Engineer**

Association of Professional Engineers  
Geologists and Geophysicists of Alberta  
Permit to Practice P4823



14 Feb 2017  
William R. Morgan, PGeol  
Senior Geologist

**Acronym List**

AEP	Alberta Environment and Parks
AESRD	Alberta Environment and Sustainable Resource Development
Clifton	Clifton Associates Ltd.
EC	electrical conductivity
ESA	environmental site assessment
BTEX	benzene, toluene, ethylbenzene, and xylenes
LNAPL	light non-aqueous phase liquid
LPH	liquid petroleum hydrocarbon
HSA	hollow stem auger
ID	interior diameter
Msl	mean sea level
N/A	not applicable
ORC	oxygen release compound
OVA	organic vapour analyser
PAH	polycyclic aromatic hydrocarbon
PHC	petroleum hydrocarbon
PID	photo ionization detector
RDL	reportable detection limit
RMP	risk management plan
ROW	right-of-way
RPD	relative percent difference, (difference of concentrations/mean of concentrations x100)
TBD	to be determined
TDS	total dissolved solids
UST	underground storage tank
VOC	volatile organic compound

**Appendices: Figures**

Figure 1	Site Location and Surrounding Land Use
Figure 2	Site and Surrounding Properties
Figure 3	Monitoring Well Location Plan
Figure 4	Potentiometric Surface – Unit 1
Figure 5	Potentiometric Surface – Unit 2
Figure 6	Potentiometric Surface – Unit 3
Figure 7	Distribution of Benzene in Groundwater, May 2017
Figure 8	Distribution of Naphthalene in Groundwater, May 2017
Figure 9	Distribution of 1,2-Dichloroethane in Groundwater, May 2017

**Tables**

Table 1	Summary of Well Monitoring
Table 2	Summary of Groundwater Laboratory Analyses – BTEX and PHC fractions F1-F2
Table 3	Summary of Groundwater Laboratory Analyses – PAHs
Table 4	Summary of Groundwater Laboratory Analyses – VOCs
Table 5	Summary of Groundwater Laboratory Analyses – QA/QC – Trip Blank - VOCs
Table 6	Summary of Groundwater Laboratory Analyses – QA/QC– Equipment Blank – BTEX, PHC fractions F1-F2, and PAHs
Table 7	Summary of Groundwater Laboratory Analyses – QA/QC– Equipment Blank – VOCs
Table 8	Summary of Groundwater Laboratory Analyses – QA/QC – Field Duplicate – BTEX, PHC fractions F1-F2, and PAHs
Table 9	Summary of Groundwater Laboratory Analyses – QA/QC – Field Duplicate – VOCs
Table 10	Summary of Mann-Kendall Plume Stability Analysis for Selected Monitoring Wells

**Appendix A**

Maxxam Certificates of Analysis

**References**

Clifton Associates Ltd. 11 July 2014. *Updated Site Management Plan (2014) Final Version Hounsfeld Heights – Briar Hill Community, Calgary, Alberta.*

Clifton Associates Ltd. 22 January 2016. *Subsurface Investigation (2015) Mall and Hounsfeld Heights Areas, Calgary, Alberta.*

Clifton Associates Ltd. 27 January 2016. *2015 Second Quarter Monitoring and Sampling Report Hounsfeld Heights – Briar Hill Community, Calgary, Alberta.*

Clifton Associates Ltd. 17 February 2016. *2015 Third Quarter Monitoring and Sampling Report Hounsfeld Heights – Briar Hill Community, Calgary, Alberta.*

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Figures

# Clifton Associates Figures

**Clifton Associates**



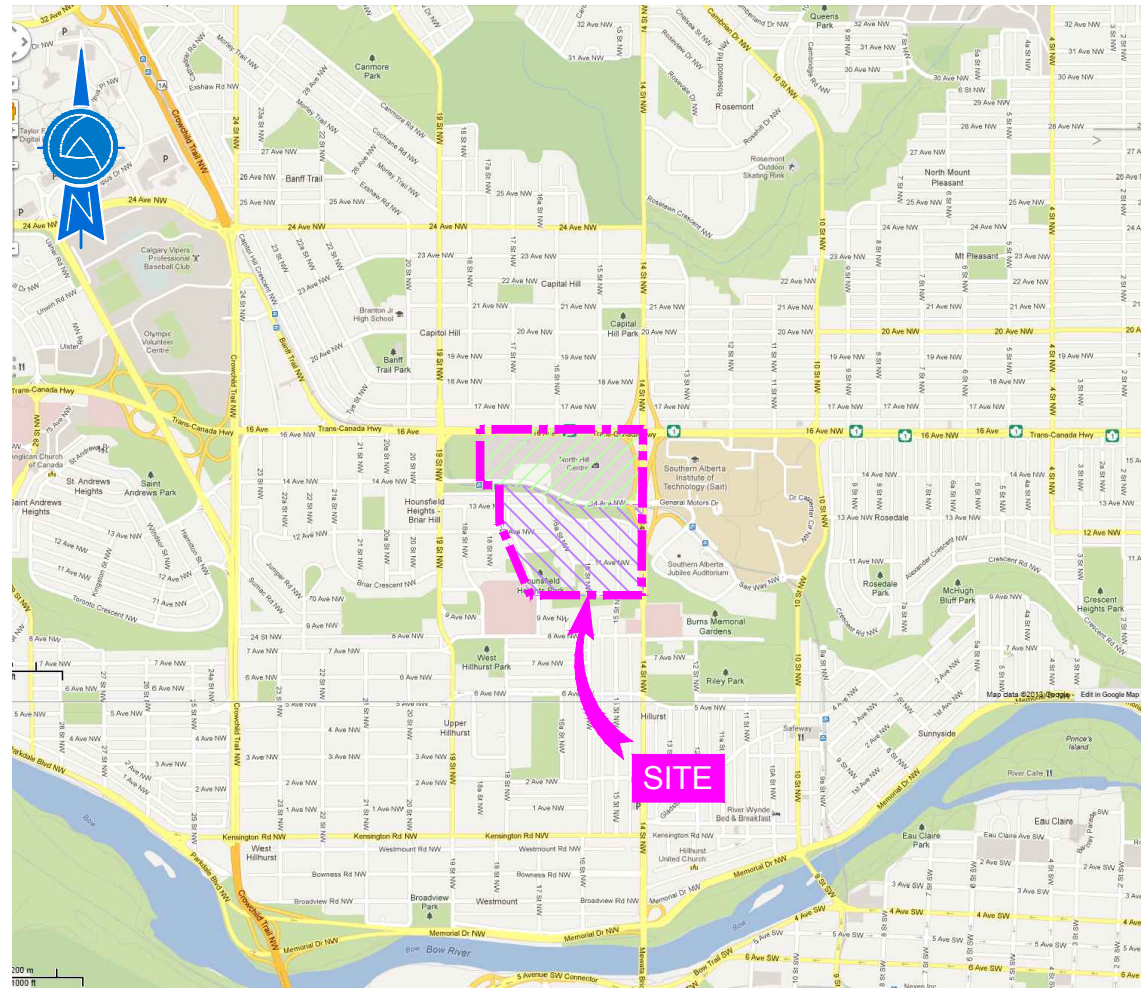
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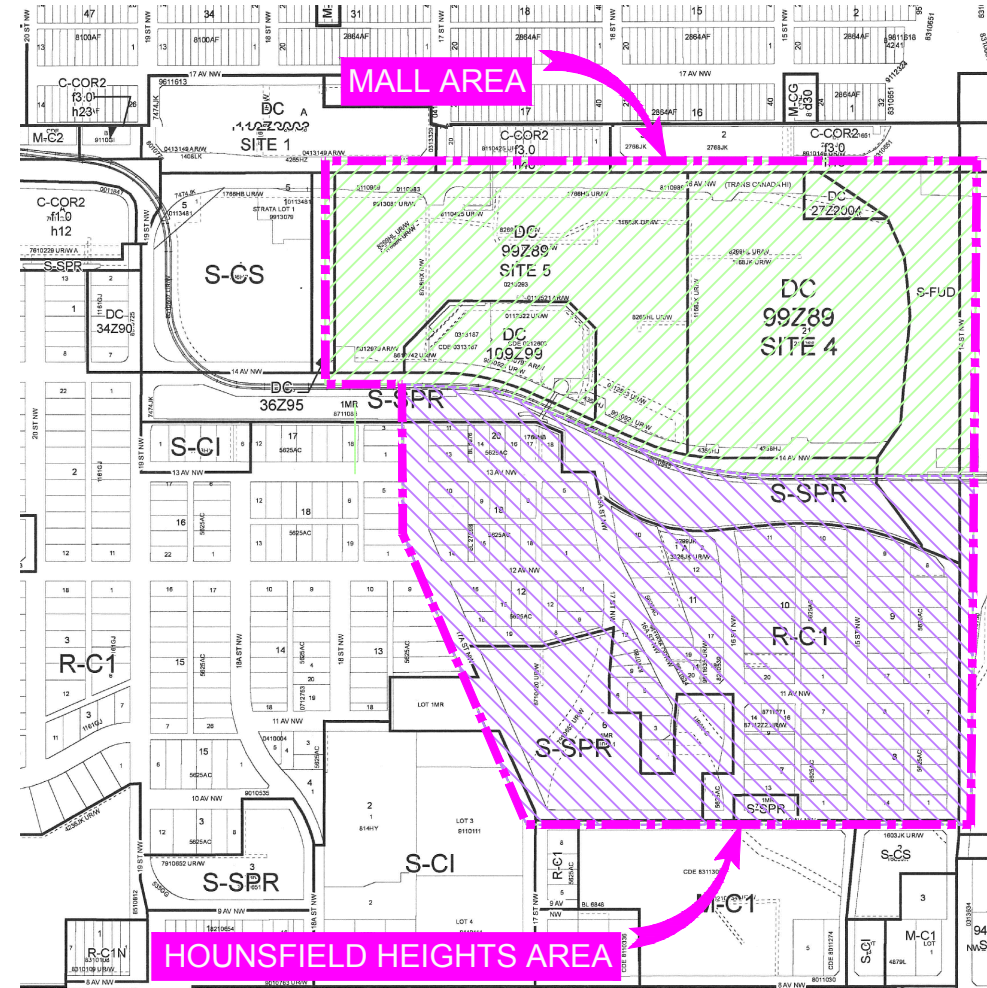
[calgary@clifton.ca](mailto:calgary@clifton.ca)  
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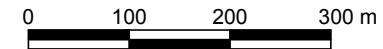
**GENERAL SITE LOCATION**

SCALE 1:30,000



**SURROUNDING LAND USE**

SCALE 1:7,500



**LEGEND:**

- SITE BOUNDARY
- MALL AREA
- HOUNSFELD HEIGHTS AREA
- CITY OF CALGARY BY-LAW ZONING

**LAND USE DISTRICTS:**

- RESIDENTIAL - CONTEXTUAL ONE DWELLING DISTRICT R-C1
- MULTI-RESIDENTIAL - CONTEXTUAL LOW-PROFILE DISTRICT MC-1
- MULTI-RESIDENTIAL - CONTEXTUAL GRADE-ORIENTED DISTRICT MC-G
- COMMERCIAL - CORRIDOR 2 DISTRICT C-COR2
- SPECIAL PURPOSE - SCHOOL, PARK, AND COMMUNITY RESERVE DISTRICT S-SPR
- SPECIAL PURPOSE - COMMUNITY INSTITUTION DISTRICT S-CI
- SPECIAL PURPOSE - COMMUNITY SERVICE DISTRICT S-CS
- SPECIAL PURPOSE - FUTURE URBAN DEVELOPMENT DISTRICT S-FUD
- DIRECT CONTROL DISTRICT DC

**NOTES:**

1. CITY OF CALGARY ROAD MAP PROVIDED BY CANADIAN CARTOGRAPHICS CORPORATION, 2012.
2. LAND USE MAP PROVIDED BY THE CITY OF CALGARY.

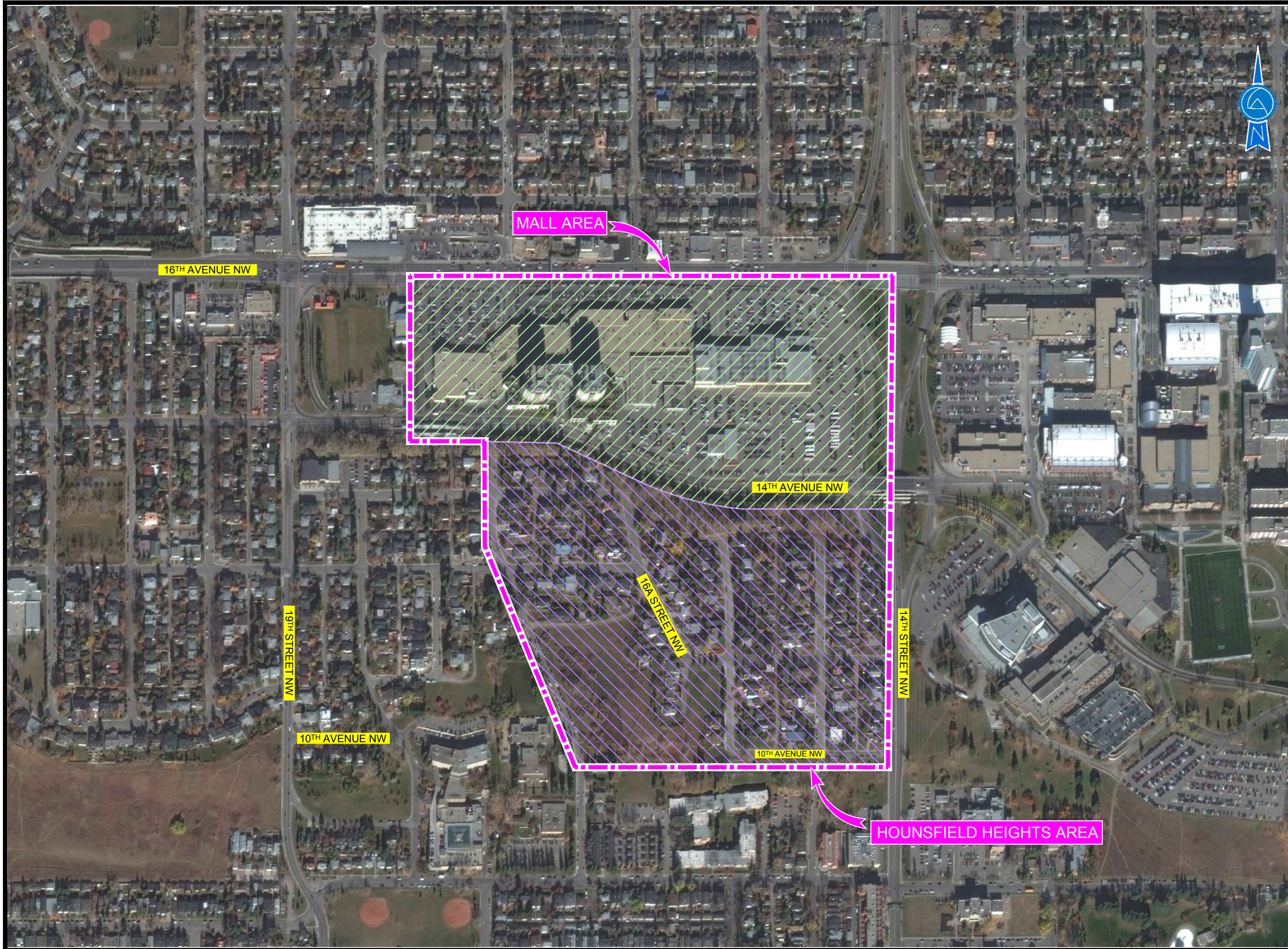
ENGINEER **Clifton Associates**

CLIENT **SEARS**

PROJECT Q2 2017 MONITORING AND SAMPLING PROGRAM  
HOUNSFELD HEIGHTS - BRIAR HILL COMMUNITY  
CALGARY, ALBERTA

TITLE **SITE LOCATION AND  
SURROUNDING LAND USE**

DESIGNED	SCALE	AS SHOWN	DATE	2017-06-01	
DRAWN	RD	PROJECT NO.	CG2430.1 E25	FIG.	1
CHECKED		FILE NO.	CG2430.1-E25-01		



**LEGEND:**

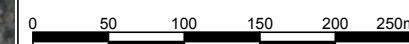
SITE BOUNDARY 

MALL AREA 

HOUNSFELD HEIGHTS AREA 

**NOTES:**

1. AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH PRO. AIR PHOTO DATE: OCT 23, 2015.



ENGINEER  Clifton Associates

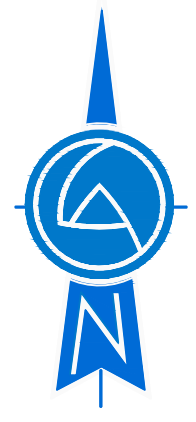
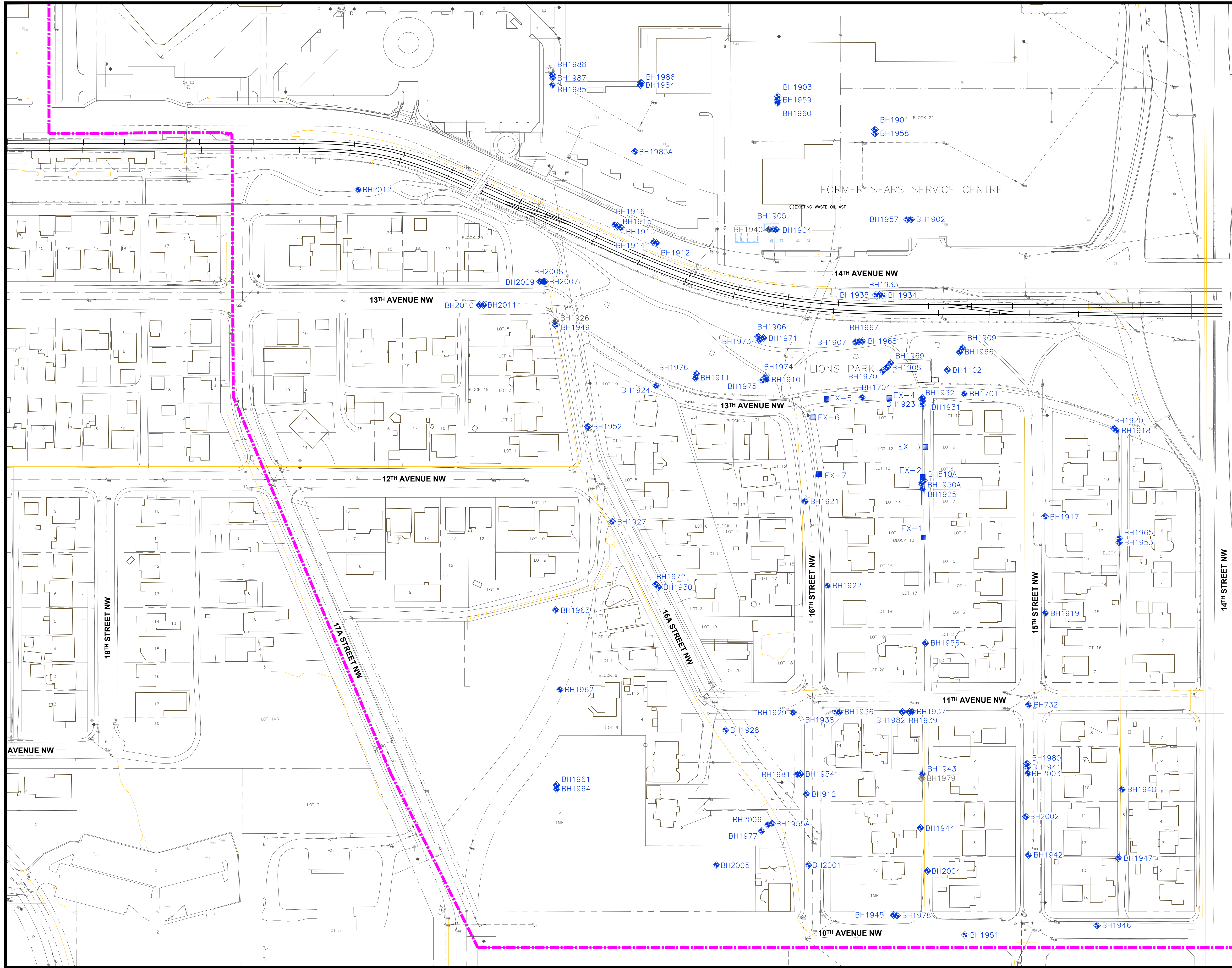
CLIENT **SEARS** 

PROJECT Q2 2017 MONITORING AND SAMPLING PROGRAM  
HOUNSFELD HEIGHTS - BRIAR HILL COMMUNITY  
CALGARY, ALBERTA

TITLE **SITE AND SURROUNDING PROPERTIES**

DESIGNED	SCALE	1:5000	DATE	2017-06-01
DRAWN	RD	PROJECT NO. CG2430.1 E25	FIG.	2
CHECKED	FILE NO.	CG2430.1-E25-02		

W:\CG2430.1 SEARS COURSE\1-E25\CG2430.1-E25-02.dwg, 06/01/2017 2:18:53 PM



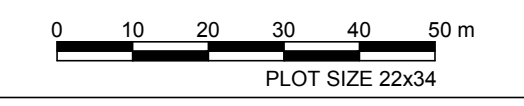
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SITE BOUNDARY	
EXTRACTION WELL	
LRT TRACKS	
FENCE LINE	
LEGAL LINE	
FORMER FACILITY/FEATURE	
BUILDING	
EXISTING GROUNDWATER MONITORING WELL	
MONITORING WELL TO BE DECOMMISSIONED	
DAMAGED MONITORING WELL	

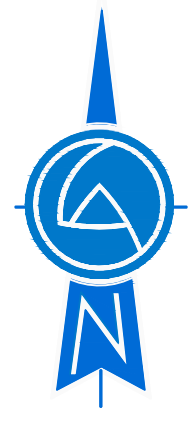
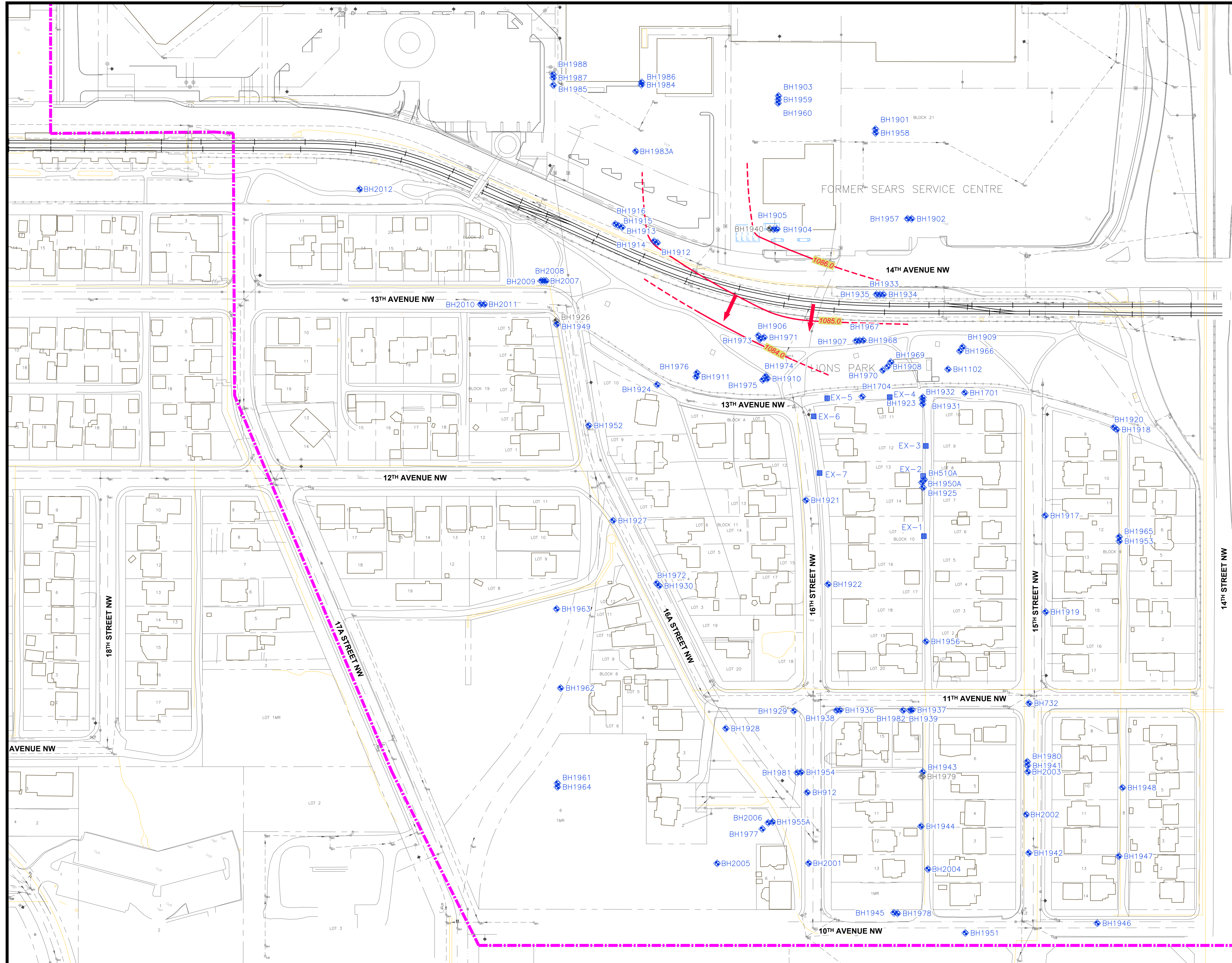
**UTILITY LINES & SYMBOLS**

NATURAL GAS LINE	
SANITARY SEWER	
STORM SEWER	
WATER	
CATCH BASIN	
FIRE HYDRANT	
LIGHT STANDARD	
MANHOLE	
UTILITY POLE	

**NOTES:**  
 1. DRAWING COMPILED FROM PLANIMETRIC FILES SUPPLIED BY THE CITY OF CALGARY (INCLUDING UG UTILITIES) & FROM SITE ASSESSMENT INFORMATION. ADDITIONAL REFERENCES FROM SEACOR ENVIRONMENTAL ENGINEERING INC., DRAWINGS 149-5A11.DWG, 149-5A6.DWG.



ENGINEER		
CLIENT		
<b>SEARS</b>		
PROJECT		
Q2 2017 MONITORING AND SAMPLING PROGRAM HOUSFIELD HEIGHTS - BRIAR HILL COMMUNITY CALGARY, ALBERTA		
TITLE		
<b>MONITORING WELL LOCATION PLAN</b>		
DESIGNED	SCALE	DATE
RD	1:1000	2017-08-01
DRAWN	PROJECT NO.	FIG.
TK	CG2430.1 E25	3
CHECKED	FILE NO.	
TK	CG2430.1-E25-03	



**LEGEND**

SITE BOUNDARY	
EXTRACTION WELL	
LRT TRACKS	
FENCE LINE	
LEGAL LINE	
FORMER FACILITY/FEATURE	
BUILDING	
EXISTING GROUNDWATER MONITORING WELL	
MONITORING WELL TO BE DECOMMISSIONED	
POTENTIOMETRIC CONTOUR	
POTENTIOMETRIC ELEVATION	
INTERPRETED DIRECTION OF GROUNDWATER FLOW	

**UTILITY LINES & SYMBOLS**

NATURAL GAS LINE	
SANITARY SEWER	
STORM SEWER	
WATER	
CATCH BASIN	
FIRE HYDRANT	
LIGHT STANDARD	
MANHOLE	
UTILITY POLE	

**NOTES:**  
 1. DRAWING COMPILED FROM PLANIMETRIC FILES SUPPLIED BY THE CITY OF CALGARY (INCLUDING UG UTILITIES) & FROM SITE ASSESSMENT INFORMATION. ADDITIONAL REFERENCES FROM SEACOR ENVIRONMENTAL ENGINEERING INC., DRAWINGS 149-5A11.DWG, 149-5A6.DWG.



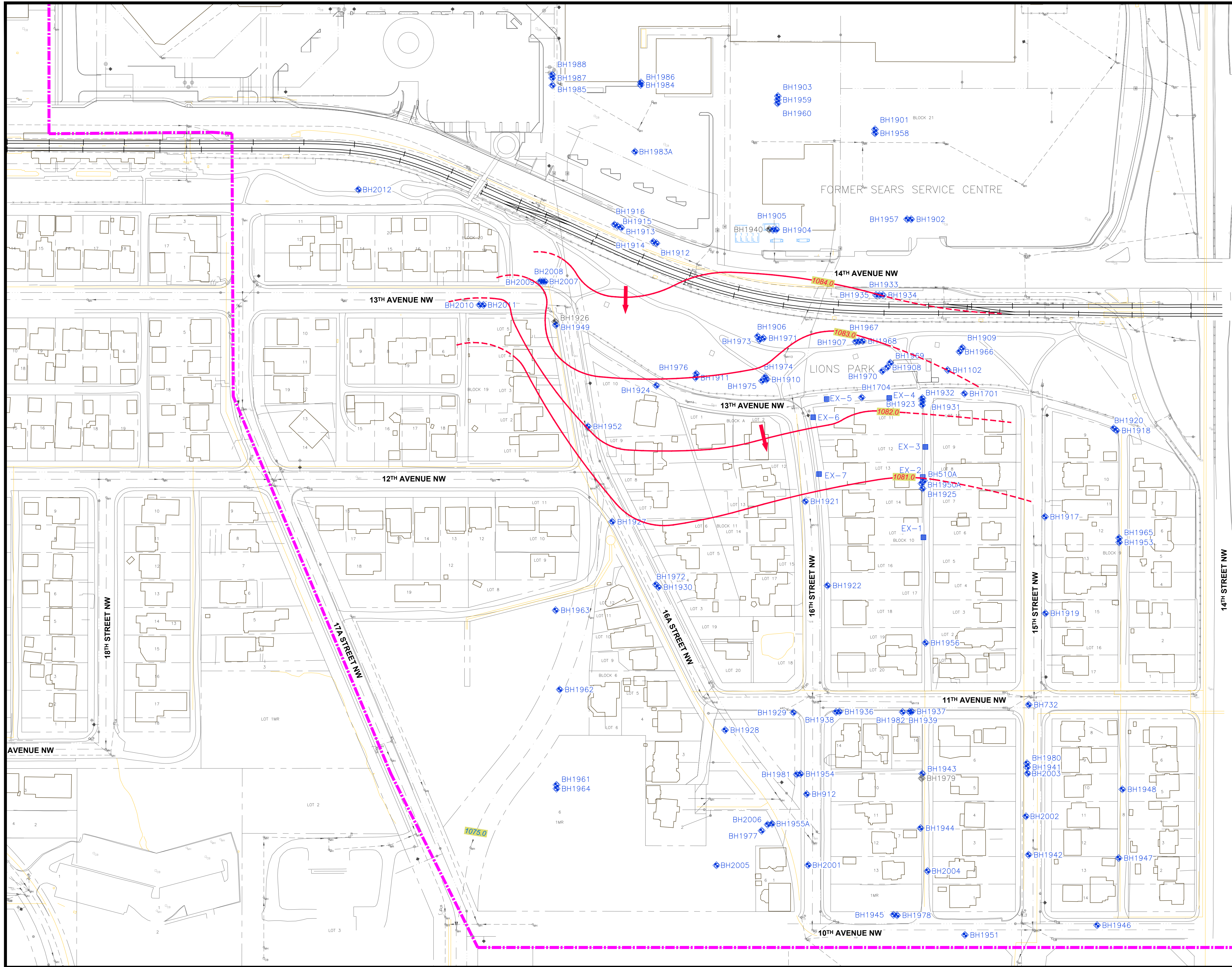
ENGINEER: Clifton Associates

CLIENT: **SEARS**

PROJECT: Q2 2017 MONITORING AND SAMPLING PROGRAM  
 HOUNSFIELD HEIGHTS - BRIAR HILL COMMUNITY  
 CALGARY, ALBERTA

TITLE: **POTENTIOMETRIC SURFACE UNIT 1**

DESIGNED	SCALE	DATE
RD	1:1000	2017-08-01
DRAWN	PROJECT NO.	FIG.
TK	CG2430.1 E25	4
CHECKED	FILE NO.	
TK	CG2430.1-E25-04	



**LEGEND**

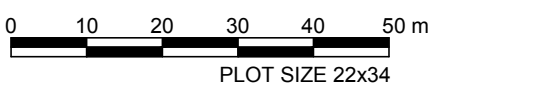
- SITE BOUNDARY [Purple dashed line]
- EXTRACTION WELL [Blue square]
- LRT TRACKS [Black double line with cross-ticks]
- FENCE LINE [Grey dashed line]
- LEGAL LINE [Grey solid line]
- FORMER FACILITY/FEATURE [Grey outline]
- BUILDING [Grey outline]
- EXISTING GROUNDWATER MONITORING WELL [Blue diamond]
- MONITORING WELL TO BE DECOMMISSIONED [Black diamond]
- POTENTIOMETRIC CONTOUR [Red line]
- POTENTIOMETRIC ELEVATION [Yellow text]
- INTERPRETED DIRECTION OF GROUNDWATER FLOW [Red arrow]

**UTILITY LINES & SYMBOLS**

- NATURAL GAS LINE [Yellow line]
- SANITARY SEWER [Grey dashed line]
- STORM SEWER [Black dashed line]
- WATER [Blue dashed line]
- CATCH BASIN [Square symbol]
- FIRE HYDRANT [Circle symbol]
- LIGHT STANDARD [Circle symbol]
- MANHOLE [Circle symbol]
- UTILITY POLE [Circle symbol]

**NOTES:**

1. DRAWING COMPILED FROM PLANIMETRIC FILES SUPPLIED BY THE CITY OF CALGARY (INCLUDING UG UTILITIES) & FROM SITE ASSESSMENT INFORMATION. ADDITIONAL REFERENCES FROM SEACOR ENVIRONMENTAL ENGINEERING INC., DRAWINGS 149-5A11.DWG, 149-5A6.DWG.



PLOT SIZE 22x34

ENGINEER



CLIENT



PROJECT

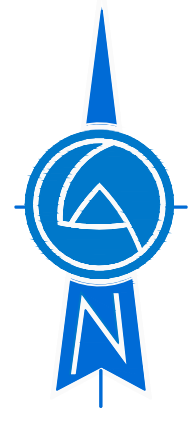
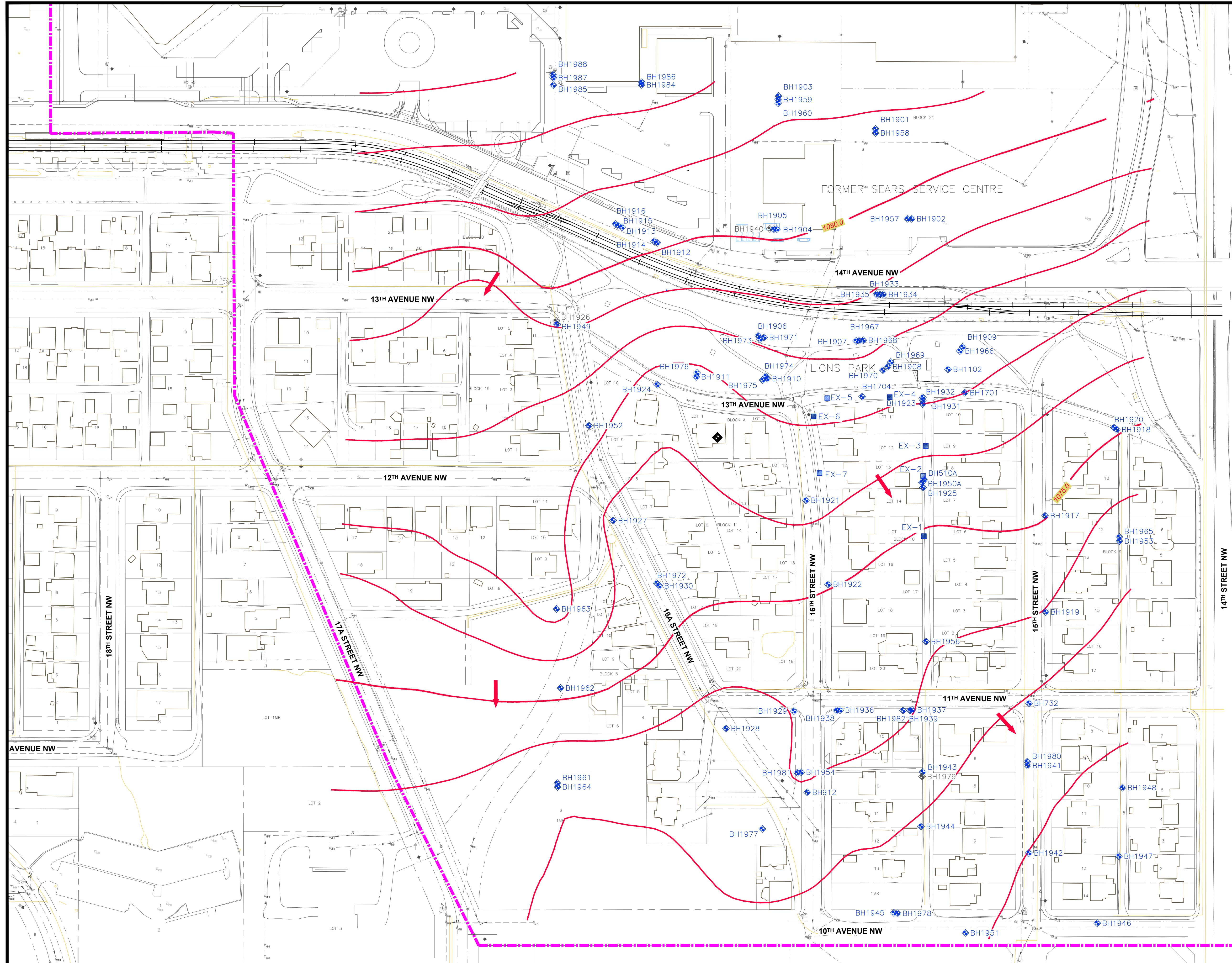
Q2 2017 MONITORING AND SAMPLING PROGRAM  
HOUNSFIELD HEIGHTS - BRIAR HILL COMMUNITY  
CALGARY, ALBERTA

TITLE

POTENTIOMETRIC SURFACE UNIT 2

DESIGNED	SCALE	DATE
DRAWN	PROJECT NO.	2017-08-01
CHECKED	FILE NO.	CG2430.1-E25
		5

W:\2017\149-5A11.DWG (2017-08-01) - 10:00 AM - 10:00 AM



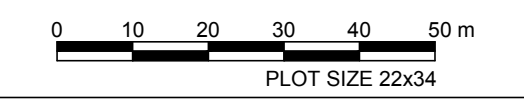
**LEGEND**

- SITE BOUNDARY ---
- EXTRACTION WELL ■
- LRT TRACKS =
- FENCE LINE ---
- LEGAL LINE ---
- FORMER FACILITY/FEATURE ---
- BUILDING □
- EXISTING GROUNDWATER MONITORING WELL ⊕
- MONITORING WELL TO BE DECOMMISSIONED ⊕
- POTENTIOMETRIC CONTOUR ---
- POTENTIOMETRIC ELEVATION 1080.0
- INTERPRETED DIRECTION OF GROUNDWATER FLOW →

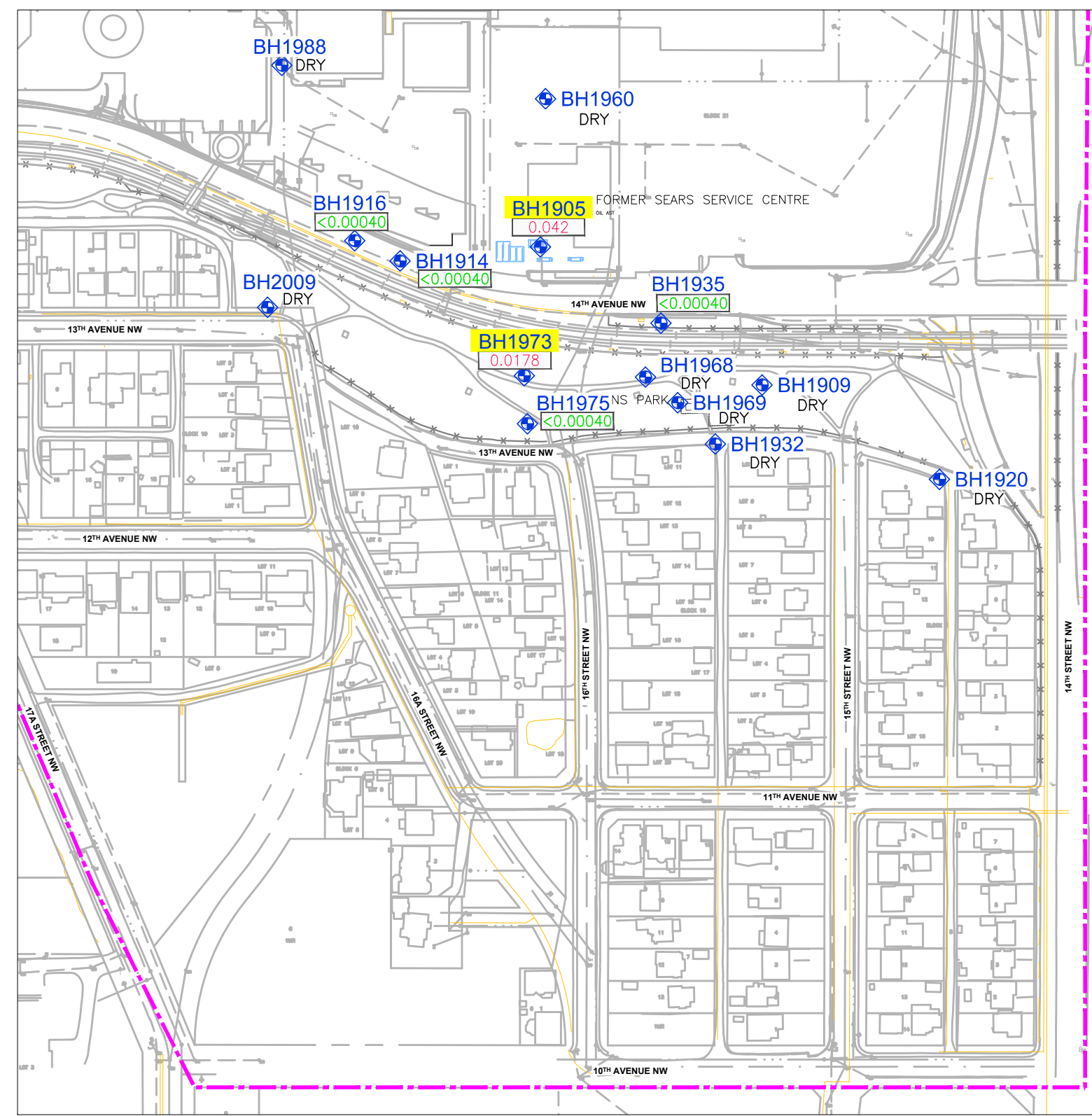
**UTILITY LINES & SYMBOLS**

- NATURAL GAS LINE ---
- SANITARY SEWER ---
- STORM SEWER ---
- WATER ---
- CATCH BASIN □
- FIRE HYDRANT ⊕
- LIGHT STANDARD ⊕
- MANHOLE ⊕
- UTILITY POLE ⊕

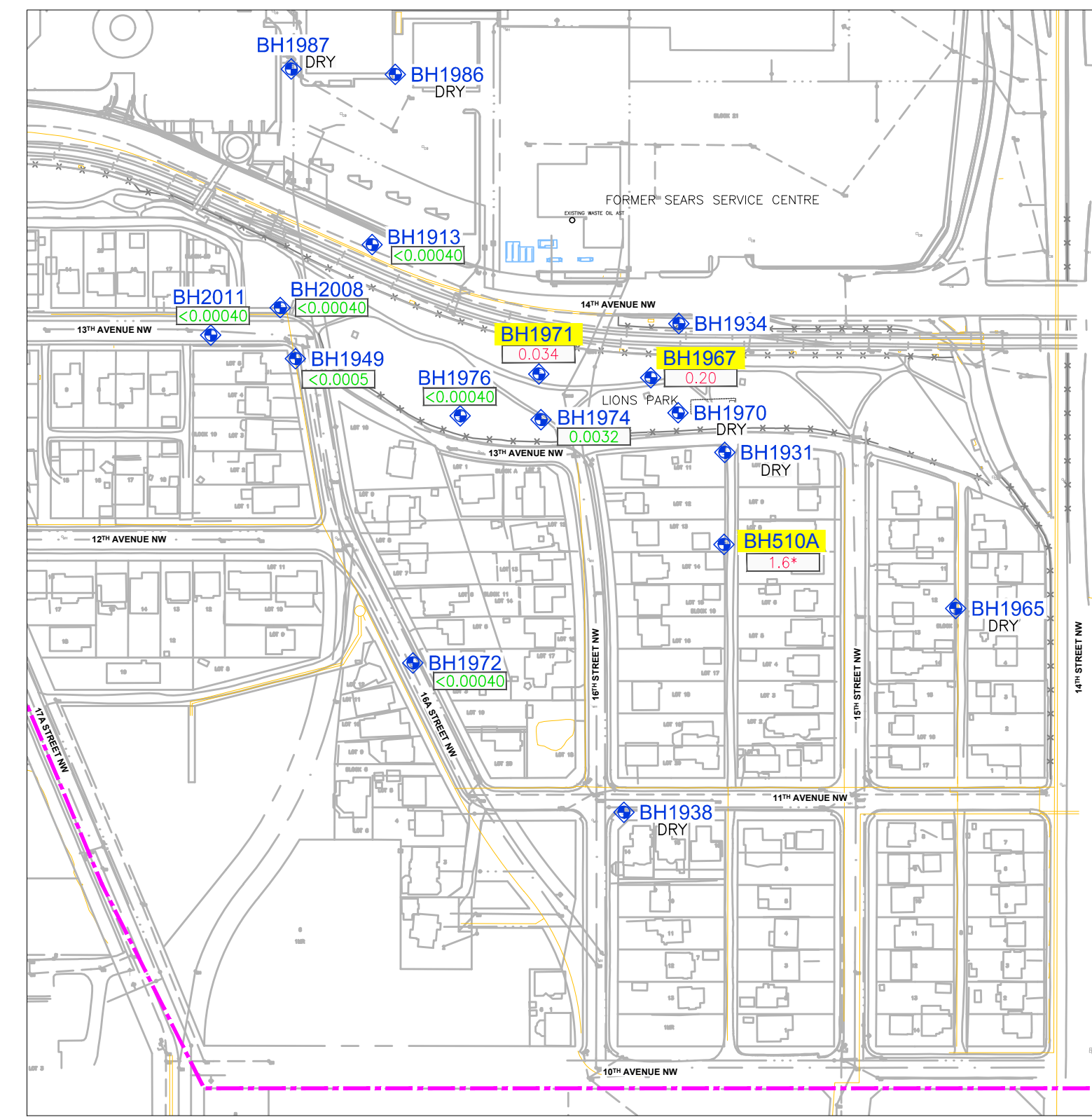
**NOTES:**  
 1 DRAWING COMPILED FROM PLANIMETRIC FILES SUPPLIED BY THE CITY OF CALGARY (INCLUDING UG UTILITIES) & FROM SITE ASSESSMENT INFORMATION. ADDITIONAL REFERENCES FROM SEAROR ENVIRONMENTAL ENGINEERING INC., DRAWINGS 149-5A11.DWG, 149-5A6.DWG.



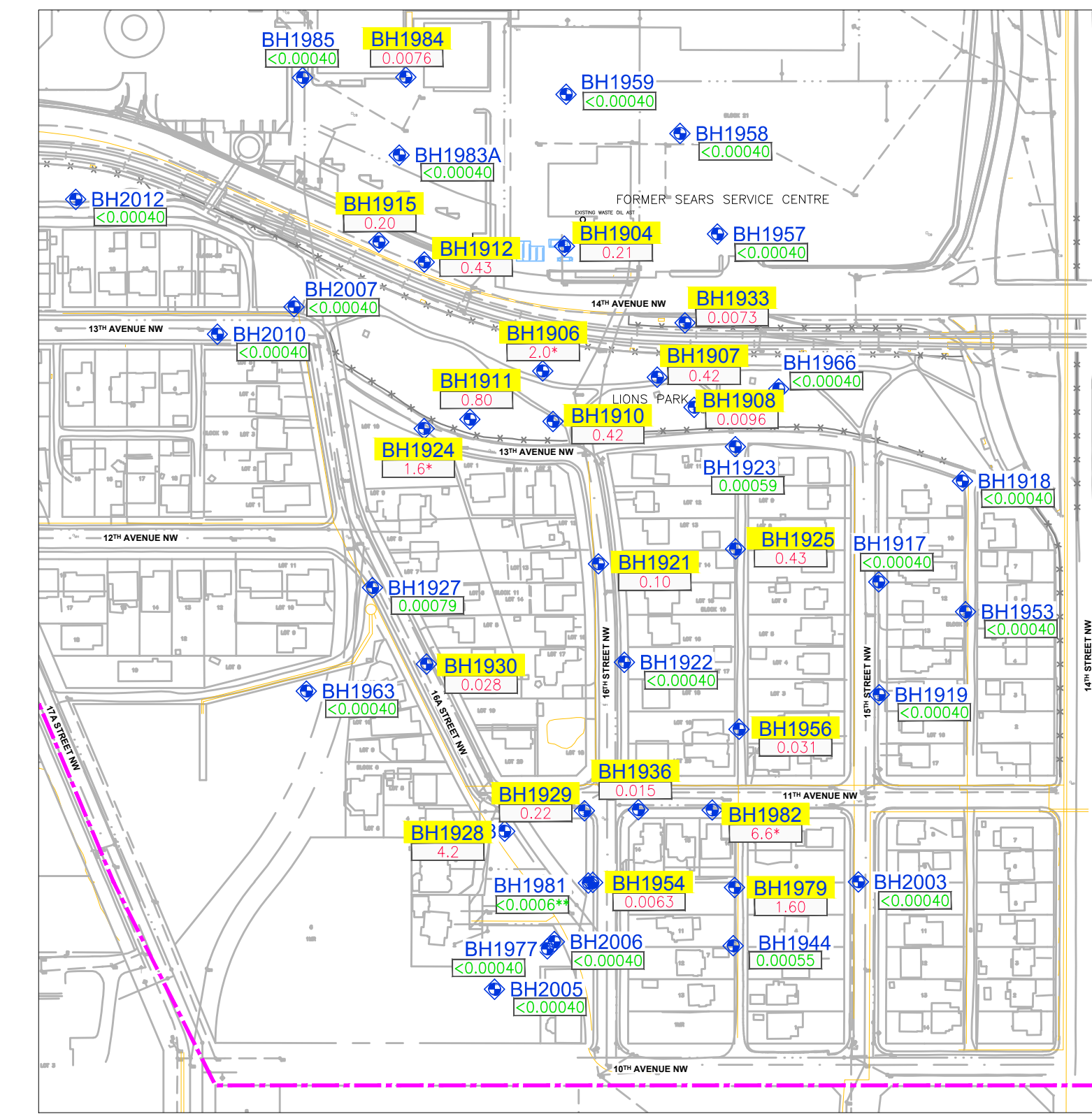
<b>SEARS</b>		
PROJECT Q2 2017 MONITORING AND SAMPLING PROGRAM HOUNSFIELD HEIGHTS - BRIAR HILL COMMUNITY CALGARY, ALBERTA		
TITLE <b>POTENTIOMETRIC SURFACE UNIT 3</b>		
DESIGNED	SCALE	DATE
DRAWN	PROJECT NO.	FIG.
CHECKED	FILE NO.	
TK	CG2430.1-E25-06	6



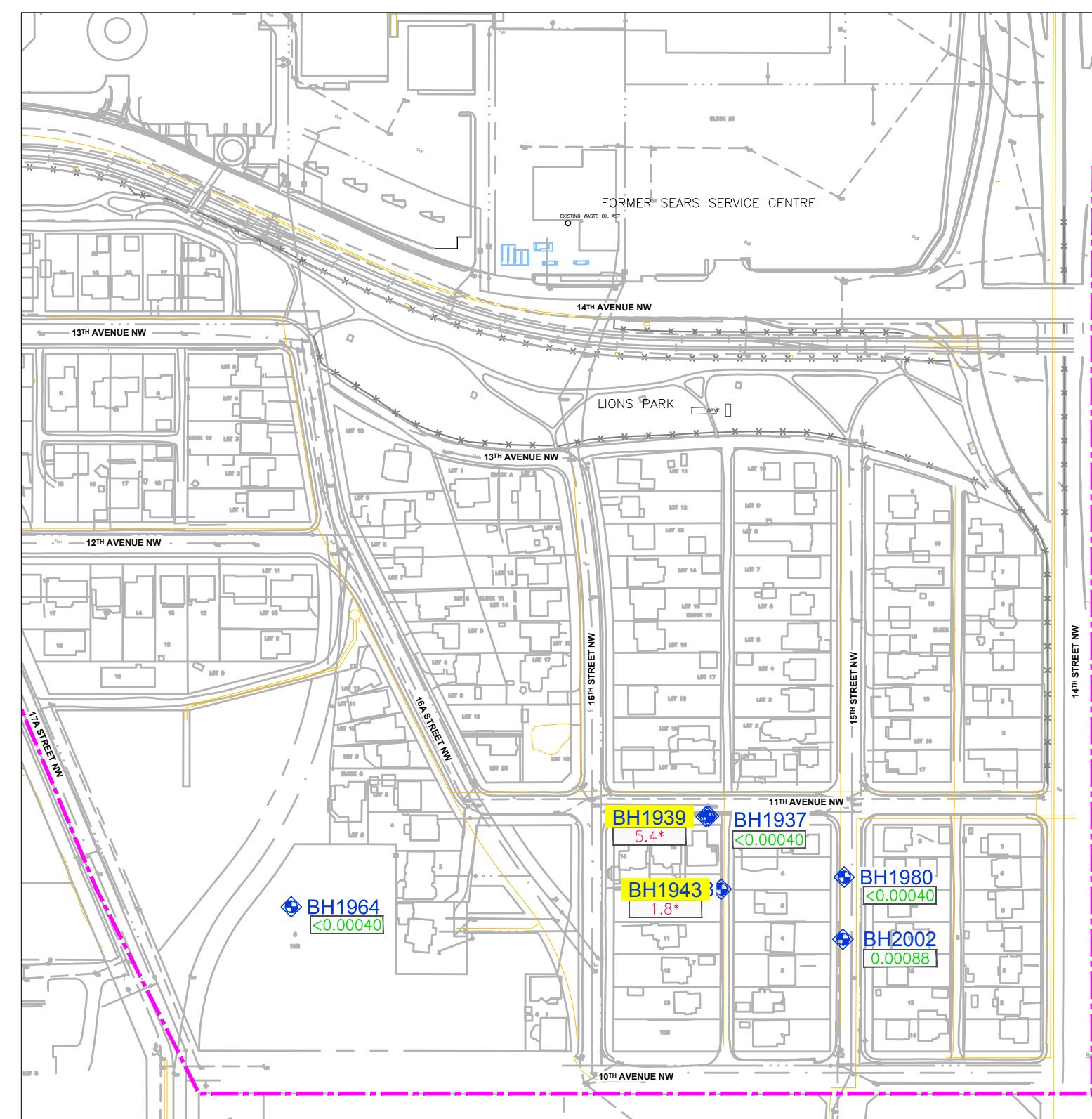
UNIT 1 - UPPER SILTY SAND



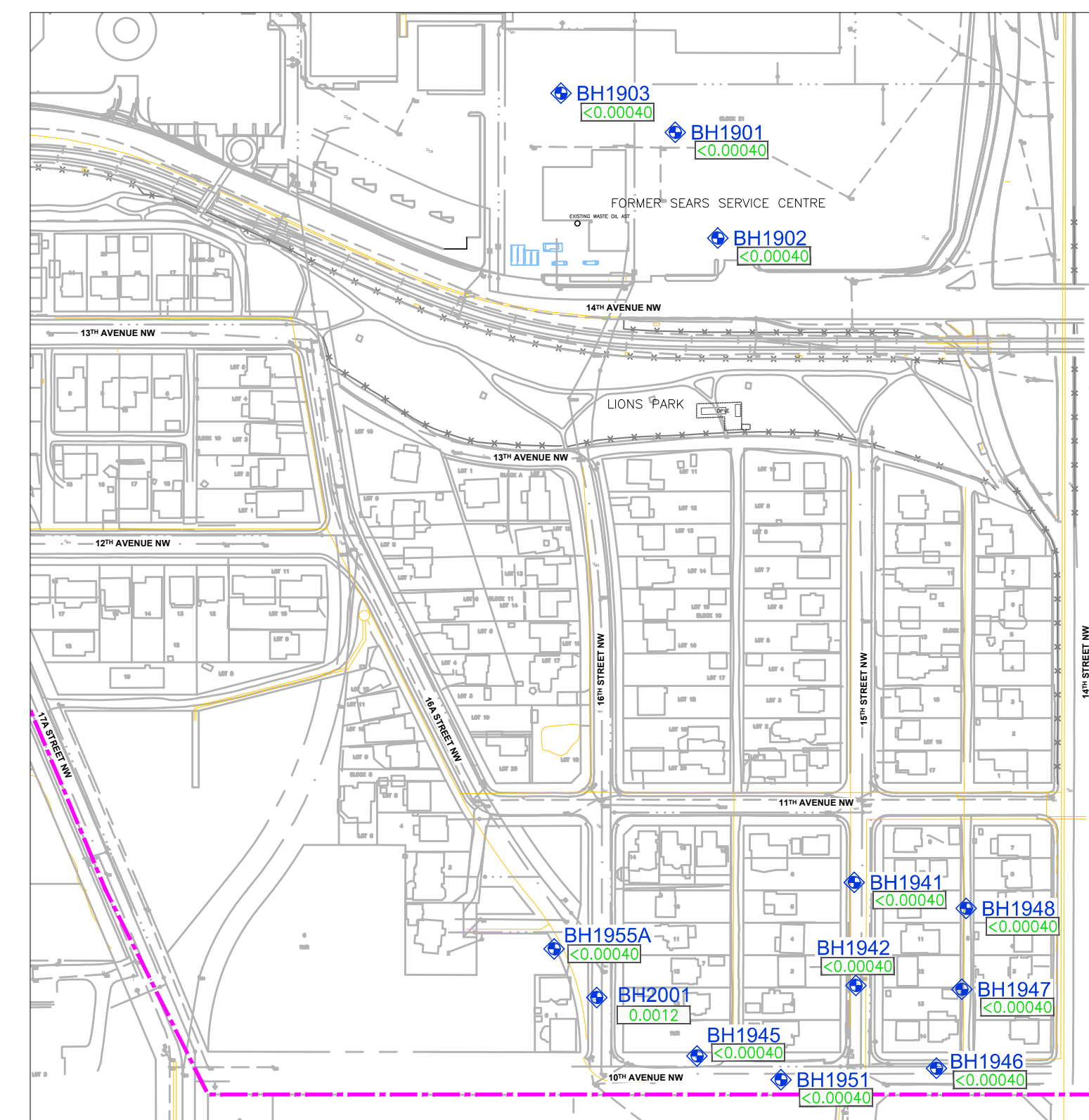
UNIT 2 - UPPER CLAYEY SILT



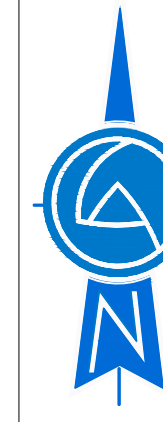
UNIT 3 - MIDDLE SANDY SILT



UNIT 4 - LOWER CLAYEY SILT



UNIT 5 - LOWER SILTY SAND AND GRAVEL

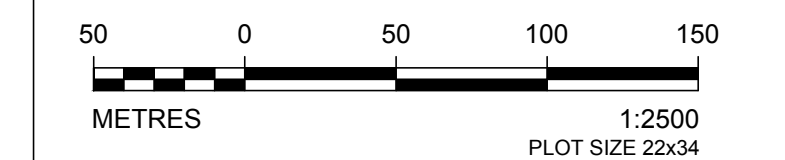


**LEGEND**

- SITE BOUNDARY ---
- EXTRACTION WELL ■
- LRT TRACKS ---
- FENCE LINE ---
- LEGAL LINE ---
- FORMER FACILITY/FEATURE ---
- BUILDING □
- EXISTING GROUNDWATER MONITORING WELL ●
- CURRENT MONITORING WELL CONDITIONS ●
- EXCEEDS AEP 2016 TIER 1 GUIDELINES ■

ALBERTA ENVIRONMENT AND PARKS 2016 TIER 1 GUIDELINES FOR COARSE-GRAINED SOIL		
AEP CRITERIA CATEGORY	RESIDENTIAL GUIDELINE (mg/L)	COMMERCIAL GUIDELINE (mg/L)
BENZENE	0.005	0.005

**NOTES:**  
 1 DRAWING COMPILED FROM PLANIMETRIC FILES SUPPLIED BY THE CITY OF CALGARY (INCLUDING UG UTILITIES) & FROM SITE ASSESSMENT INFORMATION. ADDITIONAL REFERENCES FROM SEAROR ENVIRONMENTAL ENGINEERING INC., DRAWINGS 149-5A11.DWG, 149-5A6.DWG.

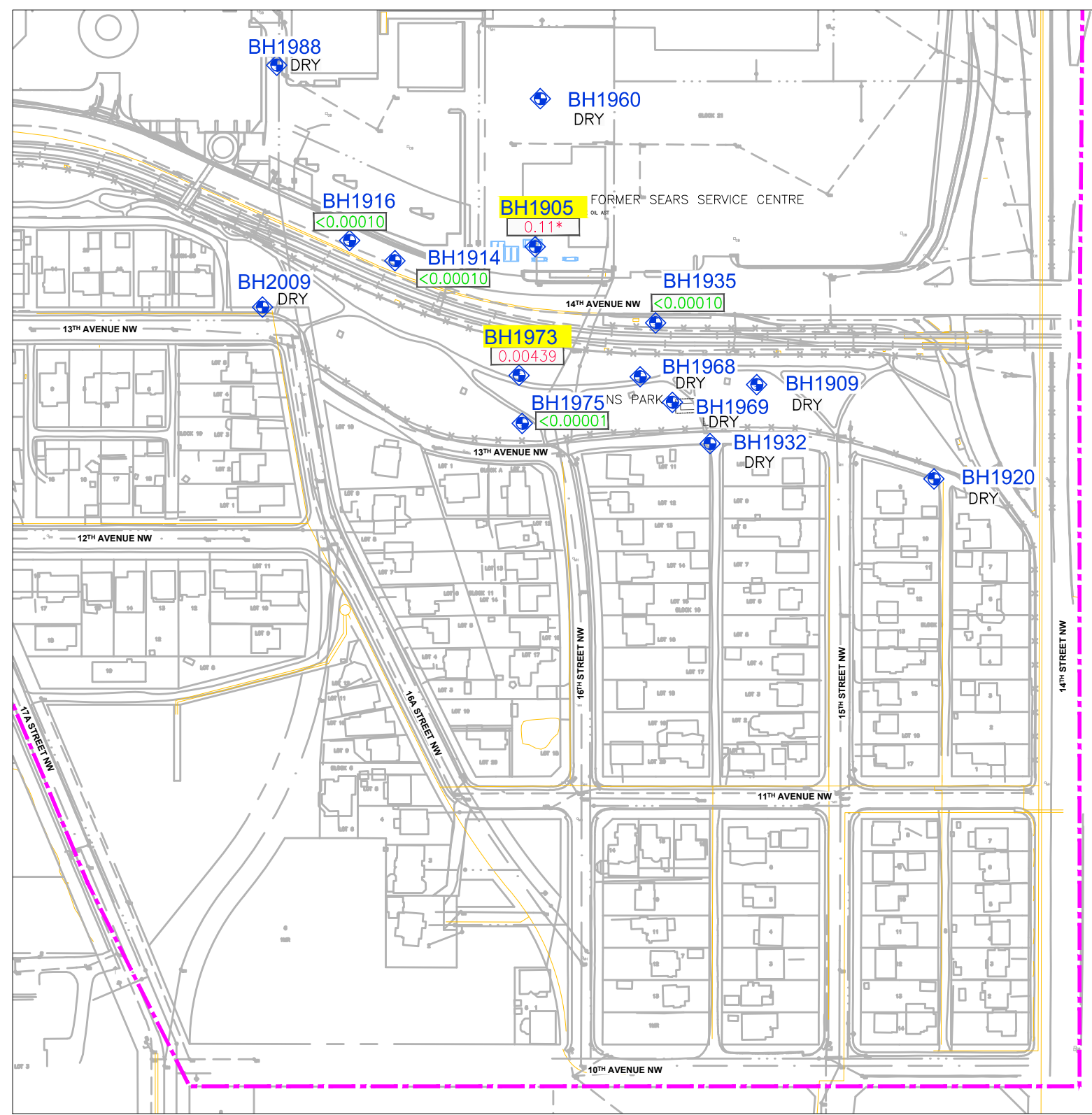


CLIENT  
**SEARS**

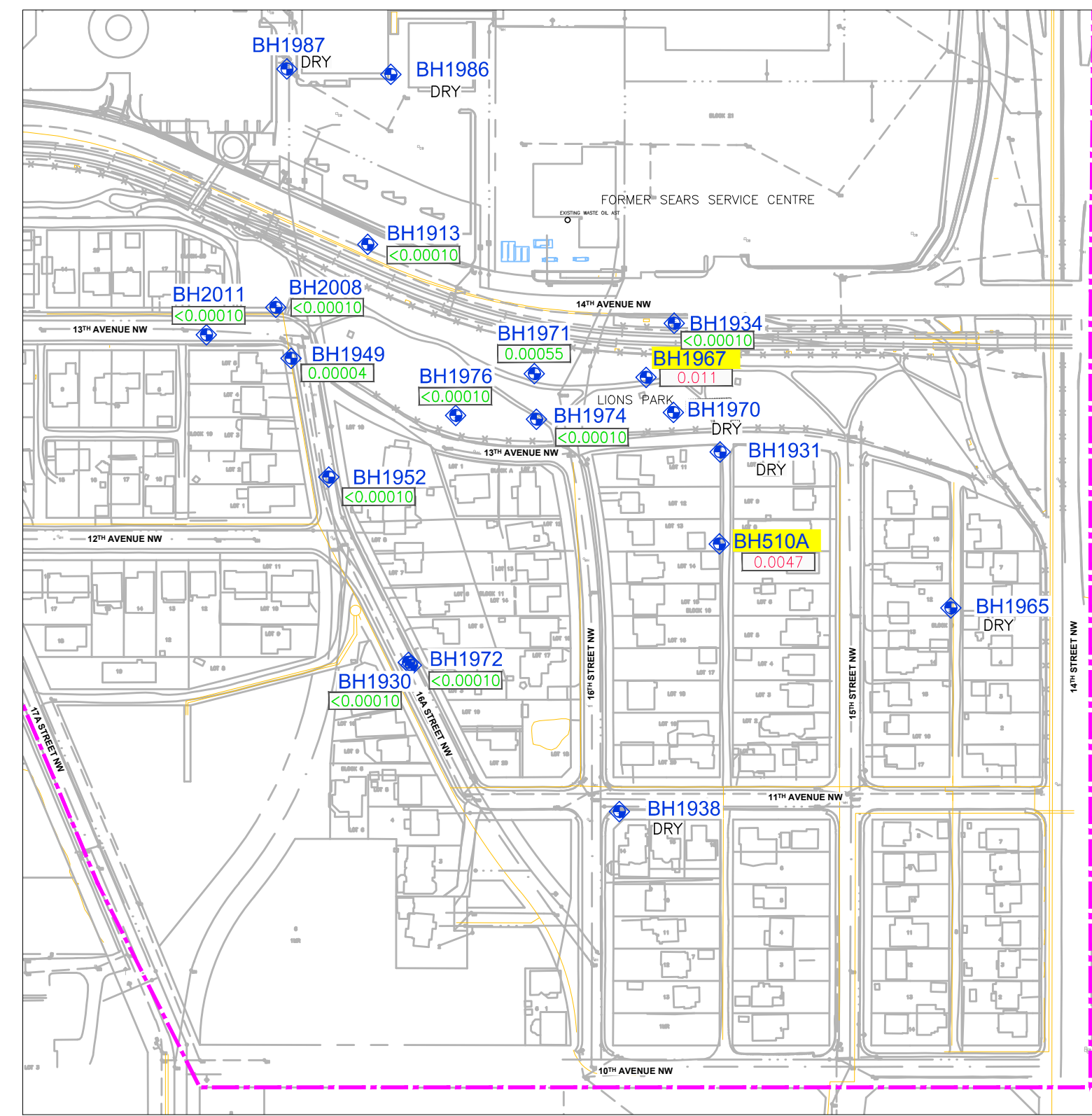
PROJECT  
 Q2 2017 MONITORING AND SAMPLING PROGRAM  
 HOUNSFIELD HEIGHTS - BRIAR HILL COMMUNITY  
 CALGARY, ALBERTA

TITLE			
DISTRIBUTION OF BENZENE IN GROUNDWATER, MAY 2017			
DESIGNED	SCALE	DATE	
DRAWN	PROJECT NO.	FIG.	
CHECKED	FILE NO.		

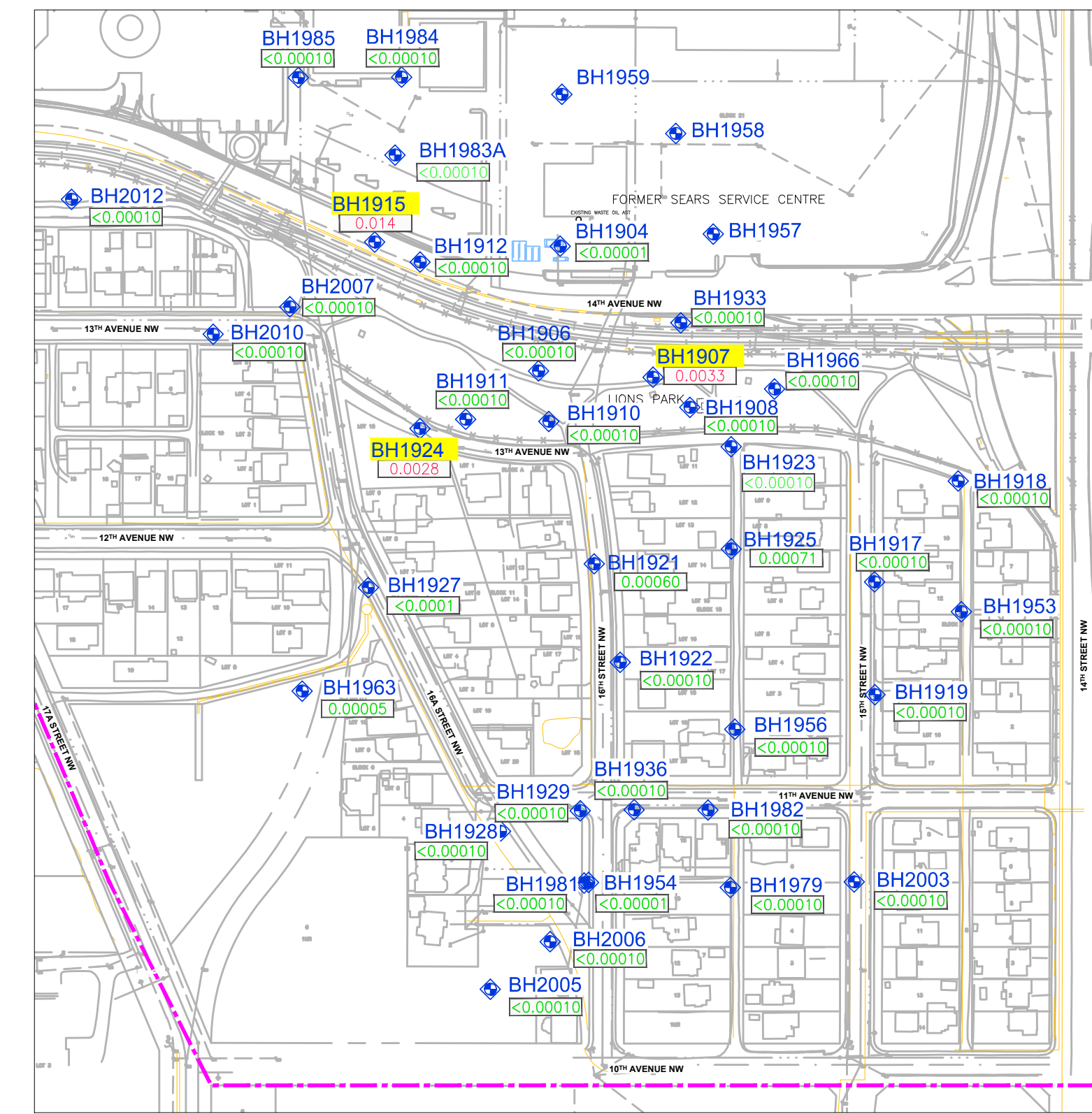
2017-08-01  
CG2430.1 E25  
7



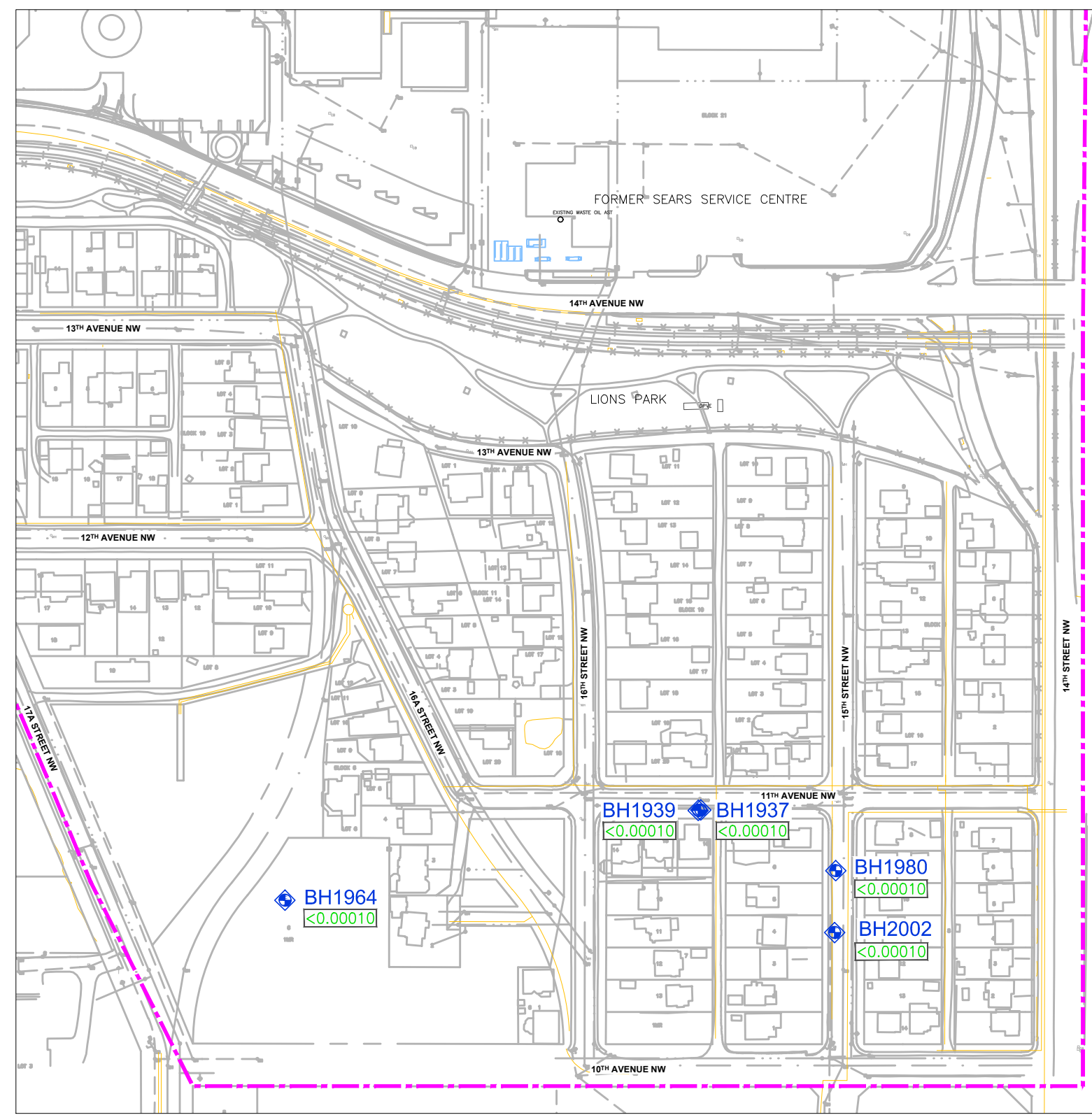
UNIT 1 - UPPER SILTY SAND



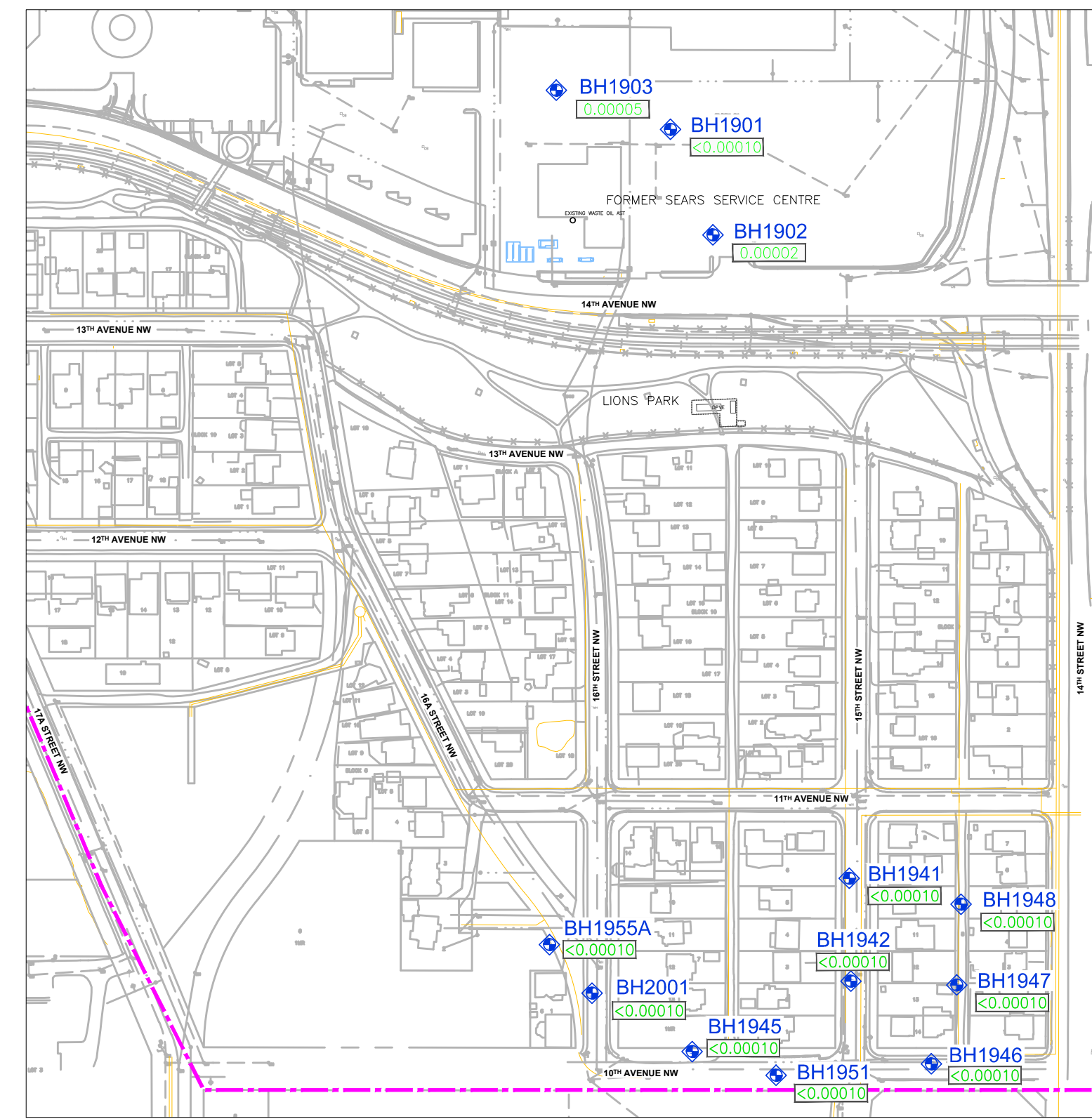
UNIT 2 - UPPER CLAYEY SILT



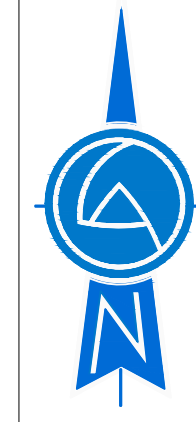
UNIT 3 - MIDDLE SANDY SILT



UNIT 4 - LOWER CLAYEY SILT



UNIT 5 - LOWER SILTY SAND AND GRAVEL

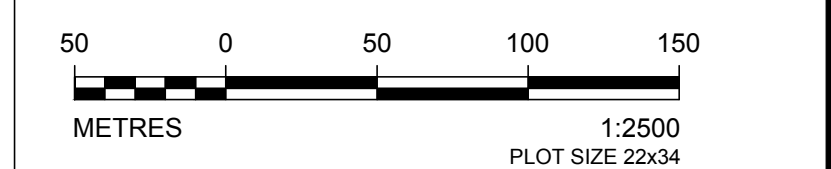


**LEGEND**

- SITE BOUNDARY
- EXTRACTION WELL
- LRT TRACKS
- FENCE LINE
- LEGAL LINE
- FORMER FACILITY/FEATURE
- BUILDING
- EXISTING GROUNDWATER MONITORING WELL
- CURRENT MONITORING WELL CONDITIONS
- EXCEEDS AEP 2016 TIER 1 GUIDELINES

ALBERTA ENVIRONMENT AND PARKS 2016 TIER 1 GUIDELINES FOR COARSE-GRAINED SOIL		
AEP CRITERIA CATEGORY	RESIDENTIAL GUIDELINE (mg/L)	COMMERCIAL GUIDELINE (mg/L)
NAPHTHALENE	0.001	0.001

**NOTES:**  
 1 DRAWING COMPILED FROM PLANIMETRIC FILES SUPPLIED BY THE CITY OF CALGARY (INCLUDING UG UTILITIES) & FROM SITE ASSESSMENT INFORMATION. ADDITIONAL REFERENCES FROM SEACOR ENVIRONMENTAL ENGINEERING INC., DRAWINGS 149-5A11.DWG, 149-5A6.DWG.



ENGINEER  
 Clifton Associates

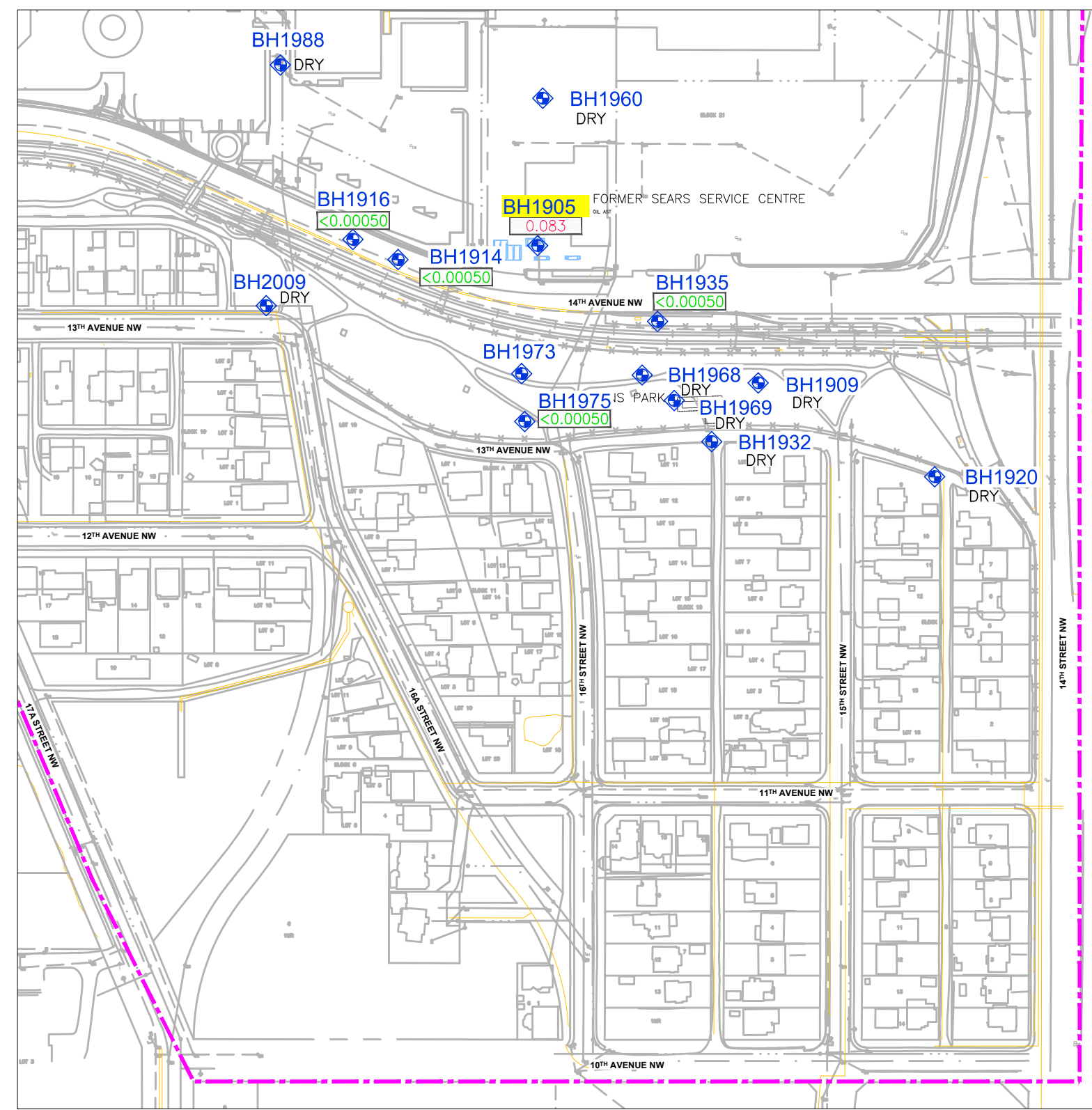
CLIENT  
 SEARS

PROJECT  
 Q2 2017 MONITORING AND SAMPLING PROGRAM  
 HOUNSFIELD HEIGHTS - BRIAR HILL COMMUNITY  
 CALGARY, ALBERTA

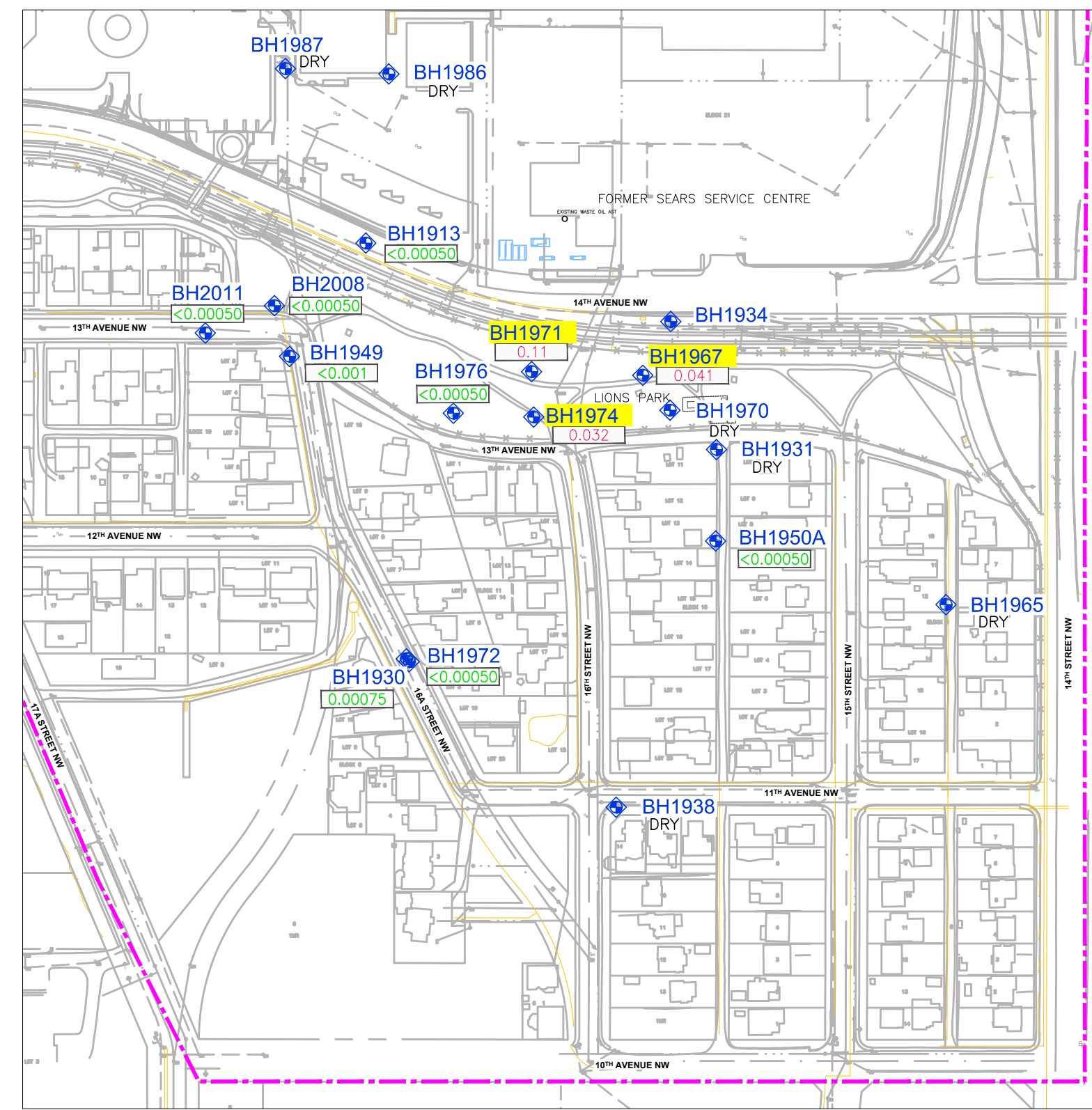
TITLE  
 DISTRIBUTION OF NAPHTHALENE  
 IN GROUNDWATER, MAY 2017

DESIGNED	SCALE	DATE
DRAWN	PROJECT NO.	2017-08-01
CHECKED	FILE NO.	CG2430.1 E25
TK	CG2430.1-E25-08	8

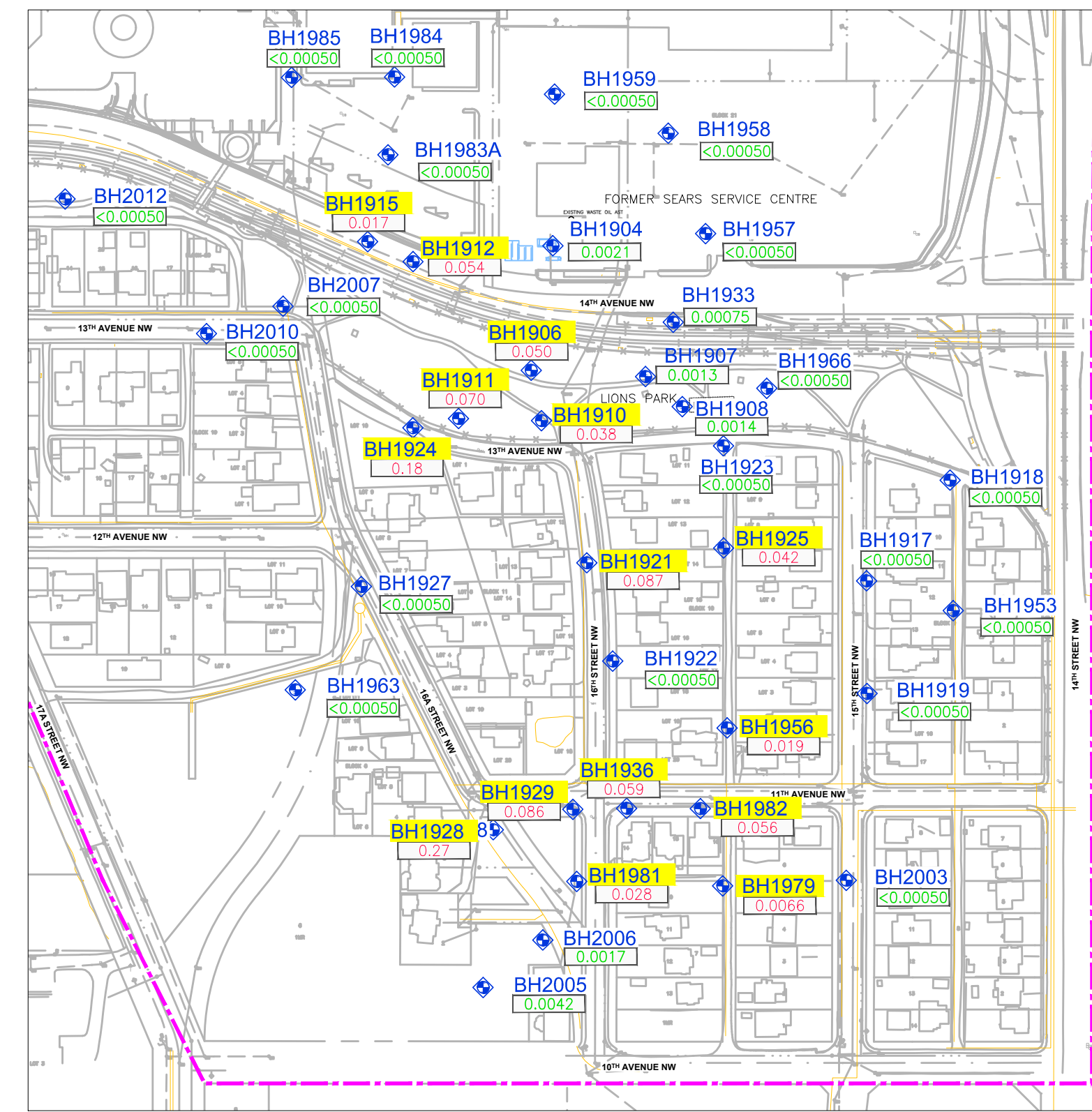




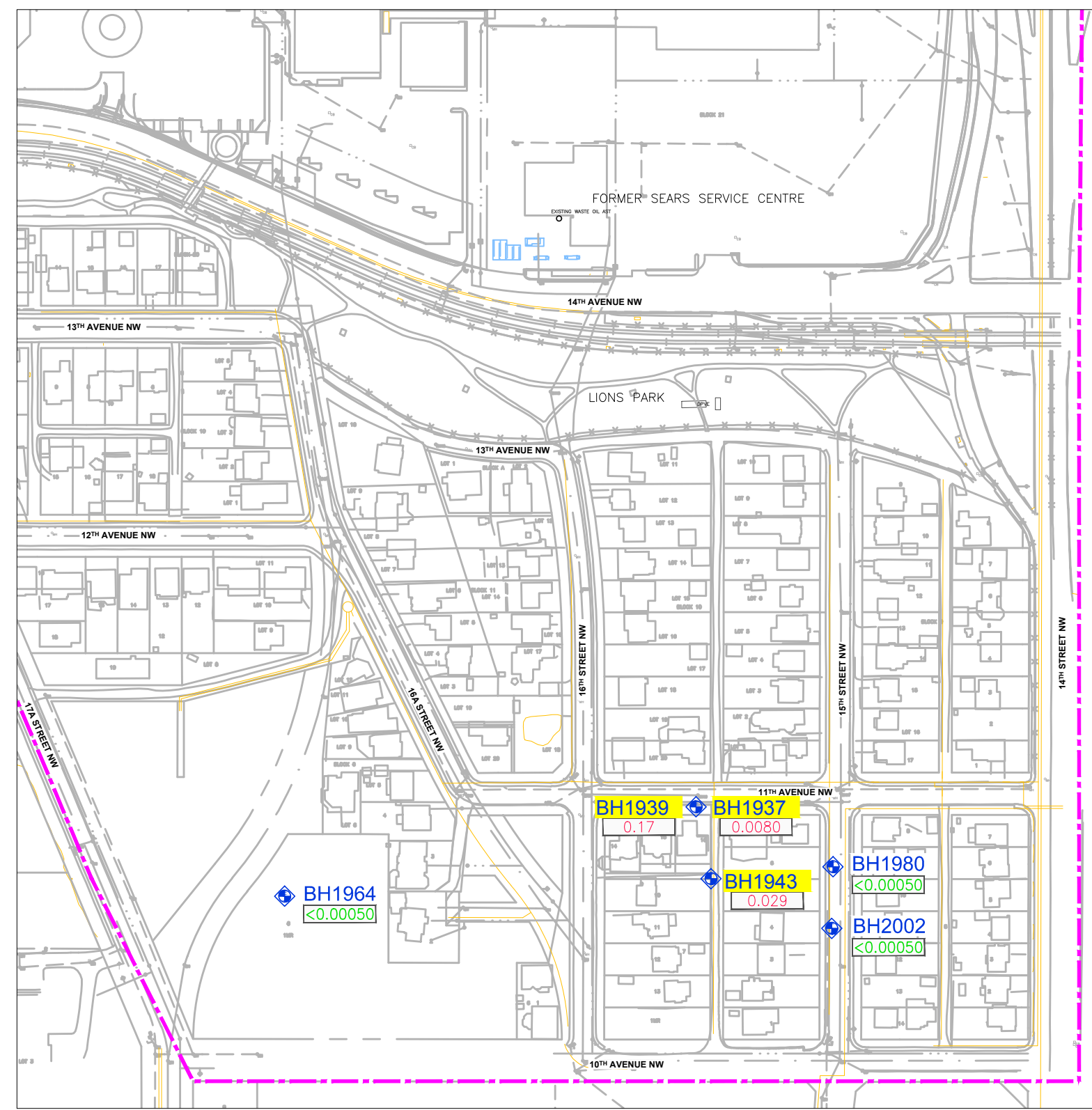
UNIT 1 - UPPER SILTY SAND



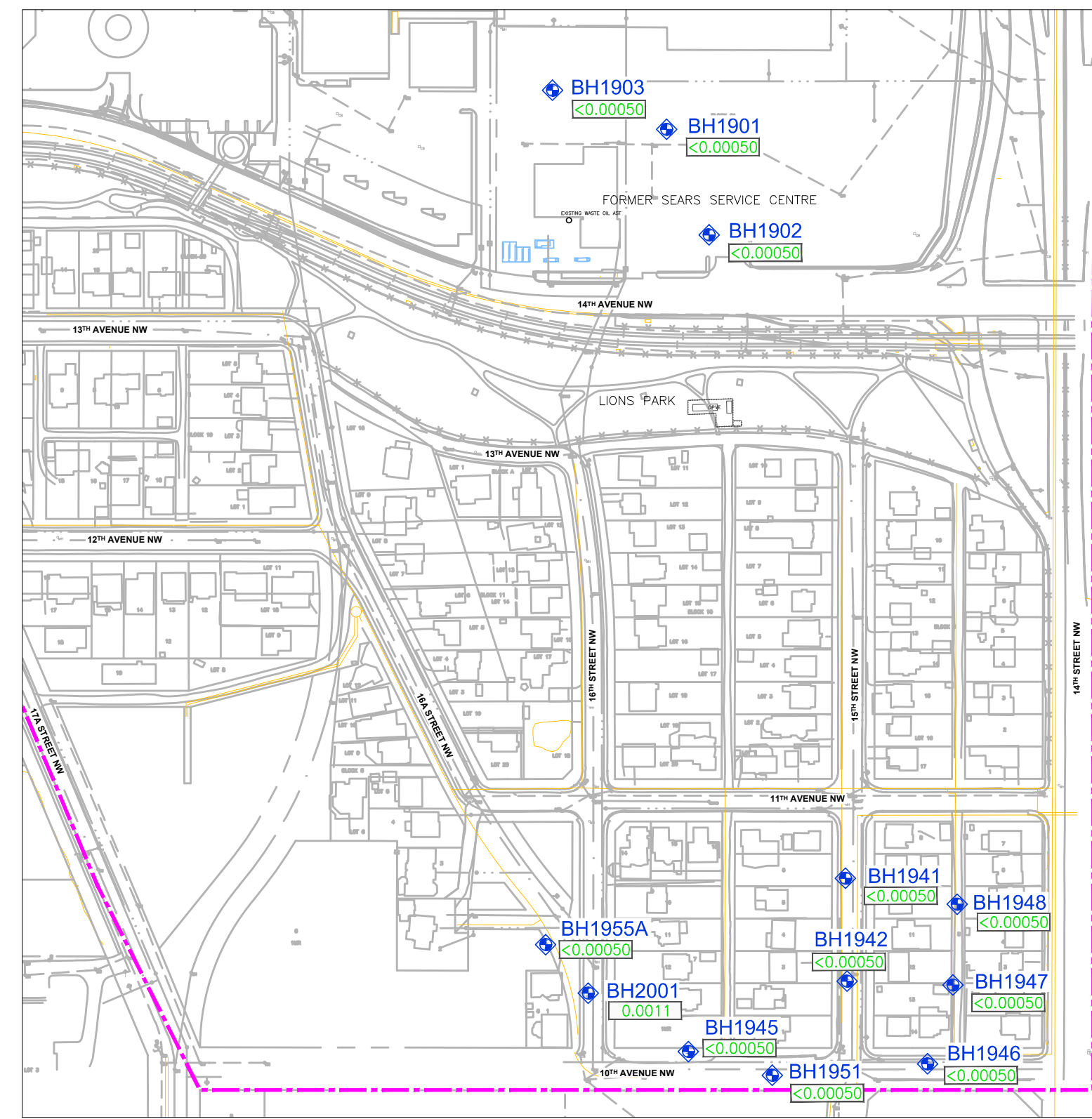
UNIT 2 - UPPER CLAYEY SILT



UNIT 3 - MIDDLE SANDY SILT



UNIT 4 - LOWER CLAYEY SILT



UNIT 5 - LOWER SILTY SAND AND GRAVEL



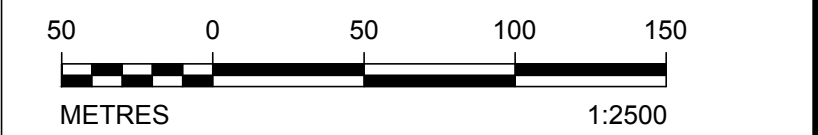
LEGEND

SITE BOUNDARY	
EXTRACTION WELL	
LRT TRACKS	
FENCE LINE	
LEGAL LINE	
FORMER FACILITY/FEATURE	
BUILDING	
EXISTING GROUNDWATER MONITORING WELL	
CURRENT MONITORING WELL CONDITIONS	
EXCEEDS AEP 2016 TIER 1 GUIDELINES	

ALBERTA ENVIRONMENT AND PARKS  
2016 TIER 1 GUIDELINES FOR COARSE-GRAINED SOIL

AEP CRITERIA CATEGORY	RESIDENTIAL GUIDELINE (mg/L)	COMMERCIAL GUIDELINE (mg/L)
1,2-DICHLOROETHANE	0.005	0.005

NOTES:  
1 DRAWING COMPILED FROM PLANIMETRIC FILES SUPPLIED BY THE CITY OF CALGARY (INCLUDING UG UTILITIES) & FROM SITE ASSESSMENT INFORMATION. ADDITIONAL REFERENCES FROM SEACOR ENVIRONMENTAL ENGINEERING INC., DRAWINGS 149-5A11.DWG, 149-5A6.DWG.



PROJECT  
Q2 2017 MONITORING AND SAMPLING PROGRAM  
HOUNSFIELD HEIGHTS - BRIAR HILL COMMUNITY  
CALGARY, ALBERTA

TITLE  
DISTRIBUTION OF 1,2-DICHLOROETHANE  
IN GROUNDWATER, MAY 2017

DESIGNED	SCALE	DATE
DRAWN	PROJECT NO.	2017-08-01
CHECKED	FILE NO.	CG2430.1 E25
TK	CG2430.1-E25-09	9

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Tables

# Clifton Associates

## Tables

**Clifton Associates**



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[www.clifton.ca](http://www.clifton.ca)





















Table 1 - Summary of Well Monitoring

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl <sup>1</sup> )	Ground Surface Elevation (masl <sup>2</sup> )	Total Depth bTOP <sup>3</sup> (m)	Depth to Water bTOP (m)	Depth to Water BGS <sup>4</sup> (m)	Water Elevation (masl)	Monitor Well Vapour Concentration <sup>5</sup> HEX/IBL (ppm)
EX6		17-Apr-15	-	-	12.77	10.92	-	-	5/2
		9-Jun-15	-	-	12.82	10.88	-	-	0/12
		2-Sep-15	-	-	12.75	10.90	-	-	290/61
		10-Nov-15	-	-	12.74	10.86	-	-	0/8
		18-Feb-16	-	-	12.81	10.75	-	-	165/59
		5-May-16	-	-	12.85	10.98	-	-	0/1
		17-Aug-16	-	-	11.51	10.99	-	-	0/6
		1-Nov-16	-	-	11.18	10.91	-	-	25/13
		1-Mar-17	-	-	11.33	11.02	-	-	60/12
		5-May-17	-	-	11.30	10.85	-	-	0/28
EX7		18-Apr-15	-	-	13.24	10.97	-	-	45/35
		9-Jun-15	-	-	13.11	10.99	-	-	0/35
		2-Sep-15	-	-	12.69	10.99	-	-	3,200/1,191
		10-Nov-15	-	-	12.96	10.96	-	-	0/12
		18-Feb-16	-	-	13.00	10.91	-	-	360/225
		5-May-16	-	-	12.70	11.06	-	-	0/0
		17-Aug-16	-	-	12.73	11.16	-	-	0/1
		1-Nov-16	-	-	12.63	11.23	-	-	155/102
		1-Mar-17	-	-	12.66	11.30	-	-	55/2
		5-May-17	-	-	12.63	11.15	-	-	0/7

**Notes:**

- 1 Meter above sea level
  - 2 Ground surface elevation based on survey completed in May 2015 by Clifton Associates Ltd.
  - 3 Below top of pipe
  - 4 Below ground surface
  - 5 Vapour concentrations measured in monitoring wells with an RKI Eagle gas portable monitor with PID.
- HEX/IBL Hexane/Isobutylene  
- not measured

**Table 2 - Summary of Groundwater Laboratory Analyses  
BTEX and PHC fractions F1-F2**

Sample ID	Land Use <sup>1</sup>	Sampling Depth (m bgs)	Sample Date	Unit	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	F1 minus BTEX (C6 - C10)	F2 (C10 - C16)
BH1904	C	12.80-14.33	4-May-17	3	0.21	0.00053**	0.00084	0.0014	0.19	<0.10
	C	12.80-14.33	4-Nov-16	3	0.17	0.00047	<0.00040	<0.00080	0.13	<0.10
	C	12.80-14.33	11-May-16	3	0.19	<0.00040	<0.00040	<0.00080	0.16	<0.10
	C	12.80-14.33	16-Nov-15	3	0.218	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	C	12.80-14.33	15-Sep-15	3	0.246	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	C	12.80-14.33	15-Jun-15	3	0.35	<0.0003	<0.0005	<0.0005	<0.1	<0.1
BH1905	C	Bulk	17-Mar-15	3	0.117	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	C	Bulk	5-May-17	1	0.042	0.0018	0.29	1.9	2.1	2.4
	C	Bulk	8-Nov-16	1	0.058	0.0025	0.49	3.6*	2.5	2.4
	C	Bulk	12-May-16	1	0.055	0.0024	0.52	3.1	2.2	1.8
	C	Bulk	17-Nov-15	1	0.0938	0.0025	0.438	1.83	1.6	2.2
	C	Bulk	8-Sep-15	1	0.11	0.0038	0.243	1.56	1.4	2.7
	C	Bulk	11-Jun-15	1	0.0714	0.0028	0.787	10.4	0.2	3.9
BH1906	C	Bulk	25-Feb-15	1	0.086	0.0110	1.88	26.3	-	7.3
	R	14.63-16.15	10-May-17	3	2.0*	<0.00040	<0.00040	0.00089	<0.50*	0.12
	R	14.63-16.15	2-Nov-16	3	1.8*	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	14.63-16.15	9-May-16	3	2.1	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	14.63-16.15	17-Nov-15	3	1.81	0.0005	<0.0005	<0.0005	<0.1	<0.1
	R	14.63-16.15	16-Sep-15	3	2.01	0.0004	<0.0005	<0.0005	<0.1	<0.1
	R	11.58-13.10	15-Jun-15	3	1.92	0.0004	<0.0005	<0.0005	<0.1	<0.1
	R	13.10-14.63	15-Jun-15	3	2.01	0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	14.63-16.15	15-Jun-15	3	2.19	0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	16.15-17.68	15-Jun-15	3	2.05	0.0004	<0.0005	<0.0005	<0.1	<0.1
BH1907	R	Bulk	8-Apr-15	3	1.73	0.0004	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	12-May-17	3	0.42	2.1*	0.055	1.800	5.8	0.35
	R	11.89-13.41	10-May-17	3	0.042	0.014	0.0079	0.040	0.36	0.13
	R	11.89-13.41	2-Nov-16	3	0.036	0.010	0.0059	0.025	0.43	<0.10
	R	Bulk	2-Nov-16	3	0.022	0.037	0.0019	0.054	0.27	<0.10
	R	11.89-13.41	9-May-16	3	0.047	0.044	0.027	0.11	0.57	0.10
	R	11.89-13.41	17-Nov-15	3	0.0909	0.293	0.0399	0.434	1.2	0.10
	R	11.89-13.41	16-Sep-15	3	0.0742	0.248	0.0105	0.157	0.4	<0.1
	R	11.89-13.41	15-Jun-15	3	0.0572	0.248	0.024	0.310	0.9	<0.1
	R	13.41-14.94	15-Jun-15	3	0.0486	0.188	0.0173	0.214	0.4	<0.1
BH1908	R	Bulk	30-Apr-15	3	0.232	0.0197	0.341	0.0101	3.6	0.5
	R	12.19-13.72	10-May-17	3	0.0056	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	12.19-13.72	2-Nov-16	3	0.0097	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	12.19-13.72	9-May-16	3	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	12.19-13.72	17-Nov-15	3	0.0082	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	12.19-13.72	16-Sep-15	3	0.0107	0.0007	<0.0005	0.0006	<0.1	<0.1
	R	12.19-13.72	12-Jun-15	3	0.0160	0.0011	0.0007	0.0026	<0.1	<0.1
	R	13.72-14.94	12-Jun-15	3	0.0165	0.0010	0.0007	0.0029	<0.1	<0.1
BH1910	R	Bulk	28-Apr-15	3	0.0016	0.0003	0.0009	0.0054	<0.1	<0.1
	R	10.97-12.50	10-May-17	3	0.42	<0.00040	0.00058	<0.00080	<0.10	<0.10
	R	10.97-12.50	2-Nov-16	3	0.21	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	11.39-12.50	9-May-16	3	0.31	<0.00040	<0.00040	0.0011	<0.10	<0.10
	R	11.43-12.50	16-Nov-15	3	0.154	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	11.43-12.50	16-Sep-15	3	0.118	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	11.49-12.50	15-Jun-15	3	0.324	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	12.50-14.02	15-Jun-15	3	0.324	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	14.02-15.54	15-Jun-15	3	0.296	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	15.54-17.07	15-Jun-15	3	0.267	<0.0003	<0.0005	<0.0005	<0.1	<0.1
BH1911	R	Bulk	22-Apr-15	3	0.351	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	15.54-17.07	10-May-17	3	0.80	<0.00040	<0.00040	0.0017	<0.10	<0.10
Residential Guideline <sup>2</sup>					0.005	0.021	0.0016	0.02	0.81	1.1
Commercial Guideline <sup>2</sup>					0.005	0.021	0.0016	0.02	2.2	1.1

Notes:

- \* Detection limit raised due to dilution
- \*\* Results are potentially biased high

**Table 2 - Summary of Groundwater Laboratory Analyses  
BTEX and PHC fractions F1-F2**

Sample ID	Land Use <sup>1</sup>	Sampling Depth (m bgs)	Sample Date	Unit	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	F1 minus BTEX (C6 - C10)	F2 (C10 - C16)	
BH1911	R	15.54-17.07	2-Nov-16	3	0.82	<0.00040	<0.00040	0.0016	<0.10	<0.10	
	R	15.54-17.07	9-May-16	3	1.0	<0.00040	<0.00040	0.0018	<0.10	<0.10	
	R	15.54-17.07	16-Nov-15	3	0.701	<0.0003	<0.0005	<0.0005	<0.1	<0.1	
	R	15.54-17.07	16-Sep-15	3	0.509	<0.0003	<0.0005	<0.0005	<0.1	<0.1	
	R	14.05-15.54	15-Jun-15	3	0.302	<0.0003	<0.0005	<0.0005	<0.1	<0.1	
	R	15.54-17.07	15-Jun-15	3	0.346	<0.0003	<0.0005	<0.0005	<0.1	<0.1	
	R	Bulk	9-Apr-15	3	0.436	<0.0003	<0.0005	<0.0005	<0.1	<0.1	
BH1912	R	13.41-14.94	17-May-17	3	0.43	<0.00040	<0.00040	<0.00080	<0.10	<0.10	
	R	13.41-14.94	3-Nov-16	3	0.57	<0.00040	<0.00040	<0.00080	<0.10	<0.10	
	R	13.41-14.94	10-May-16	3	0.54	<0.00040	<0.00040	0.0013	<0.10	<0.10	
	R	13.41-14.94	12-Nov-15	3	0.688	<0.0003	<0.0005	0.0009	<0.1	<0.1	
	R	13.41-14.94	8-Sep-15	3	0.727	0.0004	<0.0005	0.0021	<0.1	<0.1	
	R	13.41-14.94	17-Jun-15	3	0.799	0.0009	<0.0005	0.0176	<0.1	<0.1	
	R	14.94-16.46	17-Jun-15	3	0.795	0.001	<0.0005	0.0184	<0.1	<0.1	
	R	16.46-17.98	17-Jun-15	3	0.738	0.0009	<0.0005	0.0172	<0.1	<0.1	
	R	17.98-19.51	17-Jun-15	3	0.716	0.0008	<0.0005	0.0196	<0.1	<0.1	
	R	Bulk	10-Mar-15	3	0.942	0.0021	<0.0005	0.0481	<0.1	<0.1	
BH1915	R	14.94-16.46	17-May-17	3	0.20	0.0046	0.0038	0.37	2.2	0.59	
	R	Bulk	17-May-17	3	0.21	0.0028	0.0011	0.25	1.1	0.46	
	R	14.94-16.46	3-Nov-16	3	0.47	0.0013	<0.00040	0.16	0.59	0.27	
	R	Bulk	3-Nov-16	3	0.57	0.011	0.0013	0.47	0.86	0.51	
	R	14.94-16.46	10-May-16	3	0.35	0.0088	0.0065	0.59	2.2	0.46	
	R	14.94-16.46	12-Nov-15	3	0.466	0.0257	0.0109	0.985	1.5	0.8	
	R	14.94-16.46	8-Sep-15	3	0.510	0.0319	0.0087	1.02	1.8	0.6	
	R	10.36-11.89	17-Jun-15	3	1.10	0.183	0.0427	2.33	2.6	0.6	
	R	11.89-13.41	17-Jun-15	3	1.14	0.0727	0.0163	1.12	1.6	0.5	
	R	13.41-14.94	17-Jun-15	3	1.15	0.0813	0.0214	1.26	1.9	0.6	
	R	14.94-16.46	17-Jun-15	3	1.24	0.0817	0.020	1.22	1.5	0.4	
		R	Bulk	26-Feb-15	3	1.01	0.0723	0.0411	1.96	3.2	1.1
BH1921	R	11.89-13.41	11-May-17	3	0.10	0.021	0.14	0.0049	1.30	0.12	
	R	11.89-13.41	10-Nov-16	3	0.17	0.0099	0.18	0.0067	0.90	<0.10	
	R	11.89-13.41	13-May-16	3	0.12	0.0058	0.12	0.018	1.2	0.18	
	R	11.89-13.41	20-Nov-15	3	0.187	0.0137	0.156	0.0120	0.8	0.2	
	R	11.89-13.41	4-Sep-15	3	0.174	0.0175	0.137	0.0092	1.0	0.2	
	R	10.36-11.89	19-Jun-15	3	0.280	0.0377	0.179	0.0072	1.1	0.2	
	R	11.89-13.41	19-Jun-15	3	0.417	0.0461	0.258	0.0104	0.9	0.2	
	R	13.41-14.94	19-Jun-15	3	0.334	0.0382	0.184	0.0081	0.8	0.2	
	R	14.94-16.46	22-Jun-15	3	0.330	0.0372	0.225	0.0094	1.1	0.2	
		R	Bulk	28-Apr-15	3	0.470	0.0869	0.352	0.0126	1.6	0.3
BH1922	R	14.02-15.54	11-May-17	3	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10	
	R	14.02-15.54	10-Nov-16	3	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10	
	R	14.02-15.54	13-May-16	3	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10	
	R	15.54-17.07	20-Nov-15	3	0.0027	0.0005	<0.0005	<0.0005	<0.1	<0.1	
	R	14.02-15.54	23-Nov-15	3	0.0281	<0.0003	<0.0005	<0.0005	<0.1	<0.1	
	R	15.54-17.07	3-Sep-15	3	0.0056	<0.0003	<0.0005	<0.0005	<0.1	<0.1	
	R	10.97-12.50	19-Jun-15	3	<0.0005	0.0039	0.0046	<0.0005	<0.1	<0.1	
	R	12.50-14.02	19-Jun-15	3	0.237	0.0055	0.0119	0.0020	<0.1	<0.1	
	R	14.02-15.54	19-Jun-15	3	0.314	<0.0003	<0.0005	0.0031	<0.1	<0.1	
		R	Bulk	5-May-15	3	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	BH1923	R	10.67-12.19	15-May-17	3	<0.00040	<0.00040	0.0016**	0.0025	<0.10	<0.10
		R	10.67-12.19	7-Nov-16	3	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
R		10.67-12.19	9-May-16	3	0.00059	<0.00040	<0.00040	0.012	0.11	<0.10	
R		10.67-12.19	17-Nov-15	3	<0.0005	<0.0003	<0.0005	0.0030	<0.1	<0.1	
Residential Guideline <sup>2</sup>					0.005	0.021	0.0016	0.02	0.81	1.1	
Commercial Guideline <sup>2</sup>					0.005	0.021	0.0016	0.02	2.2	1.1	

Notes:

- \* Detection limit raised due to dilution
- \*\* Results are potentially biased high

**Table 2 - Summary of Groundwater Laboratory Analyses  
BTEX and PHC fractions F1-F2**

Sample ID	Land Use	Sampling Depth (m bgs)	Sample Date	Unit	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	F1 minus BTEX (C6 - C10)	F2 (C10 - C16)
BH1923	R	10.67-12.19	3-Sep-15	3	0.0014	0.0010	<0.0005	0.0129	<0.1	<0.1
	R	10.67-12.19	12-Jun-15	3	0.0028	0.0007	<0.0005	0.0104	0.1	<0.1
	R	12.19-13.72	12-Jun-15	3	0.0024	0.0006	<0.0005	0.0098	0.1	<0.1
	R	Bulk	2-Apr-15	3	0.0013	<0.0003	<0.0005	0.0075	<0.1	<0.1
BH1924	R	Bulk	12-May-17	3	1.6*	0.0059	<0.00040	0.16	0.63	0.15
	R	14.94-16.46	10-May-17	3	2.6*	0.014	<0.00040	0.28	0.32	0.23
	R	14.94-16.46	2-Nov-16	3	2.8*	0.012	<0.00040	0.27	0.57	0.15
	R	Bulk	2-Nov-16	3	3.1	0.0075	<0.00040	0.19	0.16	<0.10
	R	14.94-16.46	9-May-16	3	2.2	0.015	0.039	0.32	1.1	0.23
	R	14.94-16.46	17-Nov-15	3	2.45	0.0146	0.0007	0.270	<0.1	0.2
	R	14.94-16.46	16-Sep-15	3	3.90	0.0243	0.0005	0.373	<0.1	0.1
	R	14.94-16.46	19-Jun-15	3	6.32	0.0302	0.0008	0.402	<0.1	0.3
	R	Bulk	7-May-15	3	3.04	0.010	0.001	0.153	1.8	0.2
BH1925	R	16.76-18.29	8-May-17	3	0.43	0.0097	0.19	0.0040	0.69	<0.10
	R	16.76-18.29	7-Nov-16	3	1.8*	0.025	0.63	0.016	0.81	0.13
	R	16.76-18.29	9-May-16	3	2.1	0.036	0.85	0.030	1.0	0.22
	R	16.76-18.29	20-Nov-15	3	3.28	0.0460	0.540	0.0254	1.8	0.2
	R	16.76-18.29	4-Sep-15	3	2.54	0.137	0.515	0.072	2.0	0.1
	R	16.76-18.29	12-Jun-15	3	1.50	0.0247	0.0145	0.0104	2.2	0.2
	R	Bulk	7-May-15	3	1.82	0.037	0.542	0.017	0.5	<0.1
BH1927	R	15.24-16.76	12-May-17	3	<0.00040	<0.00040	<0.00040	0.0053	<0.10	<0.10
	R	15.24-16.76	8-Nov-16	3	0.00079	<0.00040	<0.00040	0.019	0.11	0.36
	R	15.24-16.76	13-May-16	3	0.0013	<0.00040	<0.00040	0.031	0.23	<0.10
	R	15.24-16.76	20-Nov-15	3	0.0012	<0.0003	<0.0005	0.0178	0.2	<0.1
	R	15.24-16.76	4-Sep-15	3	0.0009	<0.0003	<0.0005	0.0172	<0.1	<0.1
	R	13.72-15.24	16-Jun-15	3	0.0016	<0.0003	<0.0005	0.0152	<0.1	<0.1
	R	15.24-16.76	16-Jun-15	3	0.0018	<0.0003	<0.0005	0.0184	<0.1	<0.1
	R	16.76-18.29	16-Jun-15	3	0.0020	<0.0003	<0.0005	0.0181	<0.1	<0.1
	R	18.29-19.81	16-Jun-15	3	0.0020	<0.0003	<0.0005	0.0173	<0.1	<0.1
	R	Bulk	1-May-15	3	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
BH1928	R	9.45-10.97	15-May-17	3,4	4.2	0.00090	0.00060	0.15	1.3*	<0.10
	R	Bulk	18-May-17	3,4	4.1*	0.00095	0.00059	0.16	<1.0*	<0.10
	R	9.45-10.97	9-Nov-16	3,4	3.5*	0.00069	<0.00040	0.10	<0.10	<0.10
	R	Bulk	9-Nov-16	3,4	4.0	0.0031	0.0012	0.12	<0.10	<0.10
	R	9.45-10.97	16-May-16	3,4	2.5	0.0014	<0.00040	0.073	<1.0*	0.11
	R	9.45-10.97	24-Nov-15	3	3.08	0.0018	0.0008	0.0700	<0.1	<0.1
	R	8.63-9.45	18-Sep-15	3	4.72	0.0032	0.0012	0.0783	0.2	<0.1
	R	9.45-10.97	24-Sep-15	3	2.57	0.0029	0.0010	0.0518	<0.1	<0.1
	R	9.45-10.97	16-Jun-15	3	4.93	0.0030	0.0015	0.0576	3.0	<0.1
	R	10.97-12.50	17-Jun-15	3	4.47	0.0041	0.0018	0.0837	0.1	<0.1
R	Bulk	5-May-15	3,4	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	
BH1929	R	8.53-10.06	15-May-17	3,4	0.22	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	8.53-10.06	9-Nov-16	3,4	0.31	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	8.53-10.06	13-May-16	3,4	0.47	0.00070	<0.00040	0.0013	<0.10	<0.10
	R	8.53-10.06	24-Nov-15	3	0.664	0.0015	0.0006	0.0011	<0.1	<0.1
	R	8.53-10.06	3-Sep-15	3	0.770	0.0018	<0.0005	0.0008	<0.1	<0.1
	R	8.53-10.06	18-Jun-15	3	0.681	0.0021	0.0006	0.0018	<0.1	<0.1
	R	10.06-11.58	18-Jun-15	3	0.654	0.0020	0.0007	0.0017	<0.1	<0.1
	R	11.58-13.11	18-Jun-15	3	0.641	0.0020	0.0005	0.0016	<0.1	<0.1
	R	Bulk	4-May-15	3	0.920	0.0013	0.0013	0.0013	0.1	<0.1
BH1930	R	14.02-15.54	12-May-17	2,3	0.028	0.00058	<0.00040	0.030	<0.10	<0.10
	R	14.02-15.54	14-Nov-16	2,3	0.026	0.00048	<0.00040	0.036	<0.10	<0.10
	R	14.02-15.54	13-May-16	2,3	0.076	0.0019	<0.00040	0.088	0.18	<0.10
	R	14.02-15.54	20-Nov-15	3	0.0699	0.0009	<0.0005	0.0484	<0.1	<0.1
Residential Guideline <sup>2</sup>					0.005	0.021	0.0016	0.02	0.81	1.1
Commercial Guideline <sup>2</sup>					0.005	0.021	0.0016	0.02	2.2	1.1

Notes:

\* Detection limit raised due to dilution

**Table 2 - Summary of Groundwater Laboratory Analyses  
BTEX and PHC fractions F1-F2**

Sample ID	Land Use <sup>1</sup>	Sampling Depth (m bgs)	Sample Date	Unit	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	F1 minus BTEX (C6 - C10)	F2 (C10 - C16)
BH1930	R	14.02-15.54	22-Sep-15	3	0.0660	0.0018	<0.0005	0.0958	<0.1	<0.1
	R	12.50-14.02	16-Jun-15	3	0.113	0.0024	<0.0005	0.0867	0.2	<0.1
	R	14.02-15.54	16-Jun-15	3	0.113	0.0025	<0.0005	0.0895	0.2	<0.1
	R	Bulk	1-May-15	2,3	0.063	0.0014	<0.0005	0.0492	<0.1	<0.1
BH1933	R	11.89-13.41	4-May-17	3	0.0096	0.00059	<0.00040	0.0041	<0.10	<0.10
	R	11.89-13.41	14-Nov-16	3	0.0073	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	11.89-13.41	11-May-16	3	0.0082	0.00062	<0.00040	0.0063	0.26	<0.10
	R	11.89-13.41	16-Nov-15	3	0.0056	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	11.89-13.41	15-Sep-15	3	0.0093	0.0026	0.0030	0.0189	<0.1	<0.1
	R	11.89-13.41	16-Jun-15	3	0.0044	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	13.41-14.94	16-Jun-15	3	0.0028	<0.0003	<0.0005	0.0012	<0.1	<0.1
BH1936	R	Bulk	12-Mar-15	3	0.0033	0.0005	<0.0005	0.0115	<0.1	<0.1
	R	8.38-9.91	16-May-17	3	0.015	<0.00040	<0.00040	0.0012	0.13	<0.10
	R	8.38-9.91	14-Nov-16	3	0.015	0.00045	<0.00040	0.0013	0.17	<0.10
	R	8.38-9.91	13-May-16	3	0.15	0.0027	0.042	0.0054	0.75	0.11
	R	8.38-9.91	24-Nov-15	3	0.0199	0.0004	0.0037	0.0014	0.3	<0.1
	R	8.38-9.91	3-Sep-15	3	0.0589	0.0011	0.0073	0.0022	0.4	<0.1
	R	8.38-9.91	18-Jun-15	3	0.484	0.0069	0.184	0.0139	0.4	<0.1
	R	9.91-11.43	18-Jun-15	3	0.423	0.0057	0.132	0.0119	0.5	<0.1
BH1937	R	Bulk	4-May-15	3	0.201	0.0028	0.0504	0.0087	0.5	<0.1
	R	8.84-10.36	16-May-17	4,5	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	8.84-10.36	6-Jan-17	4,5	<0.00060**	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	8.84-10.36	21-Dec-16	4,5	0.038	<0.00040	0.00053	<0.00080	<0.10	<0.10
	R	8.84-10.36	12-Dec-16	4,5	0.026	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	8.84-10.36	25-Nov-16	4,5	0.042	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	8.84-10.36	10-Nov-16	4,5	0.036	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	8.84-10.36	28-Oct-16	4,5	6.0*	0.010	0.26	0.023	1.3*	<0.10
	R	8.84-10.36	13-Oct-16	4,5	0.033	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	8.84-10.36	10-Oct-16	4,5	0.019	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	8.84-10.36	16-Sep-16	4,5	0.0089	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	8.84-10.36	3-Sep-16	4,5	0.034	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	8.84-10.36	19-Aug-16	4,5	0.011	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	8.84-10.36	5-Aug-16	4,5	0.042	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	8.84-10.36	13-May-16	4,5	0.0031	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	Bulk	8-Apr-16	4,5	0.0118	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	8.84-10.36	19-Nov-15	4,5	0.0052	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	8.84-10.36	22-Sep-15	4,5	0.0026	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	8.84-10.36	18-Jun-15	4,5	0.0031	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	BH1939	R	Bulk	17-May-17	4	5.4*	0.0050	0.067	0.0090	<1.0*
R		Bulk	19-Apr-17	4	4.8*	0.0048	0.16	0.0092	0.58	<0.10
R		Bulk	9-Mar-17	4	4.8*	0.0053	0.21	0.0094	0.48	<0.10
R		Bulk	6-Jan-17	4	5.4*	0.0082	0.21	0.016	<0.10	<0.10
R		Bulk	21-Dec-16	4	6.0*	0.011	0.25	0.019	<0.10	<0.10
R		Bulk	12-Dec-16	4	5.8*	0.012	0.28	0.022	<2.0*	<0.10
R		Bulk	25-Nov-16	4	7.4*	0.011	0.27	0.022	<1.0*	<0.10
R		Bulk	10-Nov-16	4	7.1*	0.011	0.29	0.024	<1.0*	<0.10
R		Bulk	28-Oct-16	4	0.038	<0.00040	<0.00040	<0.00080	<0.10	<0.10
R		Bulk	13-Oct-16	4	5.9*	0.012	0.29	0.026	0.81	<0.10
R		Bulk	10-Oct-16	4	7.2*	0.014	0.30	0.024	<2.0*	<0.10
R		Bulk	16-Sep-16	4	6.8*	0.015	0.32	0.038	0.53	<0.10
R		Bulk	3-Sep-16	4	7.1*	0.012	0.23	0.027	2.6*	<0.10
R		Bulk	19-Aug-16	4	7.4*	0.013	0.24	0.035	1.5	<0.10
R		Bulk	5-Aug-16	4	8.1*	0.016	0.31	0.046	<2.0*	<0.10
R	Bulk	17-May-16	4	6.6	0.014	0.23	0.029	<1.0*	<0.10	
<b>Residential Guideline <sup>2</sup></b>					0.005	0.021	0.0016	0.02	0.81	1.1
<b>Commercial Guideline <sup>2</sup></b>					0.005	0.021	0.0016	0.02	2.2	1.1

**Notes:**

- \* Detection limit raised due to dilution
- \*\* Detection limit raised due to interference



**Table 2 - Summary of Groundwater Laboratory Analyses  
BTEX and PHC fractions F1-F2**

Sample ID	Land Use	Sampling Depth (m bgs)	Sample Date	Unit	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	F1 minus BTEX (C6 - C10)	F2 (C10 - C16)
BH1939	R	Bulk	20-Nov-15	4	8.99	0.0180	0.240	0.0520	1.0	<0.1
	R	Bulk	21-Sep-15	4	8.00	0.0244	0.286	0.0547	1.2	<0.1
	R	Bulk	11-Jun-15	4	8.57	0.0170	0.218	0.0440	0.2	<0.1
	R	Bulk	1-Apr-15	4	9.31	0.0278	0.297	0.166	0.1	0.1
BH1943	R	7.32-8.84	18-May-17	4, 5	1.8*	<0.00040	<0.00040	<0.00080	<1.0*	<0.10
	R	7.32-8.84	14-Nov-16	4, 5	1.7*	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	7.32-8.84	13-May-16	4, 5	1.7	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	7.32-8.84	26-Nov-15	4, 5	2.01	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	7.32-8.84	4-Sep-15	4, 5	1.58	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	7.32-8.84	18-Jun-15	4, 5	1.91	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	8.84-10.36	18-Jun-15	4, 5	1.62	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	10.36-11.89	18-Jun-15	4, 5	1.70	<0.0003	<0.0005	<0.0005	<0.1	<0.1
BH1944	R	Bulk	15-Apr-15	4, 5	1.66	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	19-May-17	3	0.0036	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	Bulk	16-Nov-16	3	0.00055	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	Bulk	17-May-16	3	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	Bulk	27-Nov-15	3	0.0008	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	17-Sep-15	3	0.0016	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	11-Jun-15	3	0.0013	<0.0003	<0.0005	<0.0005	<0.1	<0.1
BH1948	R	Bulk	13-Apr-15	3	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	3.96-5.49	19-May-17	5	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	3.96-5.49	15-Nov-16	5	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	3.96-5.49	13-May-16	5	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	3.96-5.49	27-Nov-15	5	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	3.96-5.49	4-Sep-15	5	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	3.96-5.49	16-Jun-15	5	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
BH1949	R	Bulk	10-Apr-15	5	<0.0005	<0.0003	<0.0005	0.0005	<0.1	<0.1
	R	Bulk	23-Nov-15	2	<0.0005	0.0003	<0.0005	0.0027	<0.1	<0.1
BH1950A	R	Bulk	2-Apr-15	2	0.0058	0.0051	0.0167	0.0579	0.3	-
	R	Bulk	9-May-17	2	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	0.14
BH1954	R	Bulk	9-Nov-16	2	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	Bulk	10-May-16	2	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	Bulk	20-Nov-15	2	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	17-Sep-15	2	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.5
	R	Bulk	11-Jun-15	2	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	6-May-15	2	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
BH1956	R	Bulk	15-May-17	3	0.0020	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	5.49-7.01	9-Nov-16	3	0.0063	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	5.49-7.01	13-May-16	3	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	5.49-7.01	24-Nov-15	3	0.0053	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	5.49-7.01	22-Sep-15	3	0.0065	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	5.49-7.01	18-Jun-15	3	0.0025	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	7.01-8.53	18-Jun-15	3	0.0022	<0.0003	<0.0005	0.0005	<0.1	<0.1
	R	Bulk	26-Mar-15	3	0.0013	<0.0003	<0.0005	<0.0005	<0.1	<0.1
BH1956	R	11.89-13.41	11-May-17	3	0.031	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	11.89-13.41	7-Nov-16	3	0.077	<0.00040	<0.00040	0.0022	<0.10	<0.10
	R	Bulk	7-Nov-16	3	0.22	0.0017	0.00088	0.0057	<0.10	<0.10
	R	11.89-13.41	9-May-16	3	0.41	0.0035	0.00065	0.0099	<0.10	<0.10
	R	11.89-13.41	19-Nov-15	3	1.73	0.0713	0.0071	0.0950	<0.1	<0.1
	R	11.89-13.41	18-Sep-15	3	3.04	0.246	0.0542	0.203	0.1	<0.1
	R	10.36-11.89	24-Sep-15	3	2.90	0.256	0.0540	0.195	<0.1	<0.1
	R	8.84-10.36	18-Jun-15	3	0.0656	0.0050	0.0008	0.0033	<0.1	<0.1
	Residential Guideline <sup>2</sup>					0.005	0.021	0.0016	0.02	0.81
Commercial Guideline <sup>2</sup>					0.005	0.021	0.0016	0.02	2.2	1.1

**Notes:**

- \* Detection limit raised due to dilution
- \*\* Detection limit raised due to interference

**Table 2 - Summary of Groundwater Laboratory Analyses  
BTEX and PHC fractions F1-F2**

Sample ID	Land Use <sup>1</sup>	Sampling Depth (m bgs)	Sample Date	Unit	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	F1 minus BTEX (C6 - C10)	F2 (C10 - C16)
BH1956	R	10.36-11.89	18-Jun-15	3	1.43	0.113	0.0180	0.0730	0.3	<0.1
	R	Bulk	6-May-15	3	0.456	0.0549	0.0078	0.0369	<0.1	<0.1
BH1958	C	10.36-11.89	4-May-17	3	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	C	10.36-11.89	4-Nov-16	3	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	C	10.36-11.89	11-May-16	3	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	0.23
	C	10.36-11.89	16-Nov-15	3	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	C	10.36-11.89	15-Sep-15	3	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	C	10.36-11.89	16-Jun-15	3	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	C	Bulk	19-Mar-15	3	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
BH1967	R	Bulk	16-May-17	2	0.20	0.020	0.33	0.0056	4.7	0.39
	R	Bulk	2-Nov-16	2	0.21	0.021	0.34	0.0051	3.4	0.40
	R	Bulk	10-May-16	2	0.24	0.022	0.36	0.0056	2.9	0.34
	R	Bulk	18-Nov-15	2	0.275	0.0236	0.441	0.0073	3.6	0.5
	R	Bulk	16-Sep-15	2	0.225	0.0191	0.270	0.0080	2.3	0.3
	R	Bulk	11-Jun-15	2	0.276	0.0224	0.342	0.0097	3.1	0.4
	R	Bulk	26-Feb-15	2	0.291	0.0251	0.438	0.0111	1.8	0.3
BH1971	R	7.77-9.30	10-May-17	2	0.034	0.0021	0.21	0.0010	1.5	0.42
	R	7.77-9.30	2-Nov-16	2	0.050	0.0031	0.21	0.0014	2.0	0.29
	R	7.77-9.30	9-May-16	2	0.042	0.0026	0.28	0.0015	2.0	0.38
	R	7.77-9.31	17-Nov-15	2	0.108	0.0049	0.621	0.0074	2.2	0.3
	R	7.77-9.32	16-Sep-15	2	0.0795	0.0047	0.463	0.0086	1.4	0.3
	R	7.77-9.33	15-Jun-15	2	0.0474	0.0035	0.256	0.0091	1.4	0.3
	R	Bulk	2-Mar-15	2	0.0670	0.0041	0.361	0.0291	2.2	0.6
BH1973	R	Bulk	18-Nov-15	1	0.0178	0.0026	0.156	0.0192	0.7	0.5
	R	Bulk	4-Mar-15	1	0.0198	0.0036	0.153	0.2660	1.1	0.7
BH1974	R	Bulk	11-May-17	1	0.0029	<0.00040	0.00082	0.0020	0.59	<0.10
	R	Bulk	2-Nov-16	1	0.0032	0.00060	0.0016	0.0019	0.39	<0.10
	R	Bulk	10-May-16	1	0.0079	0.0010	0.0030	0.0017	0.72	<0.10
	R	Bulk	18-Nov-15	1	0.0077	0.0008	0.0023	0.0011	0.2	0.1
	R	Bulk	16-Sep-15	1	0.0098	0.0016	0.0034	0.0032	0.4	<0.1
	R	Bulk	11-Jun-15	1	0.0095	0.0012	0.0033	0.0017	0.5	<0.1
	R	Bulk	27-Feb-15	1	0.0172	0.0019	0.0085	0.0027	0.4	<0.1
BH1975	R	Bulk	11-May-17	1	<0.00040	<0.00040	0.0011	<0.00080	<0.10	<0.10
	R	Bulk	10-May-16	1	<0.00040	<0.00040	<0.00040	0.0025	<0.10	<0.10
	R	Bulk	18-Nov-15	1	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.5
	R	Bulk	27-Feb-15	1	<0.0005	<0.0003	0.0006	0.0029	0.1	<0.1
BH1976	R	11.28-12.80	10-May-17	2	<0.00040	<0.00040	0.00065	<0.00080	<0.10	<0.10
	R	11.28-12.80	2-Nov-16	2	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	11.28-12.80	9-May-16	2	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	11.28-12.80	17-Nov-15	2	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	11.28-12.80	16-Sep-15	2	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	9.75-11.28	15-Jun-15	2	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	11.28-12.80	15-Jun-15	2	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	1-Apr-15	2	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1
BH1977	R	3.05-4.57	15-May-17	3,4,5	<0.00050**	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	3.05-4.57	16-Nov-16	3,4,5	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	3.05-4.57	13-May-16	3,4,5	0.0017	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	3.05-4.57	24-Nov-15	3	0.0013	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	3.05-4.57	22-Sep-15	3	0.0028	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	3.05-4.57	18-Jun-15	3	0.0076	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	19-Mar-15	3,4,5	0.0024	<0.0003	<0.0005	<0.0005	<0.1	<0.1
Residential Guideline <sup>2</sup>					0.005	0.021	0.0016	0.02	0.81	1.1
Commercial Guideline <sup>2</sup>					0.005	0.021	0.0016	0.02	2.2	1.1

## Notes:

\* Detection limit raised due to dilution

\*\* Detection limit raised due to matrix interference

**Table 2 - Summary of Groundwater Laboratory Analyses  
BTEX and PHC fractions F1-F2**

Sample ID	Land Use	Sampling Depth (m bgs)	Sample Date	Unit	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	F1 minus BTEX (C6 - C10)	F2 (C10 - C16)
BH1979	R	Bulk	17-May-16	3	1.60	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	Bulk	27-Nov-15	3	1.35	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	17-Sep-15	3	1.37	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	11-Jun-15	3	1.22	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	9-Apr-15	3	1.07	<0.0003	<0.0005	<0.0005	<0.1	<0.1
BH1981	R	4.57-6.10	15-May-17	1	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	4.57-6.10	9-Nov-16	1	<0.00060**	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	4.57-6.10	13-May-16	1	0.055	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	4.57-6.10	24-Nov-15	1	0.0064	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	4.57-6.10	22-Sep-15	1	0.0018	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	3.05-4.57	18-Jun-15	1	0.0052	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	4.57-6.10	18-Jun-15	1	0.0061	0.0003	<0.0005	<0.0005	<0.1	<0.1
BH1982	R	Bulk	27-Mar-15	1	0.0864	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	17-May-17	3	6.6*	0.019	0.070	0.028	<1.0*	<0.10
	R	Bulk	19-Apr-17	3	4.7*	0.016	0.069	0.026	0.28	<0.10
	R	Bulk	9-Mar-17	3	5.0*	0.018	0.076	0.028	0.63	<0.10
	R	Bulk	6-Jan-17	3	4.2*	0.0094	0.074	0.015	<0.10	<0.10
	R	Bulk	21-Dec-16	3	2.6*	0.0067	0.040	0.011	<0.10	<0.10
	R	Bulk	12-Dec-16	3	2.7*	0.0079	0.047	0.014	<0.10	<0.10
	R	Bulk	25-Nov-16	3	3.1*	0.0066	0.059	0.018	<1.0*	<0.10
	R	Bulk	10-Nov-16	3	5.2*	0.017	0.18	0.041	<1.0*	<0.10
	R	Bulk	28-Oct-16	3	4.4*	0.017	0.18	0.038	0.72	<0.10
	R	Bulk	13-Oct-16	3	2.8*	0.013	0.12	0.018	0.42	<0.10
	R	Bulk	3-Oct-16	3	5.3*	0.022	0.22	0.029	<1.0*	<0.10
	R	Bulk	16-Sep-16	3	6.3*	0.028	0.24	0.050	0.32	<0.10
	R	Bulk	3-Sep-16	3	6.9*	0.029	0.21	0.063	1.9*	<0.10
	R	Bulk	19-Aug-16	3	9.6*	0.033	0.22	0.079	1.2	<0.10
	R	Bulk	5-Aug-16	3	5.7*	0.022	0.17	0.073	<1.0*	<0.10
	R	Bulk	17-May-16	3	12	0.049	0.41	0.16	<0.10	<0.10
	R	Bulk	20-Nov-15	3	11.6	0.036	0.278	0.243	0.9	<0.1
	R	Bulk	21-Sep-15	3	10.7	0.281	0.438	1.00	0.3	<0.1
	R	Bulk	11-Jun-15	3	13.8	0.412	0.286	0.984	<0.1	<0.1
R	Bulk	1-Apr-15	3	13.1	0.483	0.353	1.56	0.5	<0.1	
BH1984	C	12.19-13.72	3-Nov-16	3	0.0076	0.00072	<0.00040	0.0042	<0.10	<0.10
	C	12.19-13.72	11-May-16	3	0.0076	0.0022	<0.00040	0.0079	0.29	<0.10
	C	12.19-13.72	12-Nov-15	3	0.0054	0.0027	<0.0005	0.0063	<0.1	<0.1
	C	12.19-13.72	15-Sep-15	3	0.0064	0.0047	<0.0005	0.0103	0.2	<0.1
	C	9.14-10.67	15-Jun-15	3	0.0034	0.0025	<0.0005	0.0033	<0.1	<0.1
	C	10.67-12.19	15-Jun-15	3	0.0033	0.0022	<0.0005	0.0035	<0.1	<0.1
	C	12.19-13.72	15-Jun-15	3	0.004	0.0024	<0.0005	0.0034	<0.1	<0.1
	C	Bulk	8-May-15	3	0.0017	0.0026	<0.0005	0.0051	0.1	<0.1
BH2001	R	Bulk	19-May-17	5	<0.00070**	<0.00040	<0.00040	<0.00090	<0.10	<0.10
	R	Bulk	17-Nov-16	5	0.0012	<0.00040	<0.00040	0.00089	<0.10	<0.10
	R	Bulk	31-May-16	5	0.00074	0.00045	<0.00040	0.00093	<0.10	<0.10
BH2002	R	Bulk	24-May-17	4	<0.00060**	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	Bulk	16-Nov-16	4	0.00088	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	Bulk	31-May-16	4	0.031	0.00062	<0.00040	<0.00080	<0.10	<0.10
BH510A	R	14.33-15.85	8-May-17	3	1.6*	0.035	0.73	0.29	1.8	<0.10
	R	14.33-15.85	7-Nov-16	3	2.6*	0.097	0.87	0.94	1.3	0.29
	R	14.33-15.85	9-May-16	3	1.3	0.20	0.95	0.50	2.2	0.46
	R	14.33-15.86	19-Nov-15	3	2.07	0.383	1.16	1.12	<0.1	0.3
	R	14.33-15.87	4-Sep-15	3	1.70	0.259	0.742	0.532	3.2	0.3
	R	14.33-15.88	19-Jun-15	3	3.61	1.97	1.16	1.81	3.2	0.2
Residential Guideline <sup>2</sup>					0.005	0.021	0.0016	0.02	0.81	1.1
Commercial Guideline <sup>2</sup>					0.005	0.021	0.0016	0.02	2.2	1.1

**Notes:**

- \* Detection limit raised due to dilution
- \*\* Detection limit raised due to matrix interference

**Table 2 - Summary of Groundwater Laboratory Analyses  
BTEX and PHC fractions F1-F2**

Sample ID	Land Use <sup>1</sup>	Sampling Depth (m bgs)	Sample Date	Unit	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	F1 minus BTEX (C6 - C10)	F2 (C10 - C16)
BH510A	R	Bulk	8-Apr-15	3	3.52	1.33	0.779	1.81	3.1	0.2
BH1704	R	Bulk	9-May-17	3	0.96*	5.2*	0.75*	15*	37*	1.9
	R	Bulk	8-Nov-16	3	1.2	5.9	1.0	11	15	2.3
	R	Bulk	17-May-16	3	1.2	16	2.0	14	16	6.2
	R	Bulk	19-Nov-15	3	0.731	7.00	1.22	9.59	11.0	2.4
	R	Bulk	8-Sep-15	3	1.92	47.8	7.97	69.0	424	20.8
	R	Bulk	12-Jun-15	3	1.26	5.49	0.381	2.67	0.3	<0.5
EX1	R	Bulk	2-Apr-15	3	0.806	0.284	0.179	0.317	0.5	0.2
	R	Bulk	5-May-17	-	0.058	0.0011	0.0090	0.0095	<0.10	<0.10
	R	Bulk	1-Nov-16	-	6.3 *	0.35	0.34	0.59	<0.10	0.10
	R	Bulk	6-May-16	-	9.3	2.7	0.55	1.4	<0.10	0.38
	R	Bulk	20-Nov-15	-	7.97	2.55	0.386	0.932	0.1	0.2
	R	Bulk	17-Sep-15	-	7.66	2.10	0.330	0.891	0.2	0.2
EX2	R	Bulk	11-Jun-15	-	10.2	3.05	0.445	1.06	3.6	0.3
	R	Bulk	15-Apr-15	-	10.0	3.61	0.478	1.26	0.2	0.2
	R	Bulk	9-May-17	-	0.19	0.0044	0.031	0.070	0.28	<0.10
	R	Bulk	1-Nov-16	-	0.97	0.023	0.57	0.27	0.81	0.11
	R	Bulk	10-May-16	-	1.1	0.022	0.56	0.32	0.68	<0.10
	R	Bulk	20-Nov-15	-	1.75	0.0372	0.832	0.393	0.2	<0.1
EX3	R	Bulk	17-Sep-15	-	1.95	0.0399	0.867	0.635	0.2	0.1
	R	Bulk	11-Jun-15	-	2.01	0.031	0.791	0.758	0.1	0.2
	R	Bulk	15-Apr-15	-	1.56	0.0254	0.609	0.501	0.2	0.2
	R	Bulk	5-May-17	-	<0.00045 **	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	Bulk	1-Nov-16	-	<0.00040	<0.00040	<0.00040	<0.00080	<0.10	<0.10
	R	Bulk	6-May-16	-	0.019	0.00087	0.0017	<0.00080	<0.10	<0.10
EX4	R	Bulk	17-Nov-15	-	0.0032	0.0004	0.0006	<0.0005	<0.1	<0.1
	R	Bulk	3-Sep-15	-	0.0015	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	11-Jun-15	-	0.0016	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	15-Apr-15	-	0.078	<0.0003	<0.0005	<0.0005	<0.1	<0.1
	R	Bulk	9-May-17	-	0.70	0.050	0.48	3.5*	2.0	0.66
	R	Bulk	1-Nov-16	-	1.3	1.0	0.84	4.6	4.5	0.84
EX5	R	Bulk	18-May-16	-	2.5	1.1	1.2	7.0	7.2	1.3
	R	Bulk	19-Nov-15	-	2.17	0.335	0.922	5.9	6.1	0.8
	R	10.36-11.89	17-Sep-15	-	3.36	1.6	1.06	8.6	5.3	0.9
	R	10.36-11.89	19-Jun-15	-	3.95	2.17	0.828	7.2	5.2	0.8
	R	Bulk	16-Apr-15	-	2.21	0.684	0.591	6.9	3.8	0.8
	R	Bulk	17-Apr-15	-	2.72	7.29	1.38	5.24	4.0	1.0
EX6	R	10.67-12.19	8-May-17	-	3.7*	9.3*	1.5*	4.7*	4.4*	0.55
	R	10.67-12.19	1-Nov-16	-	2.6	5.4	1.1	3.7	3.8	0.84
	R	10.67-12.19	17-May-16	-	7.4	16	1.6	7.1	8.8	0.92
	R	10.67-12.20	18-Nov-15	-	4.17	8.62	1.38	4.85	5.3	1.0
	R	10.67-12.21	17-Sep-15	-	2.57	5.62	1.09	3.69	5.4	0.8
	R	10.67-12.22	19-Jun-15	-	3.61	7.64	1.36	4.35	4.6	0.6
EX7	R	Bulk	17-Apr-15	-	2.72	7.29	1.38	5.24	4.0	1.0
	R	Bulk	10-May-17	-	0.32	0.37	1.5*	2.5*	5.8	0.96
	R	Bulk	2-Nov-16	-	0.35	0.32	1.4*	2.2*	4.2	0.66
	R	Bulk	18-May-16	-	0.42	0.15	0.65	0.95	2.7	0.44
	R	Bulk	23-Nov-15	-	0.414	0.137	0.562	0.75	4.8	0.3
	R	Bulk	17-Sep-15	-	0.497	0.17	0.79	0.971	1.6	0.4
EX7	R	Bulk	11-Jun-15	-	0.426	0.156	0.664	0.939	1.6	0.5
	R	Bulk	17-Apr-15	-	0.389	0.148	0.674	1.01	2.1	0.5
	R	Bulk	10-May-17	-	2.5*	0.18	0.66	1.4	2.9	0.64
	R	Bulk	1-Nov-16	-	2.8*	0.22	0.75	1.9	1.8	0.75
Residential Guideline <sup>2</sup>					0.005	0.021	0.0016	0.02	0.81	1.1
Commercial Guideline <sup>2</sup>					0.005	0.021	0.0016	0.02	2.2	1.1

Notes:

- \* Detection limit raised due to dilution
- \*\* Detection limit raised due to interferent

**Table 2 - Summary of Groundwater Laboratory Analyses  
BTEX and PHC fractions F1-F2**

Sample ID	Land Use <sup>1</sup>	Sampling Depth (m bgs)	Sample Date	Unit	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	F1 minus BTEX (C6 - C10)	F2 (C10 - C16)
EX7	R	Bulk	18-May-16	-	<b>2.6</b>	<b>0.084</b>	<b>0.79</b>	<b>0.71</b>	<b>2.5</b>	0.61
	R	Bulk	23-Nov-15	-	<b>3.86</b>	<b>0.123</b>	<b>0.680</b>	<b>0.992</b>	<b>3.1</b>	0.4
	R	11.58-13.11	17-Sep-15	-	<b>2.45</b>	<b>0.118</b>	<b>0.778</b>	<b>1.50</b>	0.6	0.6
	R	11.58-13.11	19-Jun-15	-	<b>1.49</b>	<b>0.246</b>	<b>1.18</b>	<b>3.23</b>	<b>2.9</b>	<b>1.2</b>
	R	Bulk	17-Apr-15	-	<b>3.08</b>	<b>0.155</b>	<b>1.01</b>	<b>1.83</b>	<b>2.8</b>	0.7
	R	Bulk	17-Apr-15	-	<b>3.08</b>	<b>0.155</b>	<b>1.01</b>	<b>1.83</b>	<b>2.8</b>	0.7
<b>Residential Guideline<sup>2</sup></b>					0.005	0.021	0.0016	0.02	0.81	1.1
<b>Commercial Guideline<sup>2</sup></b>					0.005	0.021	0.0016	0.02	2.2	1.1

**Notes:**

\* Detection limit raised due to dilution

\*\* Detection limit raised due to interferent

1 Land Use abbreviations: C=Commercial; R=Residential; I=Industrial; N=Natural.

2 AEP 2016 Tier 1 Guidelines for coarse-grained soil

**Bold** Indicates that the concentration did not meet the applicable guideline.

Bulk Bulk sample collected using a dedicated, disposable bailer.

m bgs Meters below ground surface

All results in mg/L unless otherwise noted.

Only compounds with detectable concentrations in at least one sample are presented.

Testing was conducted by Maxxam Analytics, Calgary, Alberta in 2016 and by AGAT Laboratories, Calgary, Alberta in 2015.

Table 3 - Summary of Groundwater Laboratory Analyses PAHs

Table with columns: Sample ID, Land Use, Sampling Depth (m bgs), Sample Date, Unit, and 22 PAH compounds (2-Methylnaphthalene, Acenaphthene, Acenaphthylene, Acridine, Anthracene, Benzo[a]pyrene equivalency, Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b+g,h,i]perylene, Benzo[k]fluoranthene, Chrysene, Fluoranthene, Fluorene, Indeno[1,2,3-cd]pyrene, Naphthalene, Phenanthrene, Pyrene, Quinoline). Rows include samples BH1901 through BH1910, plus Residential and Commercial Guidelines at the bottom.

Notes: \* Detection limit raised due to dilution







Table 3 - Summary of Groundwater Laboratory Analyses PAHs

Table with 23 columns: Sample ID, Land Use, Sampling Depth (m bgs), Sample Date, Unit, and 18 PAH compounds (2-Methylnaphthalene, Acenaphthene, Acenaphthylene, Acridine, Anthracene, Benzo(a)pyrene equivalency, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b+j)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Fluorene, Indeno(1,2,3-cd) pyrene, Naphthalene, Phenanthrene, Pyrene, Quinoline). Rows list various sample IDs (e.g., BH1930, BH1933, BH1934) and their corresponding data. A summary row at the bottom provides Residential and Commercial Guidelines for each compound.





**Table 3 - Summary of Groundwater Laboratory Analyses PAHs**

Sample ID	Land Use <sup>1</sup>	Sampling Depth (m bgs)	Sample Date	Unit	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Acridine	Anthracene	Benzo[a]pyrene equivalency	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b+j]fluoranthene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Chrysene	Fluoranthene	Fluorene	Indeno[1,2,3-cd] pyrene	Naphthalene	Phenanthrene	Pyrene	Quinoline
BH1704	R	Bulk	9-May-17	-	0.084*	0.00030	<0.00010	<0.000050	<b>0.000019</b>	<0.000010	<0.0000085	<0.0000075	<0.0000085	<0.0000085	<0.0000085	<0.0000085	<0.000010	0.00026	<0.0000085	<b>0.22*</b>	0.00020	0.000022	<0.00020
	R	Bulk	8-Nov-16	-	0.085*	0.00024	<0.00010	<0.000050	<b>0.000016</b>	<0.000010	<0.0000085	<0.0000075	<0.0000085	<0.0000085	<0.0000085	<0.0000085	<0.000010	0.00023	<0.0000085	<b>0.23*</b>	0.00017	0.000023	0.00021
	R	Bulk	17-May-16	-	0.17	0.00087	0.00020	0.00092	<b>0.00017</b>	<b>0.018</b>	<b>0.000029</b>	0.0000086	<0.0000085	0.000018	<0.0000085	0.000030	<b>0.00016</b>	0.0011	<0.0000085	<b>0.35</b>	<b>0.0014</b>	<b>0.00041</b>	0.0097
	R	Bulk	19-Nov-15	-	0.102	0.00041	<0.00001	<0.00005	<b>0.000020</b>	0.0000096	<0.000010	<0.000007	<0.00001	<0.00001	<0.00001	<0.00001	0.00001	0.00038	<0.00001	<b>0.277</b>	0.00027	<b>0.00003</b>	<0.0001
	R	10.67-12.19	8-Sep-15	-	0.615	<0.00001	<0.00001	<0.00005	<b>0.00049</b>	0.0000096	<0.000010	<0.000007	<0.00001	<0.00001	<0.00001	<0.00001	<b>0.00073</b>	<b>0.00475</b>	<0.00001	<b>0.86</b>	<b>0.00705</b>	<b>0.00224</b>	<0.0001
<b>Residential Guideline<sup>2</sup></b>					NG	0.0058	NG	NG	0.000012	0.00001	0.000018	0.000015	NG	NG	NG	NG	0.00004	0.003	NG	0.001	0.0004	0.000025	NG
<b>Commercial Guideline<sup>2</sup></b>					NG	0.0058	NG	NG	0.000012	0.00001	0.000018	0.000015	NG	NG	NG	NG	0.00004	0.003	NG	0.001	0.0004	0.000025	NG

**Notes:**

\* Detection limit raised due to dilution

1 Land Use abbreviations: C=Commercial; R=Residential; I=Industrial; N=Natural.

2 AEP 2016 Tier 1 Guidelines for coarse-grained soil.

**Bold** Indicates that the concentration did not meet the applicable guideline.

Bulk Bulk sample collected using a dedicated, disposable bailer.

m bgs Meters below ground surface

- Constituent was not analyzed

All results in mg/L unless otherwise noted.

Only compounds with detectable concentrations in at least one sample are presented.

Testing was conducted by Maxxam Analytics, Calgary, Alberta



**Table 4 - Summary of Groundwater Laboratory Analyses  
VOCs**

Sample ID	Land Use <sup>1</sup>	Sampling Depth (m bgs)	Sample Date	Unit	1,1,2-Trichloroethane	1,1-Dichloroethane	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	Bromodichloromethane	Chloroethane	Chloroform	Chloromethane	Methyl methacrylate	Methyl-tert-butylether (MTBE)	Methylene Chloride	Styrene	Tetrachloroethene	Total Trihalomethanes	Trichloroethene	trans-1,2-Dichloroethylene	Vinyl Chloride
BH1910	R	11.43-12.50	16-Sep-15	3	<0.001	<0.001	-	-	0.032	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	11.49-12.50	15-Jun-15	3	<0.001	<0.001	-	-	0.030	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	12.50-14.02	15-Jun-15	3	<0.001	<0.001	-	-	0.025	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	14.02-15.54	15-Jun-15	3	<0.001	<0.001	-	-	0.030	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	15.54-17.07	15-Jun-15	3	<0.001	<0.001	-	-	0.030	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	Bulk	22-Apr-15	3	<0.001	<0.001	-	-	0.040	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
BH1911	R	15.54-17.07	10-May-17	3	0.00077	<0.00050	<0.00050	<0.00020	0.070	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	15.54-17.07	2-Nov-16	3	0.00065	<0.00050	<0.00050	<0.00020	0.076	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	15.54-17.07	9-May-16	3	0.00064	<0.00050	<0.00050	<0.00020	0.083	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	15.54-17.07	16-Nov-15	3	<0.001	<0.001	-	-	0.045	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	15.54-17.07	16-Sep-15	3	<0.001	<0.001	-	-	0.035	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	14.05-15.54	15-Jun-15	3	<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	<0.0008
	R	15.54-17.07	15-Jun-15	3	<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	<0.0008
	R	Bulk	9-Apr-15	3	<0.001	<0.001	-	-	0.031	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
BH1912	R	13.41-14.94	17-May-17	3	<0.00050	<0.00050	<0.00050	<0.00020	0.054	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	13.41-14.94	3-Nov-16	3	<0.00050	<0.00050	<0.00050	<0.00020	0.044	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	13.41-14.94	10-May-16	3	<0.00050	<0.00050	<0.00050	<0.00020	0.040	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	13.41-14.94	12-Nov-15	3	<0.001	<0.001	-	-	0.044	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	13.41-14.94	8-Sep-15	3	<0.001	<0.001	-	-	0.041	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	13.41-14.94	17-Jun-15	3	<0.001	<0.001	-	-	0.035	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	14.94-16.46	17-Jun-15	3	<0.001	<0.001	-	-	0.038	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	16.46-17.98	17-Jun-15	3	<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	<0.0008
	R	17.98-19.51	17-Jun-15	3	<0.001	<0.001	-	-	0.037	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
R	Bulk	10-Mar-15	3	<0.001	<0.001	-	-	0.048	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
BH1915	R	14.94-16.46	17-May-17	3	0.016	0.0010	0.19	<0.00020	0.017	<0.00050	0.065	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	17-May-17	3	0.0095**	0.00056	0.13	<0.00020	0.025	<0.00050	0.045	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	14.94-16.46	3-Nov-16	3	<0.0018*	<0.00050	0.045	<0.00020	0.037	<0.00050	0.069	<0.00050	<0.0010	<0.00050	<0.0020	0.0045**	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	3-Nov-16	3	<0.0018*	<0.00050	0.12	<0.00020	0.043	<0.00050	0.036	<0.00050	<0.0010	<0.00050	<0.0020	0.0030**	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	14.94-16.46	10-May-16	3	<0.00050	<0.00050	0.19	<0.00020	0.024	<0.00050	0.060	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	14.94-16.46	12-Nov-15	3	<0.001	<0.001	-	-	0.036	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	14.94-16.46	8-Sep-15	3	<0.001	<0.001	-	-	0.024	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	10.36-11.89	17-Jun-15	3	<0.001	<0.001	-	-	0.041	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	11.89-13.41	17-Jun-15	3	<0.001	<0.001	-	-	0.054	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	13.41-14.94	17-Jun-15	3	<0.001	<0.001	-	-	0.045	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	14.94-16.46	17-Jun-15	3	<0.001	<0.001	-	-	0.055	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	Bulk	26-Feb-15	3	<0.001	<0.001	-	-	0.044	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	BH1921	R	11.89-13.41	11-May-17	3	0.0021**	<0.00050	0.0016	<0.00020	0.087	<0.00050	0.0058	<0.00050	<0.0010	<0.00050	<0.0020	0.0045**	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050
R		11.89-13.41	10-Nov-16	3	<0.00090*	<0.00050	0.0018	<0.00020	0.10	<0.00050	0.0029	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
R		11.89-13.41	13-May-16	3	0.00091	<0.00050	0.0016	<0.00020	0.084	<0.00050	0.0055	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
R		11.89-13.41	20-Nov-15	3	<0.001	<0.001	-	-	0.084	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
R		11.89-13.41	4-Sep-15	3	<0.001	<0.001	-	-	0.084	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.0	

**Table 4 - Summary of Groundwater Laboratory Analyses**  
**VOCs**

Sample ID	Land Use <sup>1</sup>	Sampling Depth (m bgs)	Sample Date	Unit	1,1,2-Trichloroethane	1,1-Dichloroethane	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	Bromodichloromethane	Chloroethane	Chloroform	Chloromethane	Methyl methacrylate	Methyl-tert-butylether (MTBE)	Methylene Chloride	Styrene	Tetrachloroethene	Total Trihalomethanes	Trichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
BH1922	R	14.02-15.54	10-Nov-16	3	<0.00050	<0.00050	<0.00050	<0.00020	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	14.02-15.54	13-May-16	3	<0.00050	<0.00050	<0.00050	<0.00020	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	15.54-17.07	20-Nov-15	3	<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	<0.0008
	R	14.02-15.54	23-Nov-15	3	<0.001	<0.001	-	-	0.007	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	15.54-17.07	3-Sep-15	3	<0.001	<0.001	-	-	0.003	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	10.97-12.50	19-Jun-15	3	<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	<0.0008
	R	12.50-14.02	19-Jun-15	3	<0.001	<0.001	-	-	0.033	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	14.02-15.54	19-Jun-15	3	<0.001	<0.001	-	-	0.040	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
R	Bulk	5-May-15	3	<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	<0.0008	
BH1923	R	10.67-12.19	15-May-17	3	<0.00050	<0.00050	0.00059	<0.00020	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	10.67-12.19	7-Nov-16	3	<0.00050	<0.00050	<0.00050	<0.00020	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	10.67-12.19	9-May-16	3	<0.00050	<0.00050	0.0017	<0.00020	<0.00050	<0.00050	0.0011	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	10.67-12.19	17-Nov-15	3	<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	<0.0008
	R	10.67-12.19	3-Sep-15	3	<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	<0.0008
	R	10.67-12.19	12-Jun-15	3	<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	<0.0008
	R	12.19-13.72	12-Jun-15	3	<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	<0.0008
R	Bulk	2-Apr-15	3	<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	<0.0008	
BH1924	R	14.94-16.46	10-May-17	3	0.0037**	<0.00050	0.0066	0.00033	0.18	<0.00050	0.00061	<0.00050	0.0013**	<0.00050	0.0052	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	14.94-16.46	2-Nov-16	3	0.0019	<0.00050	0.0087	0.00029**	0.20	<0.00050	0.00088	<0.00050	0.0011	<0.00050	<0.0060	<0.00025	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	2-Nov-16	3	0.0021	<0.00050	0.0050	<0.00020	0.23	<0.00050	<0.00050	<0.00050	0.0011	<0.0010	<0.0045	0.0013	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	14.94-16.46	9-May-16	3	0.0015	<0.00050	0.014	<0.00020	0.13	<0.00050	0.0025	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	14.94-16.46	17-Nov-15	3	0.001	<0.001	-	-	0.129	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	14.94-16.46	16-Sep-15	3	<0.001	<0.001	-	-	0.189	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	14.94-16.46	19-Jun-15	3	<0.001	<0.001	-	-	0.271	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
R	Bulk	7-May-15	3	<0.001	<0.001	-	-	0.144	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
BH1925	R	16.76-18.29	8-May-17	3	0.0022**	<0.00050	<0.00050	<0.00020	0.042	<0.00050	0.0049	<0.00050	<0.0010	<0.00050	0.0034	0.0014**	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	0.00055
	R	16.76-18.29	7-Nov-16	3	<0.00050	<0.00050	0.00081	<0.00020	0.060	<0.00050	0.0071	<0.00050	<0.0010	<0.00050	<0.0060*	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	16.76-18.29	9-May-16	3	<0.00050	<0.00050	0.00061	<0.00020	0.053	<0.00050	0.0074	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	0.00052
	R	16.76-18.29	20-Nov-15	3	<0.001	<0.001	-	-	0.079	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	16.76-18.29	4-Sep-15	3	<0.001	<0.001	-	-	0.055	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	16.76-18.29	12-Jun-15	3	<0.001	<0.001	-	-	0.041	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
R	Bulk	7-May-15	3	<0.001	<0.001	-	-	0.040	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
BH1928	R	9.45-10.97	15-May-17	3,4	0.0024	<0.00050	0.00051	<0.00020	0.27	<0.00050	<0.00050	<0.00050	0.0018	<0.00050	0.0045	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	18-May-17	3,4	0.0030	<0.00050	0.00075	<0.00020	0.32	<0.00050	<0.00050	<0.00050	0.0019	<0.00050	0.0033	<0.00050	<0.00050	-	<0.0055*	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	9.45-10.97	9-Nov-16	3,4	0.0023	<0.00050	0.00053	<0.00020	0.30	<0.00050	<0.00050	<0.00050	0.0014	<0.00050	<0.0040*	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	9-Nov-16	3,4	0.0023	<0.00050	0.00083	<0.00020	0.28	<0.00050	<0.00050	<0.00050	0.0016	<0.00050	<0.0040*	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	9.45-10.97	16-May-16	3,4	0.0022	<0.00050	0.00065	<0.00020	0.25	<0.00050	<0.00050	<0.00050	0.0015	<0.00050	0.0027	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	9.45-10.97	24-Nov-15	3	0.002	<0.001	-	-	0.208	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	8.63-9.45	18-Sep-15	3	<0.001	<0.001	-	-	0.198	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	9.45-10.97	24-Sep-15	3	0.002	<0.001	-	-	0.208	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	9.45-10.97	16-Jun-15	3	<0.001	<0.001	-	-	0.208	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	10.97-12.50	17-Jun-15	3	<0.001	<0.001	-	-	0.178	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
R	Bulk	5-May-15	3,4	<0.001	<0.001	-	-	0.243	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
BH1929	R	8.53-10.06	15-May-17	3	0.00061	<0.00050	<0.00050	<0.00020	0.086	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.00			





**Table 4 - Summary of Groundwater Laboratory Analyses  
VOCs**

Sample ID	Land Use <sup>1</sup>	Sampling Depth (m bgs)	Sample Date	Unit	1,1,2-Trichloroethane	1,1-Dichloroethane	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	Bromodichloromethane	Chloroethane	Chloroform	Chloromethane	Methyl methacrylate	Methyl-tert-butylether (MTBE)	Methylene Chloride	Styrene	Tetrachloroethene	Total Trihalomethanes	Trichloroethene	trans-1,2-Dichloroethylene	Vinyl Chloride
BH1939	R	Bulk	19-Apr-17	4	0.0022	<0.00050	0.00055	<0.00020	0.14	<0.00050	0.00058	<0.00050	0.0016	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	9-Mar-17	4	0.0033	<0.00050	0.00076	<0.00020	0.18	<0.00050	<0.00050	<0.00050	0.0023	<0.00050	<0.0020	<0.00068*	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	6-Jan-17	4	0.0025	<0.00050	0.0010	<0.00020	0.17	<0.00050	<0.00050	<0.00050	0.0019	<0.00050	<0.0035*	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	21-Dec-16	4	0.0021	<0.00050	0.00086	<0.00020	0.19	<0.00050	0.00063	<0.00050	0.0014	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	12-Dec-16	4	0.0021	<0.00050	0.0010	<0.00020	0.13	<0.00050	0.00080	<0.00050	0.0019	<0.00050	<0.0030*	<0.0023*	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	25-Nov-16	4	0.0029	<0.00050	0.0010	<0.00020	0.21	<0.00050	0.00078	<0.00050	0.0021	<0.00050	<0.0030*	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	10-Nov-16	4	0.0027	<0.00050	0.0012	<0.00020	0.17	<0.00050	0.00093	<0.00050	0.0021	<0.00050	<0.0070*	<0.0045*	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	28-Oct-16	4	<0.00050	<0.00050	<0.00050	<0.00020	0.010	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	13-Oct-16	4	0.0024	<0.00050	0.00089	<0.00020	0.18	<0.00050	0.00071	<0.00050	0.0015	<0.00050	<0.0040*	<0.00090*	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	3-Oct-16	4	0.0025	<0.00050	0.0012	<0.00020	0.16	<0.00050	0.00097	<0.00050	0.0017	<0.00050	<0.0028*	<0.00090*	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	16-Sep-16	4	0.0031	<0.00050	0.0017	<0.00020	0.18	<0.00050	<0.00050	<0.00050	0.0017	<0.00050	<0.0035*	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	3-Sep-16	4	0.0027	<0.00050	0.0012	<0.00020	0.17	<0.00050	0.00010	<0.00050	0.0017	<0.00050	0.0029*	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	19-Aug-16	4	0.0037	<0.00050	0.0014	<0.00020	0.21	<0.00050	0.0011	<0.00050	0.0024	<0.00062*	0.0040	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	5-Aug-16	4	0.0031	<0.00050	0.0015	<0.00020	0.22	<0.00050	0.0011	<0.00050	0.0017	<0.00050	<0.0045*	<0.0030*	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	17-May-16	4	<0.001	<0.00050	-	-	<0.00050	<0.001	-	<0.00050	<0.001	<0.001	<0.001	<0.001	<0.00050	-	<0.001	<0.00050	<0.0013	<0.00050	<0.00050	<0.0008
	R	Bulk	20-Nov-15	4	<0.001	<0.001	-	-	0.160	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
R	Bulk	21-Sep-15	4	0.002	<0.001	-	-	0.167	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
R	Bulk	11-Jun-15	4	<0.001	<0.001	-	-	0.154	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
R	Bulk	1-Apr-15	4	<0.001	<0.001	-	-	0.124	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
BH1943	R	7.32-8.84	18-May-17	4,5	0.00057	<0.00050	<0.00050	<0.00020	0.029	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	7.32-8.84	14-Nov-16	4,5	<0.00050	<0.00050	<0.00050	<0.00020	0.021	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	7.32-8.84	13-May-16	4,5	<0.001	<0.00050	-	-	<0.00050	<0.001	-	<0.00050	<0.001	<0.001	<0.001	<0.00050	<0.00050	-	<0.001	<0.00050	<0.0013	<0.00050	<0.00050	<0.0008
	R	7.32-8.84	26-Nov-15	4,5	<0.001	<0.001	-	-	0.018	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	7.32-8.84	4-Sep-15	4,5	<0.001	<0.001	-	-	0.016	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	7.32-8.84	18-Jun-15	4,5	<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	<0.0008
	R	8.84-10.36	18-Jun-15	4,5	<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	<0.0008
	R	10.36-11.89	18-Jun-15	4,5	<0.001	<0.001	-	-	<0.001	0.023	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
R	Bulk	15-Apr-15	4,5	<0.001	<0.001	-	-	0.017	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
BH1949	R	Bulk	23-Nov-15	2	<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	<0.0008
	R	Bulk	2-Apr-15	2	<0.001	<0.001	-	-	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	0.002	-	<0.001	<0.001	<0.0008
BH1954	R	5.49-7.01	15-May-17	3,4,5	<0.00050	<0.00050	<0.00050	<0.00020	0.010	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	5.49-7.01	9-Nov-16	3,4,5	<0.00050	<0.00050	<0.00050	<0.00020	0.013	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	5.49-7.01	13-May-16	3,4,5	<0.00050	<0.00050	<0.00050	<0.00020	0.002	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	5.49-7.01	24-Nov-15	3	<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	<0.0008
	R	5.49-7.01	22-Sep-15	3	<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	<0.0008
	R	5.49-7.01	18-Jun-15	3	<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	<0.0008
	R	7.01-8.53	18-Jun-15	3	<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	<0.0008
R	Bulk	26-Mar-15	3	<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	<0.0008	
BH1956	R	11.89-13.41	11-May-17	3	0.00051	<0.00050	<0.00050	<0.00020	0.019	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	17-May-17	3	<0.00050	<0.00050	<0.00050	<0.00020	0.00077	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	11.89-13.41	7-Nov-16	3	<0.00050	<0.00050	<0.00050	<0.00020	0.028	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	7-Nov-16	3	<0.00050	<0.00050	<0.00050	<0.00020	0.013	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	11.89-13.41	9-May-16	3	<0.00050	<0.00050	<0.00050	<0.00020	0.020	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	11.89-13.41	19-Nov-15	3	<0.001	<0.001	-	-	0.051	<0.001	-	<0.001	<0.0											

**Table 4 - Summary of Groundwater Laboratory Analyses  
VOCs**

Sample ID	Land Use <sup>1</sup>	Sampling Depth (m bgs)	Sample Date	Unit	1,1,2-Trichloroethane	1,1-Dichloroethane	1,2,4- Trimethylbenzene	1,2-Dibromoethane	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5- Trimethylbenzene	Bromodichloromethane	Chloroethane	Chloroform	Chloromethane	Methyl methacrylate	Methyl-tert-butylether (MTBE)	Methylene Chloride	Styrene	Tetrachloroethene	Total Trihalomethanes	Trichloroethene	trans- 1,2-Dichloroethylene	Vinyl Chloride	
BH1956	R	Bulk	6-May-15	3	<0.001	<0.001	-	-	0.023	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0008	
BH1967	R	Bulk	16-May-17	2	0.017**	0.0015**	<0.00050	<0.00020	0.041	<0.00050	0.0055	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	
	R	Bulk	2-Nov-16	2	<0.0031*	<0.00050	<0.00050	<0.00020	0.040	<0.00050	0.0059	<0.0020*	<0.0010	<0.00050	<0.0020	<0.0030*	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	
	R	Bulk	10-May-16	2	<0.00050	<0.00050	<0.00050	<0.00020	0.046	0.00086	0.0056	<0.00050	<0.0010	<0.00050	<0.0020	<0.0070	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	
	R	Bulk	18-Nov-15	2	<0.001	<0.001	-	-	0.036	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0008	
	R	Bulk	16-Sep-15	2	<0.001	<0.001	-	-	0.035	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
	R	Bulk	11-Jun-15	2	<0.001	<0.001	-	-	0.032	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
BH1971	R	Bulk	26-Feb-15	2	<0.001	<0.001	-	-	0.029	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	0.002	-	<0.001	0.001	<0.0008	
	R	7.77-9.30	10-May-17	2	<0.015*	<0.00050	<0.00050	<0.00020	0.11	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.0030*	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	
	R	7.77-9.30	2-Nov-16	2	<0.0025*	<0.00050	0.00053	<0.00020	0.19	<0.00050	<0.00050	<0.00093*	<0.0010	<0.00050	<0.0020	<0.0040*	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00057	
	R	7.77-9.30	9-May-16	2	<0.00050	<0.00050	0.0013	<0.00020	0.10	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	
	R	7.77-9.31	17-Nov-15	2	<0.001	<0.001	-	-	0.124	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
	R	7.77-9.32	16-Sep-15	2	<0.001	<0.001	-	-	0.142	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
BH1973	R	7.77-9.33	15-Jun-15	2	<0.001	<0.001	-	-	0.076	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
	R	Bulk	2-Mar-15	2	<0.001	<0.001	-	-	0.148	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
	R	Bulk	18-Nov-15	1	<0.001	<0.001	-	-	0.026	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
	R	Bulk	4-Mar-15	1	<0.001	<0.001	-	-	0.025	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
	BH1974	R	Bulk	11-May-17	2	0.0015**	<0.00050	0.0010	<0.00020	0.032	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	0.00059**	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
		R	Bulk	2-Nov-16	2	0.00094	<0.00050	0.00091	<0.00020	0.098	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
R		Bulk	10-May-16	2	0.00056	<0.00050	<0.00050	<0.00020	0.051	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	
R		Bulk	18-Nov-15	2	0.001	<0.001	-	-	0.083	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
R		Bulk	16-Sep-15	2	<0.001	<0.001	-	-	0.081	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
R		Bulk	11-Jun-15	2	<0.001	<0.001	-	-	0.041	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
BH1975	R	Bulk	27-Feb-15	2	0.001	<0.001	-	-	0.092	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
	R	Bulk	11-May-17	1	<0.00050	<0.00050	<0.00050	<0.00020	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	
	R	Bulk	10-May-16	1	<0.00050	<0.00050	0.0014	<0.00020	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	
	R	Bulk	18-Nov-15	1	<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	<0.001	<0.0008
	R	Bulk	27-Feb-15	1	<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	<0.0008	
	BH1977	R	Bulk	11-May-17	1	<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	<0.0008
R		3.05-4.57	15-May-17	3,4,5	<0.00050	<0.00050	<0.00050	<0.00020	0.010	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	
R		3.05-4.57	16-Nov-16	3,4,5	<0.00050	<0.00050	<0.00050	<0.00020	0.019	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	
R		3.05-4.57	13-May-16	3,4,5	<0.00050	<0.00050	<0.00050	<0.00020	0.013	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	
R		3.05-4.57	24-Nov-15	3	<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	<0.001	<0.0008
R		3.05-4.57	22-Sep-15	3	<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	<0.001	<0.0008
BH1979	R	3.05-4.57	18-Jun-15	3	<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	<0.0008	
	R	Bulk	19-Mar-15	3,4,5	<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	<0.0008	
	R	Bulk	17-May-16	3	<0.00050	<0.00050	<0.00050	<0.00020	0.0066	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	
	R	Bulk	27-Nov-15	3	<0.001	<0.001	-	-	0.002	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	Bulk	17-Sep-15	3	<0.001	<0.001	-	-	0.005	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	Bulk	11-Jun-15	3	<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	<0.001	<0.0008
BH1981	R	Bulk	9-Apr-15	3	<0.001	<0.001	-	-	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001								

**Table 4 - Summary of Groundwater Laboratory Analyses  
VOCs**

Sample ID	Land Use <sup>1</sup>	Sampling Depth (m bgs)	Sample Date	Unit	1,1,2-Trichloroethane	1,1-Dichloroethane	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	Bromodichloromethane	Chloroethane	Chloroform	Chloromethane	Methyl methacrylate	Methyl-tert-butylether (MTBE)	Methylene Chloride	Styrene	Tetrachloroethene	Total Trihalomethanes	Trichloroethene	trans-1,2-Dichloroethylene	Vinyl Chloride
BH1981	R	4.57-6.10	18-Jun-15	3	<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	<0.0008
	R	Bulk	27-Mar-15	3	<0.001	<0.001	-	-	0.028	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
BH1982	R	Bulk	17-May-17	3	0.0026	<0.00050	<0.00050	<0.00020	0.13	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	0.0038	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	19-Apr-17	3	0.0018	<0.00050	<0.00050	<0.00020	0.087	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	9-Mar-17	3	0.0028	<0.00050	<0.00050	<0.00020	0.11	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	0.0034	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	6-Jan-17	3	0.0015	<0.00050	<0.00050	<0.00020	0.091	<0.00050	<0.00050	<0.00050	<0.0010	<0.0011**	<0.0035**	<0.00090**	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	21-Dec-16	3	0.00074	<0.00050	<0.00050	<0.00020	0.056	<0.00050	0.00080	<0.00050	<0.0010	0.00090	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	12-Dec-16	3	0.0012	<0.00050	<0.00050	<0.00020	0.065	<0.00050	0.00080	<0.00050	<0.0010	0.00091**	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	25-Nov-16	3	0.0010	<0.00050	<0.00050	<0.00020	0.073	<0.00050	<0.00050	<0.00050	<0.0010	0.0012	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	10-Nov-16	3	0.0016	<0.00050	<0.00050	<0.00020	0.099	<0.00050	<0.00050	<0.00050	<0.0010	0.0010*	<0.0040**	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	28-Oct-16	3	0.0015	<0.00050	<0.00050	<0.00020	0.095	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0040**	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	13-Oct-16	3	0.0012	<0.00050	<0.00050	<0.00020	0.072	<0.00050	<0.00050	<0.00050	<0.0010	<0.00060**	<0.0030**	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	3-Oct-16	3	0.0017	<0.00050	<0.00050	<0.00020	0.090	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0028**	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	16-Sep-16	3	0.0024	<0.00050	<0.00050	<0.00020	0.12	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0052**	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	3-Sep-16	3	0.0024	<0.00050	0.00053	<0.00020	0.12	<0.00050	<0.00050	<0.00050	<0.0010	<0.0012**	<0.0035**	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	19-Aug-16	3	0.0037	<0.00050	0.00082	<0.00020	0.18	<0.00050	<0.00050	<0.00050	<0.0010	<0.0012**	0.0061	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	5-Aug-16	3	0.0020	<0.00050	0.00054	<0.00020	0.092	<0.00050	<0.00050	<0.00050	<0.0010	0.0021*	<0.0055**	<0.0014**	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	17-May-16	3	0.0043	<0.00050	0.0013	<0.00020	0.21	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
R	Bulk	20-Nov-15	3	<0.001	<0.001	-	-	0.150	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
R	Bulk	21-Sep-15	3	0.003	<0.001	-	-	0.177	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
R	Bulk	11-Jun-15	3	<0.001	<0.001	-	-	0.159	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
R	Bulk	1-Apr-15	3	<0.001	<0.001	-	-	0.124	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
BH1984	C	12.19-13.72	3-Nov-16	3	<0.00050	<0.00050	0.00055	<0.00020	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	C	12.19-13.72	11-May-16	3	<0.00050	<0.00050	0.00093	<0.00020	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	C	12.19-13.72	12-Nov-15	3	<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	<0.0008
	C	12.19-13.72	15-Sep-15	3	<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	<0.0008
	C	9.14-10.67	15-Jun-15	3	<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	<0.0008
	C	10.67-12.19	15-Jun-15	3	<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	<0.0008
	C	12.19-13.72	15-Jun-15	3	<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	<0.0008
	C	Bulk	8-May-15	3	<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	<0.0008
BH2001	R	Bulk	19-May-17	5	<0.00050	<0.00050	<0.00050	<0.00020	0.0017	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050
	R	Bulk	17-Nov-16	5	<0.00050	<0.00050	<0.00050	<0.00040*	0.0011	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.0011	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	
	R	Bulk	31-May-16	5	<0.00050	<0.00050	0.00054	<0.00020	0.00094	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.0011	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
BH2005	R	3.96-5.49	15-May-17	3	<0.00050	<0.00050	<0.00050	<0.00020	0.0030	<0.00050	<0.00050	<0.00050	<0.0010	0.00070	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	3.96-5.49	16-Nov-16	3	<0.00050	<0.00050	<0.00050	<0.00020	0.0042	<0.00050	<0.00050	<0.00050	<0.0010	0.0010	<0.0020	<0.0011	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	3.35-4.88	25-May-16	3	<0.00050	<0.00050	<0.00050	<0.00020	0.0024	<0.00050	<0.00050	<0.00050	<0.0010	0.00068	<0.0020	<0.0011	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
BH2006	R	Bulk	24-May-17	4	<0.00050	<0.00050	<0.00050	<0.00020	0.00088	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	17-Nov-16	4	<0.00050	<0.00050	<0.00050	<0.00020	0.0017	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.0011	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	26-May-16	4	<0.00050	<0.00050	<0.00050	<0.00020	0.00084	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.0011	<0.00050	-	<0.00050	<0.00050	<0.0013			

**Table 4 - Summary of Groundwater Laboratory Analyses  
VOCs**

Sample ID	Land Use <sup>1</sup>	Sampling Depth (m bgs)	Sample Date	Unit	1,1,2-Trichloroethane	1,1-Dichloroethane	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	Bromodichloromethane	Chloroethane	Chloroform	Chloromethane	Methyl methacrylate	Methyl-tert-butylether (MTBE)	Methylene Chloride	Styrene	Tetrachloroethene	Total Trihalomethanes	Trichloroethene	trans-1,2-Dichloroethylene	Vinyl Chloride	
BH510A	R	14.33-15.85	7-Nov-16	-	<0.00050	<0.00050	0.070	<0.00045 <sup>A</sup>	0.058	<0.00050	0.025	<0.00050	<0.0010	<0.0011 <sup>A</sup>	<0.0060 <sup>A</sup>	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	14.33-15.85	9-May-16	-	<0.00050	<0.00050	0.030	0.00073	0.039	<0.00050	0.032	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	14.33-15.86	19-Nov-15	-	<0.001	<0.001	-	-	0.037	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.0008
	R	14.33-15.87	4-Sep-15	-	<0.001	<0.001	-	-	0.037	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	14.33-15.88	19-Jun-15	-	<0.001	<0.001	-	-	0.036	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	Bulk	8-Apr-15	-	<0.001	<0.001	-	-	0.058	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
BH732	R	7.32-8.84	19-May-17	-	<0.00050	<0.00050	<0.00050	<0.00020	<0.00050	<0.00050	<0.00050	0.0016	<0.0010	0.013	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	0.014	<0.00050	<0.00050	<0.00050	<0.00050
	R	7.32-8.84	15-Nov-16	-	<0.00050	<0.00050	<0.0010	<0.00020	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	7.32-8.84	18-May-16	-	<0.00050	<0.00050	<0.0010	<0.00020	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	7.32-8.84	27-Nov-15	-	<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	<0.001	<0.0008
	R	7.32-8.84	3-Sep-15	-	<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	<0.001	<0.0008
	R	5.79-7.32	19-Jun-15	-	<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	<0.001	<0.0008
	R	7.32-8.84	19-Jun-15	-	<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	<0.001	<0.0008
	R	8.84-10.36	19-Jun-15	-	<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	<0.001	<0.0008
R	Bulk	13-Apr-15	-	<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	<0.001	<0.0008	
BH1704 <sup>A</sup>	R	Bulk	9-May-17	-	0.071*	0.0016*	2.8***	0.00096*	0.048	<0.00050	0.91***	<0.00050	<0.0010	<0.00050	0.0025	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	Bulk	8-Nov-16	-	0.0084**	<0.00050	2.2***	0.0028**	0.049	0.0017**	0.71***	0.0020**	<0.0010	<0.00050	<0.0030*	<0.00050	<0.00050	-	0.0025	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	Bulk	17-May-16	-	<0.00050	<0.00050	1.4	0.0019	0.069	<0.00050	0.31	<0.001	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	0.0047	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	Bulk	19-Nov-15	-	<0.001	<0.001	-	-	0.040	<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	<0.0008
	R	Bulk	8-Sep-15	-	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.001	<0.1	<0.1	<0.1	-	<0.001	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.08
	R	Bulk	12-Jun-15	-	<0.001	<0.001	-	-	0.058	<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	<0.0008
	R	Bulk	2-Apr-15	-	<0.001	<0.001	-	-	0.042	<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	<0.0008
EX1	R	Bulk	5-May-17	-	<0.00050	<0.00050	0.0018	<0.00020	0.0025	<0.00050	0.00057	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	Bulk	1-Nov-16	-	<0.00050	<0.00050	0.040	<0.00020	0.11	<0.00050	0.012	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	Bulk	6-May-16	-	<0.00050	<0.00050	0.073	<0.00020	0.13	<0.00050	0.023	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	0.019	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	0.00096
	R	Bulk	20-Nov-15	-	<0.001	<0.001	-	-	0.106	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.0008
	R	Bulk	17-Sep-15	-	<0.001	<0.001	-	-	0.086	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.0008
	R	Bulk	11-Jun-15	-	<0.001	<0.001	-	-	0.11	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.0008
	R	Bulk	15-Apr-15	-	<0.001	<0.001	-	-	0.136	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.0008
EX2	R	Bulk	9-May-17	-	0.00096*	<0.00050	0.0044	<0.00020	0.020	<0.00050	0.0051	<0.00050	<0.0010	<0.00050	<0.0020	0.00053*	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	Bulk	1-Nov-16	-	0.0011*	<0.00050	0.023	<0.00020	0.062	<0.00050	0.011	<0.00050	<0.0010	<0.00050	0.0030	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	Bulk	10-May-16	-	0.00063	<0.00050	0.029	<0.00020	0.045	<0.00050	0.015	<0.00050	<0.0010	<0.00050	<0.0020	<0.0011	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	Bulk	20-Nov-15	-	<0.001	<0.001	-	-	0.053	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.0008
	R	Bulk	17-Sep-15	-	<0.001	<0.001	-	-	0.048	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.0008
	R	Bulk	11-Jun-15	-	<0.001	<0.001	-	-	0.047	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.0008
	R	Bulk	15-Apr-15	-	<0.001	<0.001	-	-	0.042	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.0008
EX3	R	Bulk	5-May-17	-	<0.00050	<0.00050	<0.00050	<0.00020	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	Bulk	1-Nov-16	-	<0.00050	<0.00050	<0.00050	<0.00020	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	Bulk	6-May-16	-	<0.00050	<0.00050	<0.00050	<0.00020	0.0063	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0020	<0.0011	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050	<0.00050
	R	Bulk	17-Nov-15	-	<0.001	<0.001	-	-	0.																

**Table 4 - Summary of Groundwater Laboratory Analyses  
VOCs**

Sample ID	Land Use <sup>1</sup>	Sampling Depth (m bgs)	Sample Date	Unit	1,1,2-Trichloroethane	1,1-Dichloroethane	1,2,4-Trimethylbenzene	1,2-Dibromoethane	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	Bromodichloromethane	Chloroethane	Chloroform	Chloromethane	Methyl methacrylate	Methyl-tert-butylether (MTBE)	Methylene Chloride	Styrene	Tetrachloroethene	Total Trihalomethanes	Trichloroethene	trans-1,2-Dichloroethylene	Vinyl Chloride
					<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	<0.001	-
EX3	R	Bulk	11-Jun-15	-	<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	<0.0008
	R	Bulk	15-Apr-15	-	<0.001	<0.001	-	-	0.008	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
EX4	R	Bulk	9-May-17	-	0.0076*	0.00096*	0.49	<0.00020	0.031	<0.00050	0.096	<0.00050	<0.0010	<0.00050	<0.0020	0.0077*	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	0.00097
	R	Bulk	1-Nov-16	-	<0.00050	<0.00050	0.50	0.0012*	0.024	<0.00090**	0.14	<0.00050	<0.0010	<0.0015**	<0.0020	<0.00050	<0.00050	-	0.00064	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	18-May-16	-	<0.00050	<0.00050	0.66	0.00086	0.038	<0.00050	0.21	<0.00050	<0.0010	<0.00050	<0.0020	<0.0011	<0.00050	-	0.0011	<0.00050	<0.0013	<0.00050	<0.00050	0.00051
	R	Bulk	19-Nov-15	-	<0.001	<0.001	-	-	0.027	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	10.36-11.89	17-Sep-15	-	<0.001	<0.001	-	-	0.033	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	10.36-11.89	19-Jun-15	-	<0.001	<0.001	-	-	0.037	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	Bulk	16-Apr-15	-	<0.001	<0.001	-	-	0.032	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
EX5	R	10.67-12.19	8-May-17	-	0.049*	<0.00050	0.40	<0.00020	0.11	<0.00050	0.20	<0.00050	0.0011*	<0.00050	0.014	0.015*	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	10.67-12.19	1-Nov-16	-	0.0033*	<0.00050	0.34	0.00082*	0.10	0.0013*	0.16	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	0.0013	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	10.67-12.19	17-May-16	-	0.0063	<0.00050	0.49	0.00082	0.25	<0.00050	0.20	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	<0.00050	-	0.0018	<0.00050	<0.0013	<0.00050	<0.00050	0.00058
	R	10.67-12.20	18-Nov-15	-	<0.001	<0.001	-	-	0.120	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	10.67-12.21	17-Sep-15	-	<0.001	<0.001	-	-	0.074	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	10.67-12.22	19-Jun-15	-	<0.001	<0.001	-	-	0.084	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	Bulk	17-Apr-15	-	<0.001	<0.001	-	-	0.075	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
EX6	R	Bulk	10-May-17	-	<0.010**	0.0020*	0.056	<0.00020	0.051	<0.00090**	0.27	<0.00050	<0.0010	<0.00050	0.0052	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	2-Nov-16	-	<0.00050	<0.00050	0.069	0.00048*	0.054	0.0011*	0.25	<0.0015**	<0.0010	<0.00050	<0.0060**	<0.00050	<0.00050	-	<0.00050*	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	18-May-16	-	<0.00050	<0.00050	0.045	<0.00020	0.056	<0.00050	0.093	<0.00050	<0.0010	<0.00050	<0.0020	<0.0011	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	23-Nov-15	-	<0.001	<0.001	-	-	0.040	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	Bulk	17-Sep-15	-	<0.001	<0.001	-	-	0.047	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	Bulk	11-Jun-15	-	<0.001	<0.001	-	-	0.056	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
EX7	R	Bulk	17-Apr-15	-	<0.001	<0.001	-	-	0.050	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	Bulk	10-May-17	-	<0.0090**	0.0011*	0.24	<0.00020	0.24	<0.00050	0.13	<0.00050	0.0010*	<0.00050	0.011	<0.00050**	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	1-Nov-16	-	0.0035	<0.00050	0.32	0.00041*	0.23	0.00055*	0.15	<0.00050	<0.0010	<0.0015**	0.0097	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	18-May-16	-	0.0037	<0.00050	0.10	<0.00020	0.21	<0.00050	0.11	<0.00050	<0.0010	<0.00050	<0.0020	<0.0011	<0.00050	-	<0.00050	<0.00050	<0.0013	<0.00050	<0.00050	<0.00050
	R	Bulk	23-Nov-15	-	<0.001	<0.001	-	-	0.0250	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	11.58-13.11	17-Sep-15	-	0.002	<0.001	-	-	0.158	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
	R	11.58-13.11	19-Jun-15	-	<0.001	<0.001	-	-	0.085	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008
R	Bulk	17-Apr-15	-	<0.001	<0.001	-	-	0.209	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.0008	
<b>Residential Guideline<sup>2</sup></b>					NG	NG	NG	NG	0.005	NG	NG	NG	NG	0.0018	NG	0.47	0.015	0.05	0.072	0.010	0.1	0.005	NG	0.0011
<b>Commercial Guideline<sup>2</sup></b>					NG	NG	NG	NG	0.005	NG	NG	NG	NG	0.0018	NG	0.47	0.015	0.05	0.072	0.010	0.1	0.005	NG	0.002

**Notes:**

- 1 Land Use abbreviations: C=Commercial; R=Residential; I=Industrial; N=Natural.
- 2 AEP 2016 Tier 1 Guidelines
- Bold** Indicates that the concentration did not meet the applicable guideline.
- Bulk Bulk sample collected using a dedicated, disposable bailer.
- m bgs Meters below ground surface
- \* Results are potentially biased high
- \*\* Detection limit raised due to matrix interference
- Not analyzed.
- All results in mg/L unless otherwise noted.
- Only compounds with detectable concentrations in at least one sample are presented.
- Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 5 - Summary of Groundwater Laboratory Analyses  
QA/QC - Trip Blank - VOCs**

Sample ID	Reportable Detection Limits <sup>1</sup>	Trip Blank #1	Trip Blank 2	Trip Blank 3	Trip Blank 4	Trip Blank 5
Sample Date		4-May-17	5-May-17	8-May-17	9-May-17	10-May-17
1,1,1,2-tetrachloroethane	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1,1-trichloroethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,1,2,2-tetrachloroethane	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,1,2-trichloroethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,1-dichloroethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,1-dichloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2,3-trichlorobenzene	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2,4-trichlorobenzene	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2,4-trimethylbenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-dibromoethane	0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
1,2-dichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-dichloroethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-dichloropropane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,3,5-trichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,3,5-trimethylbenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,3-dichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,4-dichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Benzene	0.00050	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Bromodichloromethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bromoform	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bromomethane	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Carbon tetrachloride	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorodibromomethane	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroethane	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chloromethane	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
cis-1,2-dichloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
cis-1,3-dichloropropene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dichloromethane	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Ethylbenzene	0.0020	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
m & p-Xylene	0.00050	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080
Methyl methacrylate	0.00076	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butylether (MTBE)	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
o-Xylene	0.0010	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Styrene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tetrachloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	0.00050	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Trihalomethanes	0.002	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
trans-1,2-dichloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
trans-1,3-dichloropropene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Trichloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Trichlorofluoromethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Vinyl chloride	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Xylenes (Total)	0.00040	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080

**Notes:**

<sup>1</sup> Reportable detection limits in mg/L.

**Bold** Indicates that the concentration exceeded the reportable detection limits.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 5 - Summary of Groundwater Laboratory Analyses  
QA/QC - Trip Blank - VOCs**

Sample ID	Reportable Detection Limits <sup>1</sup>	Trip Blank 6	Trip Blank 7	Trip Blank 8	Trip Blank 9	Trip Blank 10
Sample Date		11-May-17	12-May-17	15-May-17	16-May-17	17-May-17
1,1,1,2-tetrachloroethane	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1,1-trichloroethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,1,2,2-tetrachloroethane	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,1,2-trichloroethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,1-dichloroethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,1-dichloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2,3-trichlorobenzene	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2,4-trichlorobenzene	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2,4-trimethylbenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-dibromoethane	0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
1,2-dichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-dichloroethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-dichloropropane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,3,5-trichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,3,5-trimethylbenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,3-dichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,4-dichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Benzene	0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Bromodichloromethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bromoform	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bromomethane	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Carbon tetrachloride	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorodibromomethane	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroethane	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chloromethane	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
cis-1,2-dichloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
cis-1,3-dichloropropene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dichloromethane	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Ethylbenzene	0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
m & p-Xylene	0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080
Methyl methacrylate	0.00076	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butylether (MTBE)	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
o-Xylene	0.0040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Styrene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tetrachloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Trihalomethanes	0.0020	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
trans-1,2-dichloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
trans-1,3-dichloropropene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Trichloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Trichlorofluoromethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Vinyl chloride	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Xylenes (Total)	0.00040	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080

**Notes:**

<sup>1</sup> Reportable detection limits in mg/L.

**Bold** Indicates that the concentration exceeded the reportable detection limits.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta

\* Trip Blank sample named # 5 on COC.

\*\* Trip Blank sample named # 6 on COC.

**Table 5 - Summary of Groundwater Laboratory Analyses  
QA/QC - Trip Blank - VOCs**

Sample ID	Reportable Detection Limits <sup>1</sup>	Trip Blank 11	Trip Blank 12	Trip Blank 13
Sample Date		18-May-17	19-May-17	24-May-17
1,1,1,2-tetrachloroethane	0.0010	<0.0010	<0.0010	<0.0010
1,1,1-trichloroethane	0.00050	<0.00050	<0.00050	<0.00050
1,1,2,2-tetrachloroethane	0.0020	<0.0020	<0.0020	<0.0020
1,1,2-trichloroethane	0.00050	<0.00050	<0.00050	<0.00050
1,1-dichloroethane	0.00050	<0.00050	<0.00050	<0.00050
1,1-dichloroethene	0.00050	<0.00050	<0.00050	<0.00050
1,2,3-trichlorobenzene	0.0010	<0.0010	<0.0010	<0.0010
1,2,4-trichlorobenzene	0.0010	<0.0010	<0.0010	<0.0010
1,2,4-trimethylbenzene	0.00050	<0.00050	<0.00050	<0.00050
1,2-dibromoethane	0.00020	<0.00020	<0.00020	<0.00020
1,2-dichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050
1,2-dichloroethane	0.00050	<0.00050	<0.00050	<0.00050
1,2-dichloropropane	0.00050	<0.00050	<0.00050	<0.00050
1,3,5-trichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050
1,3,5-trimethylbenzene	0.00050	<0.00050	<0.00050	<0.00050
1,3-dichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050
1,4-dichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050
Benzene	0.00050	<0.00040	<0.00040	<0.00040
Bromodichloromethane	0.00050	<0.00050	<0.00050	<0.00050
Bromoform	0.00050	<0.00050	<0.00050	<0.00050
Bromomethane	0.0020	<0.0020	<0.0020	<0.0020
Carbon tetrachloride	0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	0.00050	<0.00050	<0.00050	<0.00050
Chlorodibromomethane	0.0010	<0.0010	<0.0010	<0.0010
Chloroethane	0.0010	<0.0010	<0.0010	<0.0010
Chloroform	0.00050	<0.00050	<0.00050	<0.00050
Chloromethane	0.0020	<0.0020	<0.0020	<0.0020
cis-1,2-dichloroethene	0.00050	<0.00050	<0.00050	<0.00050
cis-1,3-dichloropropene	0.00050	<0.00050	<0.00050	<0.00050
Dichloromethane	0.0020	<0.0020	<0.0020	<0.0020
Ethylbenzene	0.0020	<0.00040	<0.00040	<0.00040
m & p-Xylene	0.00050	<0.00080	<0.00080	<0.00080
Methyl methacrylate	0.00076	<0.00050	<0.00050	<0.00050
Methyl-tert-butylether (MTBE)	0.00050	<0.00050	<0.00050	<0.00050
o-Xylene	0.0010	<0.00040	<0.00040	<0.00040
Styrene	0.00050	<0.00050	<0.00050	<0.00050
Tetrachloroethene	0.00050	<0.00050	<0.00050	<0.00050
Toluene	0.00050	<0.00040	<0.00040	<0.00040
Total Trihalomethanes	0.0020	<0.0013	<0.0013	<0.0013
trans-1,2-dichloroethene	0.00050	<0.00050	<0.00050	<0.00050
trans-1,3-dichloropropene	0.00050	<0.00050	<0.00050	<0.00050
Trichloroethene	0.00050	<0.00050	<0.00050	<0.00050
Trichlorofluoromethane	0.00050	<0.00050	<0.00050	<0.00050
Vinyl chloride	0.00050	<0.00050	<0.00050	<0.00050
Xylenes (Total)	0.00040	<0.00080	<0.00080	<0.00080

**Notes:**

<sup>1</sup> Reportable detection limits in mg/L.

**Red** Indicates that the concentration exceeded the reportable detection limits.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta



**Table 6 - Summary of Groundwater Laboratory Analyses  
QA/QC - Equipment Blanks - BTEX, PHC fractions F1 and F2, and PAHs**

Sample ID	Reportable Detection Limits	BAILER 1	HYDRA 1	BAILER 2	HYDRA 2	BAILER 3	HYDRA 3	BAILER 3
Sample Date		11-May-17	11-May-17	16-May-17	16-May-17	16-May-17	16-May-17	24-May-17
<b>BTEX and PHC fractions F1 - F2</b>								
Benzene	0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Toluene	0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Ethylbenzene	0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Xylenes (Total)	0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080
F1 minus BTEX (C6 - C10)	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
F2 (C10 - C16)	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
<b>PAHs</b>								
2-Methylnaphthalene	0.00010	<0.00010	<0.00010	<0.00010	<0.00010			
Acenaphthene	0.00010	<0.00010	<0.00010	<0.00010	<0.00010			
Acenaphthylene	0.00010	<0.00010	<0.00010	<0.00010	<0.00010			
Acridine	0.00020	<0.000050	<0.000050	<0.000050	<0.000050			
Anthracene	0.000010	<0.000010	<0.000010	<0.000010	<0.000010			
Benzo(a)anthracene	0.0000085	<0.0000085	<0.0000085	<0.0000085	<0.0000085			
Benzo(a)pyrene	0.0000075	<0.0000075	<0.0000075	<0.0000075	<0.0000075			
Benzo(b&j)fluoranthene	0.0000085	<0.0000085	<0.0000085	<0.0000085	<0.0000085			
Benzo(c)phenanthrene	0.000050	<0.000050	<0.000050	<0.000050	<0.000050			
Benzo(g,h,i)perylene	0.0000085	<0.0000085	<0.0000085	<0.0000085	<0.0000085			
Benzo(k)fluoranthene	0.0000085	<0.0000085	<0.0000085	<0.0000085	<0.0000085			
Benzo(a)pyrene equivalency	0.000010	<0.000010	<0.000010	<0.000010	<0.000010	No Blank Analyzed	No Blank Analyzed	No Blank Analyzed
Benzo[e]pyrene	0.000050	<0.000050	<0.000050	<0.000050	<0.000050			
Chrysene	0.0000085	<0.0000085	<0.0000085	<0.0000085	<0.0000085			
Dibenz(a,h)anthracene	0.0000075	<0.0000075	<0.0000075	<0.0000075	<0.0000075			
Fluoranthene	0.000010	<0.000010	<0.000010	<0.000010	<0.000010			
Fluorene	0.000050	<0.000050	<0.000050	<0.000050	<0.000050			
Indeno(1,2,3-cd)pyrene	0.0000085	<0.0000085	<0.0000085	<0.0000085	<0.0000085			
Naphthalene	0.00010	<0.00010	<0.00010	<0.00010	<0.00010			
Perylene	0.000050	<0.000050	<0.000050	<0.000050	<0.000050			
Phenanthrene	0.000050	<0.000050	<0.000050	<0.000050	<0.000050			
Pyrene	0.000020	<0.000020	<0.000020	<0.000020	<0.000020			
Quinoline	0.00020	<0.00020	<0.00020	<0.00020	<0.00020			

**Notes:**

1 Reportable detection limits in mg/L.

**Bold** Indicates that the concentration exceeded the reportable detection limits.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 6 - Summary of Groundwater Laboratory Analyses  
QA/QC - Equipment Blanks - BTEX, PHC fractions F1 and F2, and PAHs**

Sample ID	Reportable Detection Limits	HYDRA 3	HYDRA 4
Sample Date		24-May-17	24-May-17
<b>BTEX and PHC fractions F1 - F2</b>			
Benzene	0.00040	<0.00040	<0.00040
Toluene	0.00040	<0.00040	<0.00040
Ethylbenzene	0.00040	<0.00040	<0.00040
Xylenes (Total)	0.00080	<0.00080	<0.00080
F1 minus BTEX (C6 - C10)	0.10	<0.10	<0.10
F2 (C10 - C16)	0.10	<0.10	<0.10
<b>PAHs</b>			
2-Methylnaphthalene	0.00010		
Acenaphthene	0.00010		
Acenaphthylene	0.00010		
Acridine	0.00020		
Anthracene	0.00010		
Benzo(a)anthracene	0.000085		
Benzo(a)pyrene	0.000075		
Benzo(b&j)fluoranthene	0.000085		
Benzo(c)phenanthrene	0.000050		
Benzo(g,h,i)perylene	0.000085		
Benzo(k)fluoranthene	0.000085		
Benzo[a]pyrene equivalency	0.000010	No Blank Analyzed	No Blank Analyzed
Benzo[e]pyrene	0.000050		
Chrysene	0.000085		
Dibenz(a,h)anthracene	0.000075		
Fluoranthene	0.000010		
Fluorene	0.000050		
Indeno(1,2,3-cd)pyrene	0.000085		
Naphthalene	0.00010		
Perylene	0.000050		
Phenanthrene	0.000050		
Pyrene	0.000020		
Quinoline	0.00020		

**Notes:**

1 Reportable detection limits in mg/L.

**Bold** Indicates that the concentration exceeded the reportable detection limits.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 7 - Summary of Groundwater Laboratory Analyses  
QA/QC - Equipment Blanks - VOCs**

Sample ID	Reportable Detection Limits	BAILER 1	HYDRA 1	BAILER 2	HYDRA 2	BAILER 3	HYDRA 3	BAILER 3
Sample Date		11-May-17	11-May-17	16-May-17	16-May-17	16-May-17	16-May-17	24-May-17
<b>VOCs</b>								
1,1,1,2-tetrachloroethane	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1,1-trichloroethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,1,2,2-tetrachloroethane	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,1,2-trichloroethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,1-dichloroethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,1-dichloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2,3-trichlorobenzene	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2,4-trichlorobenzene	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2,4-trimethylbenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-dibromoethane	0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
1,2-dichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-dichloroethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-dichloropropane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,3,5-trichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,3,5-trimethylbenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,3-dichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,4-dichlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bromodichloromethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bromoform	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bromomethane	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Carbon tetrachloride	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorodibromomethane	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroethane	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroform	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chloromethane	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
cis-1,2-dichloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
cis-1,3-dichloropropene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dichloromethane	0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Methyl methacrylate	0.00076	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butylether (MTBE)	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tetrachloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Trihalomethanes	0.0020	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
trans-1,2-dichloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
trans-1,3-dichloropropene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Trichloroethene	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Trichlorofluoromethane	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Vinyl chloride	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050

**Notes:**

<sup>1</sup> Reportable detection limits in mg/L.

**Bold** Indicates that the concentration exceeded the reportable detection limits.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 7 - Summary of Groundwater Laboratory Analyses  
QA/QC - Equipment Blanks - VOCs**

Sample ID	Reportable Detection Limits	HYDRA 3	HYDRA 4
Sample Date		24-May-17	24-May-17
<b>VOCs</b>			
1,1,1,2-tetrachloroethane	0.0010	<0.0010	<0.0010
1,1,1-trichloroethane	0.00050	<0.00050	<0.00050
1,1,2,2-tetrachloroethane	0.0020	<0.0020	<0.0020
1,1,2-trichloroethane	0.00050	<0.00050	<0.00050
1,1-dichloroethane	0.00050	<0.00050	<0.00050
1,1-dichloroethene	0.00050	<0.00050	<0.00050
1,2,3-trichlorobenzene	0.0010	<0.0010	<0.0010
1,2,4-trichlorobenzene	0.0010	<0.0010	<0.0010
1,2,4-trimethylbenzene	0.00050	<0.00050	<0.00050
1,2-dibromoethane	0.00020	<0.00020	<0.00020
1,2-dichlorobenzene	0.00050	<0.00050	<0.00050
1,2-dichloroethane	0.00050	<0.00050	<0.00050
1,2-dichloropropane	0.00050	<0.00050	<0.00050
1,3,5-trichlorobenzene	0.00050	<0.00050	<0.00050
1,3,5-trimethylbenzene	0.00050	<0.00050	<0.00050
1,3-dichlorobenzene	0.00050	<0.00050	<0.00050
1,4-dichlorobenzene	0.00050	<0.00050	<0.00050
Bromodichloromethane	0.00050	<0.00050	<0.00050
Bromoform	0.00050	<0.00050	<0.00050
Bromomethane	0.0020	<0.0020	<0.0020
Carbon tetrachloride	0.00050	<0.00050	<0.00050
Chlorobenzene	0.00050	<0.00050	<0.00050
Chlorodibromomethane	0.0010	<0.0010	<0.0010
Chloroethane	0.0010	<0.0010	<0.0010
Chloroform	0.00050	<0.00050	<0.00050
Chloromethane	0.0020	<0.0020	<0.0020
cis-1,2-dichloroethene	0.00050	<0.00050	<0.00050
cis-1,3-dichloropropene	0.00050	<0.00050	<0.00050
Dichloromethane	0.0020	<0.0020	<0.0020
Methyl methacrylate	0.00076	<0.00050	<0.00050
Methyl-tert-butylether (MTBE)	0.00050	<0.00050	<0.00050
Styrene	0.00050	<0.00050	<0.00050
Tetrachloroethene	0.00050	<0.00050	<0.00050
Total Trihalomethanes	0.0020	<0.0013	<0.0013
trans-1,2-dichloroethene	0.00050	<0.00050	<0.00050
trans-1,3-dichloropropene	0.00050	<0.00050	<0.00050
Trichloroethene	0.00050	<0.00050	<0.00050
Trichlorofluoromethane	0.00050	<0.00050	<0.00050
Vinyl chloride	0.00050	<0.00050	<0.00050

**Notes:**

<sup>1</sup> Reportable detection limits in mg/L.

**Bold** Indicates that the concentration exceeded the reportable detection limits.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 8 - Summary of Groundwater Laboratory Analyses  
QA/QC - Field Duplicate - BTEX, PHC fractions F1 - F2, and PAHs**

Sample ID	Reportable Detection Limit	BH1903	1903 Lab Dup	RPD <sup>1</sup> (%)	BH1905	BH9905	RPD <sup>1</sup> (%)	BH1915	BH9915	RPD <sup>1</sup> (%)	BH1915B	BH9915B	RPD <sup>1</sup> (%)	BH1921	BH9921	RPD <sup>1</sup> (%)
Sample Date		4-May-17			5-May-17			17-May-17			17-May-17			11-May-17		
<b>BTEX and PHC fractions F1 - F2</b>																
Benzene	0.00040	<0.00040	N/A	NC	0.042	0.041	2.4	0.20	0.20	0.0	0.21	0.22	5	0.10	0.11	10
Toluene	0.00040	<0.00040	N/A	NC	0.0018	0.0017	5.7	0.0046	0.0046	0.0	0.0028	0.0024	15	0.021	0.019	10
Ethylbenzene	0.00040	<0.00040	N/A	NC	0.29	0.27	7.1	0.0038	0.0038	0.0	0.0011	0.00098	12	0.14	0.13	7.4
Xylenes (Total)	0.00080	<0.00080	N/A	NC	1.9	1.8	5.4	0.37	0.37	0.0	0.25	0.24	4.1	0.0049	0.0047	4.2
F1 minus BTEX (C6 - C10)	0.10	<0.10	N/A	NC	2.1	1.9	10	2.2	2.4	8.7	1.1	1.1	0.0	1.3	1.2	8.0
F2 (C10 - C16)	0.10	<0.10	<0.10	NC	2.4	1.9	23	0.59	0.59	0.0	0.46	0.40	14	0.12	0.12	0.0
<b>PAHs</b>																
1-Methylnaphthalene	0.00010				0.023	0.022	4.4	0.0094	0.0095	1.1	0.0070	0.0066	5.9			
2-Methylnaphthalene	0.00010				0.031	0.028	10	0.020	0.021	4.9	0.015	0.014	6.9			
Acenaphthene	0.00010				0.00025	0.00020	22	0.00010	0.00010	0.0	<0.00010	<0.00010	NC			
Acenaphthylene	0.00010				<0.00010	<0.00010	NC	<0.00010	<0.00010	NC	<0.00010	<0.00010	NC			
Acridine	0.00020				0.00020	0.00065	<b>102</b>	<0.000050	<0.000050	NC	<0.000050	<0.000050	NC			
Anthracene	0.000010				0.000053	0.000027	65	<0.000010	<0.000010	NC	<0.000010	<0.000010	NC			
Benzo(a)anthracene	0.0000085				0.000027	<0.0000085	NC	<0.0000085	<0.0000085	NC	<0.0000085	<0.0000085	NC			
Benzo(a)pyrene	0.0000075				0.000013	<0.0000075	NC	<0.0000075	<0.0000075	NC	<0.0000075	<0.0000075	NC			
Benzo(b&j)fluoranthene	0.0000085				0.000022	<0.0000085	NC	<0.0000085	<0.0000085	NC	<0.0000085	<0.0000085	NC			
Benzo(c)phenanthrene	0.000050				<0.000050	<0.000050	NC	<0.000050	<0.000050	NC	<0.000050	<0.000050	NC			
Benzo(g,h,i)perylene	0.0000085				0.0000097	<0.0000085	NC	<0.0000085	<0.0000085	NC	<0.0000085	<0.0000085	NC			
Benzo(k)fluoranthene	0.0000085				0.0000098	<0.0000085	NC	<0.0000085	<0.0000085	NC	<0.0000085	<0.0000085	NC			
Benzo[a]pyrene equivalency	0.000010				0.000023	<0.000010	NC	<0.000010	<0.000010	NC	<0.000010	<0.000010	NC			
Benzo[e]pyrene	0.000050				<0.000050	<0.000050	NC	<0.000050	<0.000050	NC	<0.000050	<0.000050	NC			
Chrysene	0.0000085				0.000028	<0.0000085	NC	<0.0000085	<0.0000085	NC	<0.0000085	<0.0000085	NC			
Dibenz(a,h)anthracene	0.0000075				<0.0000075	<0.0000075	NC	<0.0000075	<0.0000075	NC	<0.0000075	<0.0000075	NC			
Fluoranthene	0.000010				0.00017	0.000038	<b>127</b>	<0.000010	<0.000010	NC	<0.000010	<0.000010	NC			
Fluorene	0.000050				0.00016	0.00013	21	0.000083	0.000084	1.2	0.000057	0.000057	0.0			
Indeno(1,2,3-cd)pyrene	0.0000085				<0.0000085	<0.0000085	NC	<0.0000085	<0.0000085	NC	<0.0000085	<0.0000085	NC			
Naphthalene	0.00010				0.11	0.11	0.0	0.014	0.014	0.0	0.011	0.0096	14			
Perylene	0.000050				<0.000050	<0.000050	NC	<0.000050	<0.000050	NC	<0.000050	<0.000050	NC			
Phenanthrene	0.000050				0.00028	0.00014	67	<0.000050	<0.000050	NC	<0.000050	<0.000050	NC			
Pyrene	0.000020				0.00021	0.000042	<b>133</b>	<0.000020	<0.000020	NC	<0.000020	<0.000020	NC			
Quinoline	0.00020				0.0039	0.0032	20	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC			

**Notes:**

<sup>1</sup> Relative percent difference.

**Bold** RPD exceeds 80% for organic constituents.

NC Not calculated.

N/A Not applicable.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 8 - Summary of Groundwater Laboratory Analyses  
QA/QC - Field Duplicate - BTEX, PHC fractions F1 - F2, and PAHs**

Sample ID	Reportable Detection Limit	BH1933	1933 Lab Dup	RPD <sup>1</sup> (%)	BH1939	BH9939	RPD <sup>1</sup> (%)	BH1946	1946 Lab Dup	RPD <sup>1</sup> (%)	BH1956B	1956B Lab Dup	RPD <sup>1</sup> (%)	BH1959	1959 Lab Dup	RPD <sup>1</sup> (%)
Sample Date		4-May-17			17-May-17			24-May-17			17-May-17			4-May-17		
<b>BTEX and PHC fractions F1 - F2</b>																
Benzene	0.00040	0.0096	N/A	NC	5.4	5.6	3.6	<0.00040	<0.00040	NC	0.0037	N/A	NC	<0.00040	N/A	NC
Toluene	0.00040	0.00059	N/A	NC	0.0050	0.0048	4.1	<0.00040	<0.00040	NC	<0.00040	N/A	NC	<0.00040	N/A	NC
Ethylbenzene	0.00040	<0.00040	N/A	NC	0.067	0.086	25	<0.00040	<0.00040	NC	<0.00040	N/A	NC	<0.00040	N/A	NC
Xylenes (Total)	0.00080	0.0041	N/A	NC	0.0090	0.0086	4.5	<0.00080	<0.00080	NC	<0.00080	N/A	NC	<0.00080	N/A	NC
F1 minus BTEX (C6 - C10)	0.10	<0.10	N/A	NC	<1.0	<1.0	NC	<0.10	<0.10	NC	<0.10	N/A	NC	<0.10	N/A	NC
F2 (C10 - C16)	0.10	<0.10	<0.10	NC	<0.10	<0.10	NC	<0.10	N/A	NC	<0.10	<0.10	NC	<0.10	<0.10	NC
<b>PAHs</b>																
1-Methylnaphthalene	0.00010	<0.00010	<0.00010	NC						NC	<0.00010	<0.00010	NC			
2-Methylnaphthalene	0.00010	<0.00010	<0.00010	NC						NC	<0.00010	<0.00010	NC			
Acenaphthene	0.00010	<0.00010	<0.00010	NC						NC	<0.00010	<0.00010	NC			
Acenaphthylene	0.00010	<0.00010	<0.00010	NC						NC	<0.00010	<0.00010	NC			
Acridine	0.00020	<0.000050	<0.000050	NC						NC	<0.000050	<0.000050	NC			
Anthracene	0.00010	<0.00010	<0.00010	NC						NC	<0.00010	<0.00010	NC			
Benzo(a)anthracene	0.000085	<0.000085	<0.000085	NC						NC	<0.000085	<0.000085	NC			
Benzo(a)pyrene	0.000075	<0.000075	<0.000075	NC						NC	<0.000075	<0.000075	NC			
Benzo(b&j)fluoranthene	0.000085	<0.000085	<0.000085	NC						NC	<0.000085	<0.000085	NC			
Benzo(c)phenanthrene	0.000050	<0.000050	<0.000050	NC						NC	<0.000050	<0.000050	NC			
Benzo(g,h,i)perylene	0.000085	<0.000085	<0.000085	NC						NC	<0.000085	<0.000085	NC			
Benzo(k)fluoranthene	0.000085	<0.000085	<0.000085	NC						NC	<0.000085	<0.000085	NC			
Benzo[a]pyrene equivalency	0.00010	<0.00010	N/A	NC						NC	<0.00010	N/A	NC			
Benzo[e]pyrene	0.000050	<0.000050	<0.000050	NC						NC	<0.000050	<0.000050	NC			
Chrysene	0.000085	<0.000085	<0.000085	NC						NC	<0.000085	<0.000085	NC			
Dibenz(a,h)anthracene	0.000075	<0.000075	<0.000075	NC						NC	<0.000075	<0.000075	NC			
Fluoranthene	0.00010	<0.00010	<0.00010	NC						NC	<0.00010	<0.00010	NC			
Fluorene	0.000050	<0.000050	<0.000050	NC						NC	<0.000050	<0.000050	NC			
Indeno(1,2,3-cd)pyrene	0.000085	<0.000085	<0.000085	NC						NC	<0.000085	<0.000085	NC			
Naphthalene	0.00010	<0.00010	<0.00010	NC						NC	<0.00010	<0.00010	NC			
Perylene	0.000050	<0.000050	<0.000050	NC						NC	<0.000050	<0.000050	NC			
Phenanthrene	0.000050	<0.000050	<0.000050	NC						NC	<0.000050	<0.000050	NC			
Pyrene	0.000020	<0.000020	<0.000020	NC						NC	<0.000020	<0.000020	NC			
Quinoline	0.00020	<0.00020	<0.00020	NC						NC	<0.00020	<0.00020	NC			
					No Duplicate Analyzed									No Duplicate Analyzed		

**Notes:**

<sup>1</sup> Relative percent difference.

**Bold** RPD exceeds 80% for organic constituents.

NC Not calculated.

N/A Not applicable.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 8 - Summary of Groundwater Laboratory Analyses  
QA/QC - Field Duplicate - BTEX, PHC fractions F1 - F2, and PAHs**

Sample ID	Reportable Detection Limit	BH1967	BH9967	RPD <sup>1</sup> (%)	BH1971	BH9971	RPD <sup>1</sup> (%)	BH1982	BH9982	RPD <sup>1</sup> (%)	BH1982	1982 Lab Dup	RPD <sup>1</sup> (%)	BH2011	2011 Lab Dup	RPD <sup>1</sup> (%)
Sample Date		16-May-17			10-May-17			17-May-17			10-May-17			10-May-17		
<b>BTEX and PHC fractions F1 - F2</b>																
Benzene	0.00040	0.20	0.20	0.0	0.034	0.031	9.2	6.6	6.4	3.1	6.6	6.00	10	<0.00040	N/A	NC
Toluene	0.00040	0.020	0.020	0.0	0.0021	0.0021	0.0	0.019	0.019	0.0	0.019	0.018	5.4	<0.00040	N/A	NC
Ethylbenzene	0.00040	0.33	0.34	3.0	0.21	0.18	15	0.070	0.074	5.6	0.070	0.067	4.4	<0.00040	N/A	NC
Xylenes (Total)	0.00080	0.0056	0.0057	1.8	0.001	0.0011	9.5	0.028	0.030	6.9	0.028	0.027	3.6	<0.00080	N/A	NC
F1 minus BTEX (C6 - C10)	0.10	4.7	3.5	29	1.5	1.4	6.9	<1.0	<1.0	NC	<1.0	<1.0	NC	<0.10	N/A	NC
F2 (C10 - C16)	0.10	0.39	0.38	2.6	0.42	0.40	4.9	<0.10	<0.10	NC	<0.10	N/A	NC	<0.10	0.11	NC
<b>PAHs</b>																
1-Methylnaphthalene	0.00010				0.0010	0.00097	3.0	<0.00010	<0.00010	NC				<0.00010	<0.00010	NC
2-Methylnaphthalene	0.00010				<0.00010	<0.00010	NC	<0.00010	<0.00010	NC				<0.00010	<0.00010	NC
Acenaphthene	0.00010				<0.00010	<0.00010	NC	<0.00010	<0.00010	NC				<0.00010	<0.00010	NC
Acenaphthylene	0.00010				<0.00010	<0.00010	NC	<0.00010	<0.00010	NC				<0.00010	<0.00010	NC
Acridine	0.00020				<0.000050	<0.000050	NC	<0.000050	<0.000050	NC				<0.000050	<0.000050	NC
Anthracene	0.00010				<0.000010	<0.000010	NC	<0.000010	<0.000010	NC				<0.000010	<0.000010	NC
Benzo(a)anthracene	0.0000085				<0.0000085	<0.0000085	NC	<0.0000085	<0.0000085	NC				<0.0000085	<0.0000085	NC
Benzo(a)pyrene	0.0000075				<0.0000075	<0.0000075	NC	<0.0000075	<0.0000075	NC				<0.0000075	<0.0000075	NC
Benzo(b&j)fluoranthene	0.0000085				<0.0000085	<0.0000085	NC	<0.0000085	<0.0000085	NC				<0.0000085	<0.0000085	NC
Benzo(c)phenanthrene	0.000050				<0.000050	<0.000050	NC	<0.000050	<0.000050	NC				<0.000050	<0.000050	NC
Benzo(g,h,i)perylene	0.0000085				<0.0000085	<0.0000085	NC	<0.0000085	<0.0000085	NC				<0.0000085	<0.0000085	NC
Benzo(k)fluoranthene	0.0000085				<0.0000085	<0.0000085	NC	<0.0000085	<0.0000085	NC				<0.0000085	<0.0000085	NC
Benzo[a]pyrene equivalency	0.000010				<0.010	<0.010	NC	<0.000010	<0.000010	NC				<0.010	N/A	NC
Benzo[e]pyrene	0.000050				<0.000050	<0.000050	NC	<0.000050	<0.000050	NC				<0.000050	<0.000050	NC
Chrysene	0.0000085				<0.0000085	<0.0000085	NC	<0.0000085	<0.0000085	NC				<0.0000085	<0.0000085	NC
Dibenz(a,h)anthracene	0.0000075				<0.0000075	<0.0000075	NC	<0.0000075	<0.0000075	NC				<0.0000075	<0.0000075	NC
Fluoranthene	0.000010				<0.000010	<0.000010	NC	<0.000010	<0.000010	NC				<0.000010	<0.000010	NC
Fluorene	0.000050				<0.000050	<0.000050	NC	<0.000050	<0.000050	NC				<0.000050	<0.000050	NC
Indeno(1,2,3-cd)pyrene	0.0000085				<0.0000085	<0.0000085	NC	<0.0000085	<0.0000085	NC				<0.0000085	<0.0000085	NC
Naphthalene	0.00010				0.00057	0.00052	9.2	<0.00010	<0.00010	NC				<0.00010	<0.00010	NC
Perylene	0.000050				<0.000050	<0.000050	NC	<0.000050	<0.000050	NC				<0.000050	<0.000050	NC
Phenanthrene	0.000050				<0.000050	<0.000050	NC	<0.000050	<0.000050	NC				<0.000050	<0.000050	NC
Pyrene	0.000020				<0.000020	<0.000020	NC	<0.000020	<0.000020	NC				<0.000020	<0.000020	NC
Quinoline	0.00020				0.00031	0.00032	3.2	<0.00020	<0.00020	NC				<0.00020	<0.00020	NC

**Notes:**  
<sup>1</sup> Relative percent difference.  
**Bold** RPD exceeds 80% for organic constituents.  
 NC Not calculated.  
 N/A Not applicable.  
 All results in mg/L unless otherwise noted.  
 Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 8 - Summary of Groundwater Laboratory Analyses  
QA/QC - Field Duplicate - BTEX, PHC fractions F1 - F2, and PAHs**

Sample ID	Reportable Detection Limit	BH510A	BH9510A	RPD <sup>1</sup> (%)	BH912	912 Lab Dup	RPD <sup>1</sup> (%)	BH1701	1701 Lab Dup	RPD <sup>1</sup> (%)	EX1	EX91	RPD <sup>1</sup> (%)
Sample Date		8-May-17			19-May-17			12-May-17			5-May-17		
<b>BTEX and PHC fractions F1 - F2</b>													
Benzene	0.00040	1.6	1.6	0.0	<0.00040	N/A	NC	<0.00040	<0.00040	NC	0.058	0.057	1.7
Toluene	0.00040	0.035	0.034	2.9	<0.00040	N/A	NC	<0.00040	0.00056	NC	0.0011	0.0011	0.0
Ethylbenzene	0.00040	0.73	0.70	4.2	<0.00040	N/A	NC	<0.00040	<0.00040	NC	0.0090	0.0080	12
Xylenes (Total)	0.00080	0.29	0.29	0.0	<0.00080	N/A	NC	<0.00080	<0.00080	NC	0.0095	0.0087	8.8
F1 minus BTEX (C6 - C10)	0.10	1.8	2.2	20	<0.10	N/A	NC	<0.10	<0.10	NC	<0.10	<0.10	NC
F2 (C10 - C16)	0.10	<0.10	<0.10	NC	<0.10	<0.10	NC	<0.10	N/A	NC	<0.10	<0.10	NC
<b>PAHs</b>													
1-Methylnaphthalene	0.00010	0.00018	0.00021	15									
2-Methylnaphthalene	0.00010	0.00026	0.00029	11									
Acenaphthene	0.00010	<0.00010	<0.00010	NC									
Acenaphthylene	0.00010	<0.00010	<0.00010	NC									
Acridine	0.00020	<0.000050	<0.000050	NC									
Anthracene	0.000010	<0.000010	<0.000010	NC									
Benzo(a)anthracene	0.0000085	<0.0000085	<0.0000085	NC									
Benzo(a)pyrene	0.0000075	<0.0000075	<0.0000075	NC									
Benzo(b&j)fluoranthene	0.0000085	<0.0000085	<0.0000085	NC									
Benzo(c)phenanthrene	0.000050	<0.000050	<0.000050	NC									
Benzo(g,h,i)perylene	0.0000085	<0.0000085	<0.0000085	NC									
Benzo(k)fluoranthene	0.0000085	<0.0000085	<0.0000085	NC									
Benzo[a]pyrene equivalency	0.000010	<0.010	<0.010	NC									
Benzo[e]pyrene	0.000050	<0.000050	<0.000050	NC									
Chrysene	0.0000085	<0.0000085	<0.0000085	NC									
Dibenz(a,h)anthracene	0.0000075	<0.0000075	<0.0000075	NC									
Fluoranthene	0.000010	<0.000010	<0.000010	NC									
Fluorene	0.000050	<0.000050	<0.000050	NC									
Indeno(1,2,3-cd)pyrene	0.0000085	<0.0000085	<0.0000085	NC									
Naphthalene	0.00010	0.0047	0.0052	10									
Perylene	0.000050	<0.000050	<0.000050	NC									
Phenanthrene	0.000050	<0.000050	<0.000050	NC									
Pyrene	0.000020	<0.000020	<0.000020	NC									
Quinoline	0.00020	<0.00020	<0.00020	NC									
					No Duplicate Analyzed			No Duplicate Analyzed			No Duplicate Analyzed		

**Notes:**

<sup>1</sup> Relative percent difference.

**Red** RPD exceeds 80% for organic constituents.

NC Not calculated.

N/A Not applicable.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta



**Table 8 - Summary of Groundwater Laboratory Analyses  
QA/QC - Field Duplicate - BTEX, PHC fractions F1 - F2, and PAHs**

Sample ID	Reportable Detection Limit	EX1	EX1 Lab Dup	RPD <sup>1</sup> (%)	EX5	EX95	RPD <sup>1</sup> (%)	HYDRA 1	HYDRA 1 Lab Dup	RPD <sup>1</sup> (%)
Sample Date		5-May-17			8-May-17			11-May-17		
<b>BTEX and PHC fractions F1 - F2</b>										
Benzene	0.00040	0.058	0.055	5.3	3.7	3.9	5.3	<0.00040	N/A	NC
Toluene	0.00040	0.0011	0.0011	0.0	9.3	10	7.3	<0.00040	N/A	NC
Ethylbenzene	0.00040	0.0090	0.0086	4.5	1.5	1.2	22	<0.00040	N/A	NC
Xylenes (Total)	0.00080	0.0095	0.0091	4.3	4.7	4.5	4.3	<0.00080	N/A	NC
F1 minus BTEX (C6 - C10)	0.10	<0.10	<0.10	NC	4.4	7.7	55	<0.10	N/A	NC
F2 (C10 - C16)	0.10	<0.10	N/A	NC	0.55	0.51	7.5	<0.10	<0.10	NC
<b>PAHs</b>										
1-Methylnaphthalene	0.00010							<0.00010	<0.00010	NC
2-Methylnaphthalene	0.00010							<0.00010	<0.00010	NC
Acenaphthene	0.00010							<0.00010	<0.00010	NC
Acenaphthylene	0.00010							<0.00010	<0.00010	NC
Acridine	0.00020							<0.000050	<0.000050	NC
Anthracene	0.000010							<0.000010	<0.000010	NC
Benzo(a)anthracene	0.0000085							<0.0000085	<0.0000085	NC
Benzo(a)pyrene	0.0000075							<0.0000075	<0.0000075	NC
Benzo(b&j)fluoranthene	0.0000085							<0.0000085	<0.0000085	NC
Benzo(c)phenanthrene	0.000050							<0.000050	<0.000050	NC
Benzo(g,h,i)perylene	0.0000085							<0.0000085	<0.0000085	NC
Benzo(k)fluoranthene	0.0000085							<0.0000085	<0.0000085	NC
Benzo[a]pyrene equivalency	0.000010	No Duplicate Analyzed			No Duplicate Analyzed			<0.000010	N/A	NC
Benzo[e]pyrene	0.000050							<0.000050	<0.000050	NC
Chrysene	0.0000085							<0.0000085	<0.0000085	NC
Dibenz(a,h)anthracene	0.0000075							<0.0000075	<0.0000075	NC
Fluoranthene	0.000010							<0.000010	<0.000010	NC
Fluorene	0.000050							<0.000050	<0.000050	NC
Indeno(1,2,3-cd)pyrene	0.0000085							<0.0000085	<0.0000085	NC
Naphthalene	0.00010							<0.00010	<0.00010	NC
Perylene	0.000050							<0.000050	<0.000050	NC
Phenanthrene	0.000050							<0.000050	<0.000050	NC
Pyrene	0.000020							<0.000020	<0.000020	NC
Quinoline	0.00020							<0.00020	<0.00020	NC

**Notes:**  
<sup>1</sup> Relative percent difference.  
**Bold** RPD exceeds 80% for organic constituents.  
 NC Not calculated.  
 N/A Not applicable.  
 All results in mg/L unless otherwise noted.  
 Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 9 - Summary of Groundwater Laboratory Analyses  
QA/QC - Field Duplicate - VOCs**

Sample ID	Reportable Detection Limits <sup>1</sup>	BH1905	BH9905	RPD <sup>1</sup> (%)	BH1906	1906 Lab Dup	RPD <sup>1</sup> (%)	BH1907	BH9907	RPD <sup>1</sup> (%)	BH1915	BH9915	RPD <sup>1</sup> (%)	BH1915B	BH9915B	RPD <sup>1</sup> (%)
Sample Date		5-May-17			10-May-17			10-May-17			17-May-17			17-May-17		
1,1,1,2-tetrachloroethane	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,1,1-trichloroethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,1,2,2-tetrachloroethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
1,1,2-trichloroethane	0.00050	0.074	0.076	2.7	0.00092	0.00088	4.4	<0.0020	<0.0045	NC	0.016	0.019	17	0.0095	0.0081	16
1,1-dichloroethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	0.0010	0.0010	0.0	0.00056	0.00057	1.8
1,1-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,2,3-trichlorobenzene	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,2,4-trichlorobenzene	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,2,4-trimethylbenzene	0.00050	1.1	1.1	0.0	<0.00050	<0.00050	NC	0.0090	0.016	56	0.19	0.19	0.0	0.13	0.13	0.0
1,2-dibromoethane	0.00020	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC
1,2-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,2-dichloroethane	0.00050	0.083	0.086	3.6	0.050	0.050	0.0	0.00084	0.0015	56	0.017	0.019	11	0.025	0.024	4.1
1,2-dichloropropane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,3,5-trichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,3,5-trimethylbenzene	0.00050	0.33	0.34	3.0	<0.00050	<0.00050	NC	0.0033	0.0061	60	0.065	0.066	1.5	0.045	0.047	4.3
1,3-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,4-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromodichloromethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromoform	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromomethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
Carbon tetrachloride	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chlorodibromomethane	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
Chloroethane	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
Chloroform	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chloromethane	0.0020	0.0041	0.0040	2.5	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
cis-1,2-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
cis-1,3-dichloropropene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Dichloromethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
Methyl methacrylate	0.00076	<0.0055	<0.0055	NC	<0.00050	<0.00050	NC	<0.00070	<0.0015	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Methyl-tert-butylether (MTBE)	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Styrene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Tetrachloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Total Trihalomethanes	0.002	<0.0013	<0.0013	NC	<0.0013	N/A	NC	<0.0013	<0.0013	NC	<0.0013	<0.0013	NC	<0.0013	<0.0013	NC
trans-1,2-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
trans-1,3-dichloropropene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Trichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Trichlorofluoromethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Vinyl chloride	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC

**Notes:**

<sup>1</sup> Relative percent difference.

**Bold** RPD exceeds 80% for organic constituents.

NC Not calculated.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 9 - Summary of Groundwater Laboratory Analyses  
QA/QC - Field Duplicate - VOCs**

Sample ID	Reportable Detection Limits <sup>1</sup>	BH1921	BH9921	RPD <sup>1</sup> (%)	BH1923	1923 Lab Dup	RPD <sup>1</sup> (%)	BH1925	1925 Lab Dup	RPD <sup>1</sup> (%)	BH1928	1928 Lab Dup	RPD <sup>1</sup> (%)	BH1939	BH9939	RPD <sup>1</sup> (%)
Sample Date		11-May-17			15-May-17			8-May-17			17-May-17			17-May-17		
1,1,1,2-tetrachloroethane	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,1,1-trichloroethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,1,2,2-tetrachloroethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
1,1,2-trichloroethane	0.00050	0.0021	0.0019	10	<0.00050	<0.00050	NC	0.0022	0.0021	4.7	0.0030	0.0030	0.0	0.0028	0.0028	0.0
1,1-dichloroethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,1-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,2,3-trichlorobenzene	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,2,4-trichlorobenzene	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,2,4-trimethylbenzene	0.00050	0.0016	0.0016	0.0	0.00059	0.00068	14	<0.00050	0.00054	NC	0.00075	0.00075	0.0	<0.00050	0.00059	NC
1,2-dibromoethane	0.00020	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC
1,2-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,2-dichloroethane	0.00050	0.087	0.088	1.1	<0.00050	<0.00050	NC	0.042	0.041	2.4	0.32	0.33	3.1	0.17	0.17	0.0
1,2-dichloropropane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,3,5-trichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,3,5-trimethylbenzene	0.00050	0.0058	0.0041	34	<0.00050	<0.00050	NC	0.0049	0.0049	0.0	<0.00050	<0.00050	NC	0.00069	0.00071	2.9
1,3-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,4-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromodichloromethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromoform	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromomethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
Carbon tetrachloride	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chlorodibromomethane	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
Chloroethane	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	0.0019	0.0018	5.4	0.0023	0.0023	0.0
Chloroform	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chloromethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	0.0034	0.0032	6.1	0.0033	0.0033	0.0	0.0026	0.0029	11
cis-1,2-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
cis-1,3-dichloropropene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Dichloromethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
Methyl methacrylate	0.00076	0.0045	0.0043	4.5	<0.00050	<0.00050	NC	0.0014	0.0012	15	<0.00050	<0.00050	NC	0.00065	0.00068	4.5
Methyl-tert-butylether (MTBE)	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Styrene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.0055	<0.0055	NC	<0.00050	<0.00050	NC
Tetrachloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Total Trihalomethanes	0.002	<0.0013	<0.0013	NC	<0.0013	N/A	NC	<0.0013	N/A	NC	<0.0013	N/A	NC	<0.0013	<0.0013	NC
trans-1,2-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
trans-1,3-dichloropropene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Trichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Trichlorofluoromethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Vinyl chloride	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	0.00055	0.00060	8.7	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC

**Notes:**<sup>1</sup> Relative percent difference.**Bold** RPD exceeds 80% for organic constituents.

NC Not calculated.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 9 - Summary of Groundwater Laboratory Analyses  
QA/QC - Field Duplicate - VOCs**

Sample ID	Reportable Detection Limits <sup>1</sup>	BH1946	1946 Lab Dup	RPD <sup>1</sup> (%)	BH1967	BH9967	RPD <sup>1</sup> (%)	BH1971	BH9971	RPD <sup>1</sup> (%)	BH1972	1972 Lab Dup	RPD <sup>1</sup> (%)
Sample Date		24-May-17			16-May-17			10-May-17			16-May-17		
1,1,1,2-tetrachloroethane	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,1,1-trichloroethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,1,2,2-tetrachloroethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
1,1,2-trichloroethane	0.00050	<0.00050	<0.00050	NC	0.017	0.017	0.0	<0.015	<0.015	NC	<0.00050	<0.00050	NC
1,1-dichloroethane	0.00050	<0.00050	<0.00050	NC	0.0015	0.0019	24	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,1-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,2,3-trichlorobenzene	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,2,4-trichlorobenzene	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,2,4-trimethylbenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	0.00052	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,2-dibromoethane	0.00020	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC
1,2-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,2-dichloroethane	0.00050	<0.00050	<0.00050	NC	0.041	0.040	2.5	0.11	0.11	0.0	<0.00050	<0.00050	NC
1,2-dichloropropane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,3,5-trichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,3,5-trimethylbenzene	0.00050	<0.00050	<0.00050	NC	0.0055	0.0067	20	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,3-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,4-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromodichloromethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromoform	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromomethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
Carbon tetrachloride	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chlorodibromomethane	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
Chloroethane	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
Chloroform	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chloromethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
cis-1,2-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
cis-1,3-dichloropropene	0.00050	<0.00050	<0.00050	NC	<0.00050	0.00058	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Dichloromethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
Methyl methacrylate	0.00076	<0.00050	<0.00050	NC	<0.00050	<0.0030	NC	<0.0030	<0.0030	NC	<0.00050	<0.00050	NC
Methyl-tert-butylether (MTBE)	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Styrene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Tetrachloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Total Trihalomethanes	0.0020	<0.0013	N/A	NC	<0.0013	<0.0013	NC	<0.0013	<0.0013	NC	<0.0013	N/A	NC
trans-1,2-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
trans-1,3-dichloropropene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Trichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Trichlorofluoromethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Vinyl chloride	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC

**Notes:**

<sup>1</sup> Relative percent difference.

**Bold** RPD exceeds 80% for organic constituents.

NC Not calculated.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 9 - Summary of Groundwater Laboratory Analyses  
QA/QC - Field Duplicate - VOCs**

Sample ID	Reportable Detection Limits <sup>1</sup>	BH1982	BH9982	RPD <sup>1</sup> (%)	BH1982	1982 Lab Dup	RPD <sup>1</sup> (%)	BH510A	BH9510A	RPD <sup>1</sup> (%)	EX1	EX91	RPD <sup>1</sup> (%)
Sample Date		17-May-17			17-May-17			8-May-17			5-May-17		
1,1,1,2-tetrachloroethane	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,1,1-trichloroethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,1,2,2-tetrachloroethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
1,1,2-trichloroethane	0.00050	0.0026	0.0025	3.9	0.0026	0.0024	8.0	0.0045	0.0035	25	<0.00050	<0.00050	NC
1,1-dichloroethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	0.0011	0.0010	9.5	<0.00050	<0.00050	NC
1,1-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,2,3-trichlorobenzene	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,2,4-trichlorobenzene	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,2,4-trimethylbenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	0.056	0.060	6.9	0.0018	0.0018	0.0
1,2-dibromoethane	0.00020	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC	<0.00020	<0.00020	NC
1,2-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,2-dichloroethane	0.00050	0.13	0.12	8.0	0.13	0.12	8.0	0.056	0.054	3.6	0.0025	0.0021	17
1,2-dichloropropane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,3,5-trichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,3,5-trimethylbenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	0.019	0.017	11.1	0.00057	0.00056	1.8
1,3-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,4-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromodichloromethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromoform	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromomethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
Carbon tetrachloride	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chlorodibromomethane	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
Chloroethane	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
Chloroform	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chloromethane	0.0020	0.0038	0.0041	7.6	0.0038	0.0038	0.0	0.0066	0.0068	3.0	<0.0020	<0.0020	NC
cis-1,2-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
cis-1,3-dichloropropene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Dichloromethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
Methyl methacrylate	0.00076	<0.00050	0.00059	NC	<0.00050	<0.00050	NC	0.0026	<0.00050	NC	<0.00050	<0.00050	NC
Methyl-tert-butylether (MTBE)	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Styrene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Tetrachloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Total Trihalomethanes	0.0020	<0.0013	<0.0013	NC	<0.0013	N/A	NC	<0.0013	<0.0013	NC	<0.0013	<0.0013	NC
trans-1,2-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
trans-1,3-dichloropropene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Trichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Trichlorofluoromethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Vinyl chloride	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	0.00075	0.00070	6.9	<0.00050	<0.00050	NC

**Notes:**

<sup>1</sup> Relative percent difference.

**Bold** RPD exceeds 80% for organic constituents.

NC Not calculated.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 9 - Summary of Groundwater Laboratory Analyses  
QA/QC - Field Duplicate - VOCs**

Sample ID	Reportable Detection Limits <sup>1</sup>	EX1	EX1 Lab Dup	RPD <sup>1</sup> (%)	EX5	EX95	RPD <sup>1</sup> (%)	Trip Blank #1	Trip Blank #1 Lab Dup	RPD <sup>1</sup> (%)
Sample Date		5-May-17			8-May-17			4-May-17		
1,1,1,2-tetrachloroethane	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,1,1-trichloroethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,1,2,2-tetrachloroethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
1,1,2-trichloroethane	0.00050	<0.00050	<0.00050	NC	0.049	0.060	20	<0.00050	<0.00050	NC
1,1-dichloroethane	0.00050	<0.00050	<0.00050	NC	0.0026	0.0023	12	<0.00050	<0.00050	NC
1,1-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,2,3-trichlorobenzene	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,2,4-trichlorobenzene	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
1,2,4-trimethylbenzene	0.00050	0.0018	0.0018	0.0	0.40	0.41	2.5	<0.00050	<0.00050	NC
1,2-dibromoethane	0.00020	<0.00020	<0.00020	NC	<0.00020	0.00070	NC	<0.00020	<0.00020	NC
1,2-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,2-dichloroethane	0.00050	0.0025	0.0026	3.9	0.11	0.14	24	<0.00050	<0.00050	NC
1,2-dichloropropane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,3,5-trichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,3,5-trimethylbenzene	0.00050	0.00057	0.00059	3.4	0.20	0.19	5.1	<0.00050	<0.00050	NC
1,3-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
1,4-dichlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromodichloromethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromoform	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Bromomethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
Carbon tetrachloride	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chlorobenzene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chlorodibromomethane	0.0010	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC	<0.0010	<0.0010	NC
Chloroethane	0.0010	<0.0010	<0.0010	NC	0.0011	0.0012	8.7	<0.0010	<0.0010	NC
Chloroform	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Chloromethane	0.0020	<0.0020	<0.0020	NC	0.014	0.018	25	<0.0020	<0.0020	NC
cis-1,2-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
cis-1,3-dichloropropene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Dichloromethane	0.0020	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC	<0.0020	<0.0020	NC
Methyl methacrylate	0.00076	<0.00050	<0.00050	NC	0.015	0.013	14	<0.00050	<0.00050	NC
Methyl-tert-butylether (MTBE)	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Styrene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Tetrachloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Total Trihalomethanes	0.0020	<0.0013	N/A	NC	<0.0013	<0.0013	NC	<0.0013	N/A	NC
trans-1,2-dichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
trans-1,3-dichloropropene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Trichloroethene	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Trichlorofluoromethane	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC
Vinyl chloride	0.00050	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC	<0.00050	<0.00050	NC

**Notes:**

<sup>1</sup> Relative percent difference.

**RPD** RPD exceeds 80% for organic constituents.

NC Not calculated.

All results in mg/L unless otherwise noted.

Testing was conducted by Maxxam Analytics, Calgary, Alberta

**Table 10 - Summary of Mann-Kendall Plume Stability Analysis for Selected Monitoring Wells**

Sample ID	Parameter	Trend at 90% Confidence Limit			Fluctuating (no trend)	S-Statistic	CV	Number of Events	Number of Non- Detects	Maximum Concentration (mg/L)
		Declining	Stable	Expanding						
BH1928	Benzene		X			-3	0.23	10	1	4.93
BH1937			X			-2	0.67	10	1	0.042
BH1939		X				-22	0.15	10	0	7.4
BH1943				X		9	0.08	9	0	2.01
BH1954				X		4	0.73	8	1	0.0065
BH1982				X		13	0.32	10	0	6.6
BH1928	1,2-DCA			X		19	0.18	9	0	0.3
BH1937					X	23	0.34	10	0	0.015
BH1939				X		-2	0.13	10	0	0.21
BH1943				X		8	0.97	8	4	0.021
BH1954				X		9	0.32	7	3	0.002
BH1982				X		-32	0.38	10	0	0.18

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Appendix A

# Clifton Associates

## Appendix A

**Clifton Associates**



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