NW2776

REPORT

GROUNDWATER MONITORING SEPTEMBER 2016 BEAR CREEK VILLAGE SHOPPING CENTER

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Redmond, Washington

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1.0 INTRODUCTION

This report presents the results of groundwater monitoring conducted by Golder Associates Inc. (Golder) at the Bear Creek Village Shopping Center during the month of September 2016.

1.1 Site Description

The site is currently developed as a shopping center known as the Bear Creek Village Shopping Center, located at 17100 - 17262 Redmond Way, in Redmond, King County, Washington (site). Figure 1 depicts the location of the site on a United States Geological Survey (USGS) topographic map. The existing shopping center development was constructed in phases in approximately 1969, 1977, and 1985. Before the existing shopping center, the site was agricultural land with several houses, outbuildings, and a small warehouse complex along the northern side. The shopping center includes two core building complexes, one stand-alone multi-tenant retail-strip building, and three pad buildings (Taco Time, Jiffy Lube [previously Q-Lube], and O'Reilly Auto Parts [previously Schuck's]). Paved parking areas and limited landscaped areas comprise the remaining area. A dry cleaning establishment known as Bear Creek Cleaners formerly operated in the site. Bear Creek Cleaners was located at the southeastern portion of the site and is the focus of this groundwater monitoring program. A brief background on the history of Bear Creek Cleaners and the resulting remedial investigations is provided below in Section 2.0.

1.2 Purpose and Scope

The purpose of this groundwater monitoring was to determine groundwater quality with respect to the presence of halogenated volatile organic compounds (HVOCs) as a result of the former Bear Creek Cleaners operations, and to obtain groundwater elevation data to determine the groundwater flow direction.

The scope of work for this groundwater monitoring included the following:

- Collection of groundwater samples from six on-site groundwater-monitoring wells (MW-2, MW-3, MW-4, MW-9, MW-10A, and MW-13).
- Collection of other data from these wells including groundwater level readings, pH, conductivity, dissolved oxygen, turbidity, oxidation-reduction potential, and temperature.
- Quality control procedures, including the analysis of a duplicate sample (duplicate collected from MW-4, which was identified with the sample number MW-44), an equipment blank, and a trip blank.
- Analysis of the groundwater and quality control samples for the presence of HVOCs using United States Environmental Protection Agency (EPA) Method 8260C.

2.0 BACKGROUND

2.1 Previous Environmental Investigations

Previous environmental investigations concerning the dry cleaner facility included the following:

- Letter Report – Additional Soil and Groundwater Investigation – Bear Creek Cleaners, Dames & Moore, November 20, 1996.
- Summary Letter of Field Activities at the Bear Creek Cleaners and Q-Lube, Versar Inc., May 21, 1997.
- Memorandum – Preliminary Summary of Results, Delta Environmental Consultants, Inc., September 3, 1997.

2.2 Independent Remedial Actions

An independent remedial action related to the release of perchloroethylene (PCE) from the former Bear Creek Cleaners was conducted in the latter part of 1997 and the early part of 1998. The remedial action is discussed in the following report:

- Report – Voluntary Soil Cleanup – Former Bear Creek Cleaners – Bear Creek Village Shopping Center – Redmond, Washington, Dames & Moore, February 25, 1998.

Previous investigations conducted in 1996 and 1997 indicated the presence of HVOCs, primarily PCE, in soil and groundwater beneath and behind the dry cleaning establishment (Dames & Moore 1996; Versar Inc. 1997; Delta Environmental Consultants, Inc. 1997). Subsequent remedial action and investigation by Dames & Moore during the latter part of 1997 included the excavation of PCE-impacted soil from beneath and behind the dry cleaning establishment and the installation of 12 groundwater-monitoring wells (Dames & Moore 1998). The monitoring well locations were placed at various locations in the site for the following reasons:

- To determine the extent of HVOC-impacted groundwater around the dry cleaning establishment.
- To determine background groundwater quality to identify any HVOC-impacted groundwater coming from off-site sources or leaving the site.
- To assess the possible presence of petroleum hydrocarbons in groundwater near the Jiffy Lube facility.

Dames & Moore sampled groundwater from the monitoring wells on October 22, 1997 (Dames & Moore 1998). Analytical results for these samples (using EPA Method 8021B) indicated the presence of PCE and other HVOCs in groundwater along the eastern margin of the shopping center property. No petroleum hydrocarbons were detected in groundwater at the Jiffy Lube facility.

2.3 Groundwater Monitoring Frequency

Groundwater monitoring occurred at the site on a quarterly schedule from February 1999 through September 2005. ATC Associates Inc. (ATC) performed quarterly monitoring during the following periods:

- February, June, September, and December 1999
- March 2000

Two additional monitoring wells, MW-13 and MW-14, were installed by ATC in June 1999.

No sampling of groundwater was conducted during June 2000 due to changing consultants from ATC to Golder. Written notification of this change was submitted to the Washington State Department of Ecology (Ecology) in a letter dated September 7, 2000.

Golder resumed quarterly groundwater monitoring of MW-2, MW-3, MW-4, MW-9, MW-10A, and MW-13 (in addition to water level monitoring in MW-1, MW-5, MW-6, and MW-14) in September 2000 and has performed monitoring during the following periods:

- September and December 2000
- March, June, September, and December 2001
- March, June, September, and December 2002
- March, June, September, and December 2003
- March, June, September, and December 2004
- March, June, and September 2005

After the September 2005 sampling event, the sampling frequency was reduced from quarterly to semi-annually. On behalf of the property owner, Golder provided notice to Ecology regarding the change in sampling frequency (Golder 2005). The semi-annual sampling schedule has continued as follows:

- March and September 2006
- March and September 2007
- March and September 2008
- March and September 2009
- May and October 2010
- March and September 2011
- March and September 2012
- March and September 2013
- April and September 2014
- March and September 2015
- June and September 2016

The September 2016 analytical results are presented in Table 1. Historical analytical results for groundwater sampling conducted since 1999 are summarized in Table 2. A narrative of historical sampling activities was provided in previous monitoring reports.

3.0 GROUNDWATER SAMPLING

3.1 Groundwater Investigation Methods

On September 27, 2016, Golder sampled groundwater from five groundwater monitoring wells (MW-2, MW-4, MW-9, MW-10A, and MW-13). MW-3 was not sampled because it was dry. Figure 2 depicts the location of all pertinent on-site monitoring wells. Sampling conditions and data collected during the monitoring event were recorded on the Sample Integrity Data Sheets (SIDS) contained in Appendix A. The following methods and procedures were used in collecting the groundwater samples:

- Depth to groundwater was measured in all on-site wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-9, MW-10A, MW-13, and MW-14) prior to purging and sampling. Water levels were recorded on the SIDS. Table 3 presents depth to water measurements and elevations. Figure 3 depicts groundwater elevations and contours.
- Dedicated tubing is located in all groundwater-monitoring wells and is replaced as needed. New tubing was installed in all wells for the September 2016 event. After repositioning, each well was slowly purged of water at a rate of approximately 190 to 220 milliliters (mL) per minute using a peristaltic pump connected to the dedicated tubing.
- Field parameters of temperature, pH, conductivity, turbidity, dissolved oxygen, and oxidation-reduction potential were measured and recorded during purging at 5-minute intervals until parameters were stable. All field parameters were recorded on the SIDS (Appendix A).
- Upon completion of purging, groundwater samples were collected directly from the dedicated sample tubing into bottles.
- For quality control purposes, a duplicate sample and equipment blank were collected. The duplicate sample was collected from MW-4, which was identified with the sample label MW-44. The equipment blank was collected after sampling at MW-4.
- For each groundwater sample, three 40-mL vials of groundwater were collected and preserved with hydrochloric acid. The samples were placed into laboratory-provided containers, labeled, and placed in a cooler with ice.
- The collected samples were transported to OnSite Environmental Inc. in Redmond, Washington for analysis on the same day as sample collection, following chain-of-custody protocols.

All groundwater and quality control samples were analyzed for the presence of HVOCs using EPA Method 8260C. The results of the field duplicate (MW-44) performed at MW-4 and the equipment blank were within acceptable limits and no quality assurance/quality control concerns were indicated. Results for the duplicate are included in Table 2 as bracketed results associated with MW-4. Figure 4 depicts the detected HVOC concentrations for the sampled wells. Figures 5a through 9 depict the detected concentrations of HVOCs for each well over time.

3.2 Groundwater Flow Direction

For the September 2016 groundwater sampling event, static groundwater levels were measured in all on-site monitoring wells (including those that are not sampled for HVOCs) on September 27, 2016. The groundwater levels found that day (as well as during historical sampling) are summarized in Table 3.

Commonly, groundwater elevations are at their highest levels during the wetter winter/spring months and lower during the drier summer/fall months. This trend was true for the September 2016 sampling event. The groundwater levels measured that day were similar to previous years' September/October events.

The groundwater elevation contour map for September 27, 2016 is depicted in Figure 3. There is some variability in groundwater flow direction across the site, but the inferred groundwater flow direction is generally west or northwesterly, away from Bear Creek. The groundwater gradient measured on September 27, 2016 is generally consistent with all prior monitoring periods, except that MW-3 was dry. This suggests that Bear Creek loses water to the aquifer. A steep hydraulic gradient is inferred just to the east of the former dry cleaner facility as evidenced by the groundwater contours between MW-3 and MW-4. A similar inferred steep gradient was also present in this general area on all previous groundwater elevation contour maps. This feature is unexpected in shallow alluvial aquifers such as the type present below the site.

3.3 Groundwater Quality

The groundwater analytical data for PCE, trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride detected in this round of sampling are summarized in Table 1. Table 2 contains the historical sampling results. Appendix B contains a copy of the laboratory analytical data report. The HVOC concentrations detected during this round of sampling are depicted in Figure 4. Groundwater HVOC concentrations and elevations with respect to time for MW-2, MW-3, MW-4, MW-10/10A, and MW-13 are depicted in Figures 5a, 6, 7, 8a, and 9 for the last 18 years.

PCE or its degradation compounds were detected in four of the five monitoring wells sampled during this period. All four wells with PCE or degradation compound detections (TCE, cis-1,2-DCE, and vinyl chloride) were located on the eastern side of the former dry cleaner facility (MW-2, MW-4, MW-10A, and MW-13).

3.3.1 Perchloroethylene

PCE was detected in MW-2, MW-4, and MW-13 at concentrations of 1.6 micrograms per liter (µg/L), 0.42 µg/L, and 3.2 µg/L, respectively. The practical quantitation limit, or PQL, is 0.20 µg/L. PCE concentrations did not exceed the Model Toxics Control Act (MTCA) Method A Cleanup Level of 5.0 µg/L in any wells during the September 2016 sampling event. PCE has never been detected in MW-9. Figure 5b depicts the trend of PCE detections in MW-2 over time. The trendline indicates that PCE is decreasing in MW-2, albeit some seasonal variation in concentrations does occur. Concentrations of PCE in MW-2 have been less than the MTCA cleanup level for the past seven sampling events (since September 2012). Figure 10 depicts the PCE detections for all of the routinely sampled wells since 1999. This figure shows an overall decline of PCE concentrations over time across the site. The trend of MW-13 has remained constant since 2008.

3.3.2 Trichloroethene

TCE was detected at concentrations greater than or equal to the PQL (0.20 µg/L) in three of the five wells sampled (MW-2, MW-4, and MW-13) at concentrations of 0.47 µg/L, 1.1 µg/L, and 3.9 µg/L, respectively. TCE concentrations did not exceed the MTCA Method A Cleanup Level of 5.0 µg/L in any of the sampled wells. TCE has never been detected in MW-9. Figure 11 depicts the TCE detections for MW-2, MW-3, MW-4, MW-10A, and MW-13 since 1997. This figure shows an overall decline of TCE concentrations over time across the site. MW-13 has a slight increasing trend since 2011, however remains below cleanup level.

3.3.3 Cis-1,2-Dichloroethene

Cis-1,2-DCE was detected at concentrations greater than or equal to the PQL (0.20 µg/L) in four of the five sampled wells (MW-2, MW-4, MW-10A, and MW-13) at concentrations of 4.4, 5.5, 3.2, and 1.1 µg/L, respectively. The concentrations of cis-1,2-DCE detected during the September 2016 sampling event were less than the current MTCA Method B Cleanup Level of 16 µg/L in all wells. Cis-1,2-DCE has never been detected at a concentration exceeding the current or historical (80 µg/L) MTCA Method B Cleanup Level in effect in any of the wells. Cis-1,2-DCE was detected in MW-9 during the 2002 sampling periods, but not during previous or subsequent sampling periods.

3.3.4 Vinyl Chloride

Vinyl chloride was detected at concentrations greater than or equal to the PQL of 0.2 µg/L in one of the five sampled wells (MW-10A) at a concentration of 0.37 µg/L during the September 2016 sampling event. The concentration of vinyl chloride detected during the September 2016 sampling event was greater than the MTCA Method A Cleanup Level of 0.2 µg/L. Vinyl chloride has never been detected in MW-9. Figure 12 depicts the vinyl chloride detections for MW-2, MW-3, MW-4, MW-10A, and MW-13 since 1997. This figure shows an overall site-wide decline of vinyl chloride concentrations.

3.3.5 1,3-Dichlorobenzene

1,3-Dichlorobenzene was not detected in any of the groundwater samples, or equipment blank samples, collected during the September 2016 event. During the September 2007, March 2008, and more recently in the September 2011 event, 1,3-Dichlorobenzene was detected at concentrations greater than the PQL (0.20 µg/L) in groundwater samples. The detection of this compound during the 2007, 2008, and 2011 events is attributed to the degradation of the dedicated tubing located in the monitoring wells at that time. In all events, the concentrations of 1,3-Dichlorobenzene in the samples ranged from 0.24 to 0.32 µg/L. The dedicated tubing in all wells was replaced before the September 2008 and March 2012 events and as a result, 1,3-Dichlorobenzene was not detected in any of the groundwater samples or equipment blank samples in subsequent sampling events.

3.3.6 Seasonal Fluctuation

Figures 5a, 6, 7, 8a, and 8b depict the groundwater levels along with the detected HVOC concentrations for each well over time. These figures show that groundwater levels fluctuate seasonally and some of the HVOC detections appear to fluctuate as well. For example, detections of TCE and cis-1,2-DCE in MW-2 appear to be inversely proportional to the groundwater levels such that when the groundwater is at its lowest point (typically during the September sampling events) the TCE and cis-1,2-DCE concentrations are at their highest (Figure 5a). During high groundwater levels, the concentrations of TCE and cis-1,2-DCE appear to be low. This trend was also occurring in MW-4 for cis-1,2-DCE until the September 2007 sampling event when a potential increase in degradation of PCE seems to have occurred, as indicated by the drop in PCE accompanied by an increase in TCE and cis-1,2-DCE concentrations (Figure 7). The degradation rate seems to have leveled off around March 2011 and the seasonal fluctuations seen before have returned.

PCE concentrations appear to be directly proportional to the seasonal variations in groundwater levels such that when groundwater levels are high, the PCE concentrations are high, and when groundwater levels decrease, the PCE concentrations decrease as well. This seasonal fluctuation is most notable in wells MW-4 and MW-13 (Figures 7 and 9).

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Findings and Conclusions

The findings and conclusions of this Groundwater Monitoring Report are summarized as follows:

- During the September 2016 sampling event, only MW-10A had a detection of vinyl chloride exceeding the MTCA Method A Cleanup Level. The remaining wells had no detections of any of the constituents of concern (COCs) exceeding MTCA Method A Cleanup Levels.
- The current results indicate an overall decrease in PCE concentrations has occurred in MW-2, MW-4, MW-10A, and MW-13 since March 2007. PCE has not exceeded the MTCA cleanup level in any of the wells since 2012. PCE has not been detected in MW-10A since the March 2007 sampling event.
- A general leveling of HVOC concentrations in the wells, particularly MW-2 and MW-13, is indicated over the last five years of groundwater monitoring.

4.2 Recommendations

Based on the findings and conclusions of the September 2016 groundwater monitoring period, the following recommendations are made:

- The sampling program at the site will continue on the semi-annual sampling schedule (typically March and September) until two consecutive "clean" monitoring events are achieved in a row at which time the frequency will be increased to quarterly sampling to confirm that results are clean during all seasons of the year. Thus, the next routine semi-annual monitoring event should be scheduled for March 2017.
- The wells sampled during the next groundwater monitoring event should include MW-2, MW-3, MW-4, MW-9, MW-10A, and MW-13, for the following reasons:
  - Sampling of all six wells should continue in order to confirm trends in HVOC concentrations and to support the goal of four consecutive sampling periods with HVOC concentrations that are less than MTCA Method A Cleanup Levels.
  - Sampling of MW-9 should continue because it represents the nearest down-gradient well from the former dry cleaner facility.

5.0 CLOSING

Golder Associates Inc. is pleased to continue working on the Bear Creek Village Shopping Center project. If you have any questions regarding this report, please feel free to contact Eric Adams at (425) 883-0777.

GOLDER ASSOCIATES INC.

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6.0 REFERENCES

Dames & Moore. 1996. Additional Soil and Groundwater Investigation - Bear Creek Cleaners. November 20.

Dames & Moore. 1998. Voluntary Soil Cleanup – Former Bear Creek Cleaners – Bear Creek Village Shopping Center – Redmond, Washington. February 25.

Delta Environmental Consultants, Inc. 1997. Memorandum - Preliminary Summary of Results. September 3.

Golder Associates Inc. (Golder). 2005. Correspondence Re: Notice of Revised Groundwater Monitoring Schedule Bear Creek Village Shopping Center 17100-17262 Redmond Way, Redmond, Washington. Prepared for Ching-Pi Wang, Washington State Department of Ecology. November 29.

Versar Inc. 1997. Summary Letter of Field Activities at the Bear Creek Cleaners and Q-Lube. May 21.

TABLES

Table 1: September 2016 Groundwater Analytical Results

			Monitoring Well						
Analytes	**Cleanup Level**	**Units**	**MW-2**	**MW-3**	**MW-4**	**MW-9**	**MW-10A**	**MW-13**	**MW-44***
PCE	5.0 (A)	µg/L	1.6		0.42	ND	ND	3.2	0.37
TCE	5.0 (A)	µg/L	0.47		1.1	ND	ND	3.9	1.1
VC	0.2 (A)	µg/L	ND		ND	ND	***0.37***	ND	ND
cis-1,2-DCE	16 (B)[1]	µg/L	4.4		5.5	ND	3.2	1.1	5.5
1,3-DCB	---	µg/L	ND		ND	ND	ND	ND	ND
Groundwater Elevation		ft amsl	34.76	Dry	29.94	30.42	29.92	36.52	29.94

Notes:

cis-1,2-DCE = *cis*-1,2-Dichloroethene PCE = Perchloroethylene = Tetrachloroethylene 1,3-DCB = 1,3-Dichlorobenzene

TCE = Trichloroethene VC = Vinyl Chloride

ND = indicates sample was not detected above the laboratory analytical detection limit.

(A) = MTCA Method A Cleanup Level (Model Toxics Control Act Cleanup Regulation - Chapter 173-340 WAC).

(B) = MTCA Method B formula value (Model Toxics Control Act Cleanup Regulation - Chapter 173-340 WAC and Model Toxics Control Act Cleanup Levels and Risk Calculations - February 1996).

Analytical results in parentheses represent duplicate samples.

Bold Italic = indicates the analytical result exceeds the MTCA Method A or B Cleanup Level.

* Duplicate sample collected at MW-4.

Groundwater elevation determined using the surveyed elevation (NAVD 88 datum) of the top of each well casing. Elevations given in feet above mean sea level.

[1] Current (2014) MTCA Method B value. Historical value was 80 µg/L.

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Table 2: Historical Groundwater Analytical Results

Monitoring Well ID	Sampling Date	Volatile Organic Compounds (µg/L)			
		PCE	TCE	VC	*cis*-1,2-DCE
MW-2	10/22/1997	***36. 7***	2.23	ND	7.52
	2/19/1999	***270***	***6***	ND	6
	6/29/1999	ND	ND	ND	ND
	9/15/1999	***51***	ND	ND	ND
	12/14/1999	***150***	ND	ND	ND
	3/22/2000	***39***	ND	ND	ND
	9/27/2000	***41***	ND	ND	ND
	12/20/2000	***34***	ND	ND	ND
	3/29/2001	***82***	2.3	ND	3
	6/14/2001	***51***	1.7	ND	0.42
	9/12/2001	***36***	3.8	***0.22***	3.3
	12/18/2001	***50***	1.2	ND	0.33
	3/26/2002	***17 (18)***	0.46 (0.45)	ND	0.31 (0.37)
	6/10/2002	***21 (21)***	***8.6 (7.0)***	ND (ND)	2.6 (2.4)
	9/12/2002	4.4	ND	ND	ND
	12/9/2002	4.8	0.46	ND	0.33
	3/13/2003	***11***	1.2	ND	1.1
	6/17/2003	***11***	2.1	***0.47***	3
	9/9/2003	*	*	*	*
	12/9/2003	***30 (28)***	0.63 (0.68)	ND	ND
	3/10/2004	***17***	0.6	ND	ND
	6/9/2004	***5.2***	3.6	ND	2.3
	9/22/2004	***11***	***5.2***	ND	3.6
	12/13/2004	***19***	0.35	ND	ND
	3/23/2005	***10***	2.1	ND	1.5
	6/20/2005	***13***	0.74	ND	ND
	9/8/2005	4.5	***5.4***	ND	6.2
	3/6/2006	***16***	0.33	ND	ND
	9/21/2006	***6.1***	3.6	ND	3.6
	3/16/2007	***14***	0.47	ND	0.28
	9/13/2007	***8.8***	4.4	ND	4.5
	2/28/2008	***9.6***	0.22	ND	ND
	9/8/2008	***8.6 (8.1)***	1.9 (1.9)	ND	0.96 (1.0)
	3/24/2009	***11(11)***	0.38 (0.28)	ND	ND
	9/18/2009	***5.2***	4	ND	6.4
	5/18/2010	***6***	ND	ND	ND
	10/7/2010	***8.3***	1.3	ND	1.1
	3/23/2011	***7.9***	ND	ND	ND
	9/8/2011	***7.2***	1.5	ND	1.2
	3/23/2012	***7.0***	ND	ND	ND
	9/14/2012	***5.3***	0.74	ND	0.52
	3/28/2013	2.8	ND	ND	ND
	9/4/2013	4.4	0.70	ND	0.53
	4/4/2014	3.3	ND	ND	ND
	9/23/2014	2.9	0.73	ND	1.7
	3/17/2015	2.6	ND	ND	ND
	9/28/2015	1.2	0.54	ND	6.2
	6/15/2016	2.3	0.2	ND	ND
	9/27/2016	1.6	0.47	ND	4.4

Table 2: Historical Groundwater Analytical Results

Monitoring Well ID	Sampling Date	Volatile Organic Compounds (µg/L)			
		PCE	TCE	VC	*cis*-1,2-DCE
MW-3	10/22/1997	ND	ND	ND	1.09
	2/19/1999	***28***	***11***	***7***	18
	6/29/1999	***12***	***8***	***4***	8
	9/15/1999	ND	***10***	ND	10
	12/14/1999	***12***	***8***	***10***	14
	3/22/2000	***7***	***5***	ND	7
	9/27/2000	ND	ND	ND	12
	12/20/2000	2	ND	ND	8
	3/29/2001	3.8	4.5	***3.3***	8.5
	6/14/2001	3.8	4.6	***1.5***	4.1
	9/12/2001	ND	1.4	***0.79***	6.2
	12/18/2001	1.8	***5.7***	***0.98***	5.2
	3/26/2002	0.39	1.5	***0.9***	3.5
	6/10/2002	ND	0.95	***0.96***	3.3
	9/10/2002	0.23	1.3	***0.74***	4.3
	12/9/2002	ND	0.55	***0.74***	2.6
	3/13/2003	ND	0.5(0.50)	***0.45(0.45)***	2.7(2.7)
	6/17/2003	ND	0.22	***0.53***	3
	9/9/2003	ND	ND	***0.36***	2.7
	12/9/2003	ND	0.45	***0.33***	3.1
	3/11/2004	ND	0.48	***0.42***	1.8
	6/9/2004	ND	ND	***0.35***	1.9
	9/22/2004	ND	ND	***0.51***	2.0
	12/13/2004	ND	0.25	***0.31***	2.4
	3/23/2005	ND	ND	***0.28***	2.0
	6/20/2005	ND	ND	ND	1.2 (1.3)
	9/8/2005	ND	ND	***0.23***	1.1
	3/16/2007	ND	ND	ND	0.88
	9/13/2007	ND	ND	ND	0.62
	2/28/2008	ND	ND	***0.22***	0.88
	9/8/2008	ND	ND	ND	0.47
	3/24/2009	ND	ND	ND	0.56
	9/18/2009	ND	ND	ND	0.72 (0.73)
	5/18/2010	ND	ND	ND	0.48 (0.52)
	10/7/2010	ND	ND	ND	0.36
	3/23/2011	ND	ND	ND	0.41
	9/8/2011	ND	ND	ND	0.32
	3/23/2012	ND	ND	ND	0.53
	9/14/2012	ND	ND	ND	0.24
	3/28/2013	ND	ND	ND	0.35
	9/4/2013	ND	ND	ND	0.34
	4/4/2014	ND	ND	ND	0.38
	9/23/2014	ND	ND	ND	0.23
	3/17/2015	ND	ND	ND	0.41
	9/28/2015	ND	ND	ND	0.31
	6/15/2016	ND	ND	ND	0.27
	9/27/2016	*	*	*	*

Table 2: Historical Groundwater Analytical Results

Monitoring Well ID	Sampling Date	Volatile Organic Compounds (µg/L)			
		PCE	TCE	VC	*cis*-1,2-DCE
MW-4	10/22/1997	***11.8***	***5.99(0.50)***	***1.9***	6.84
	2/19/1999	***74***	***17***	***16***	26
	6/29/1999	***60***	***16***	***14***	14
	9/15/1999	***42***	***19***	***19***	16
	12/14/1999	***38***	***14***	***12***	12
	3/22/2000	***36***	***9***	ND	8
	9/27/2000	***16***	***12***	***8***	14
	12/20/2000	***16***	***8***	ND	8
	3/29/2001	***11***	***7.5***	***2.8***	5.1
	6/14/2001	***6.8***	***6.1***	***1***	2.1
	9/12/2001	***8.3***	***6.8***	***1.3***	5.7
	12/18/2001	***12***	***6.3***	***1.7***	3.4
	3/26/2002	***5.1***	2.4	ND	1.1
	6/10/2002	***5.7***	2.7	***0.57***	2
	9/12/2002	***5.4***	3.9	***0.66***	3.4
	12/9/2002	***5***	3	***1.6***	2.9
	3/13/2003	***6.3***	1.8	ND	0.71
	6/17/2003	2.7	2.6	***0.69***	4.4
	9/9/2003	3.5	2.8	***0.42***	3.2
	12/9/2003	***5.7***	2.5	***0.37***	2.9
	3/11/2004	4.1	1.8	***0.23***	2.0
	6/9/2004	1.8	2.2	***0.33***	2.4
	9/22/2004	1	1.4	***0.68***	2.1
	12/13/2004	3.8	1.3	ND	0.93
	3/23/2005	2.2	1.0	ND	1.5
	6/20/2005	0.74	0.93	***0.57***	2.1
	9/8/2005	0.64 (0.65)	0.88 (0.88)	ND (ND)	2.3 (2.3)
	3/6/2006	1.5 (1.4)	1.2 (1.3)	***0.36 (0.33)***	0.82 (0.85)
	9/21/2006	0.99 (0.85)	1.1 (1.1)	***0.22 (0.25)***	1.7 (2.1)
	3/16/2007	2.6 (2.7)	1.7 (1.7)	ND (ND)	1.2 (1.2)
	9/13/2007	0.68 (0.63)	0.65 (0.71)	ND (ND)	1.2 (1.3)
	2/28/2008	0.73 (0.72)	0.64 (0.61)	***0.2*** (ND)	1.1 (1.1)
	9/8/2008	0.23	2.2	ND	4.6
	3/24/2009	0.56	2.9	ND	4.8
	9/18/2009	ND	1.2	ND	8.8
	5/18/2010	0.27	1.6	ND	6.9
	10/7/2010	ND	0.52	ND	2.4
	3/23/2011	0.46	0.48	ND	0.66
	9/8/2011	0.23 (0.25)	0.52 (0.58)	ND (ND)	5.6 (5.1)
	3/23/2012	0.36 (0.34)	0.58 (0.57)	ND (ND)	0.48 (0.47)
	9/14/2012	ND (ND)	0.23 (0.29)	ND (ND)	5.4 (6.1)
	3/28/2013	ND (ND)	0.63 (0.62)	ND (ND)	3.4 (3.5)
	9/4/2013	ND (ND)	0.21 (0.21)	ND (ND)	6.8 (6.7)
	4/4/2014	0.31 (0.29)	0.37 (0.36)	ND (ND)	0.83 (0.85)
	9/23/2014	ND (ND)	ND (ND)	ND (ND)	3.8 (3.9)
	3/17/2015	ND (ND)	0.32 (0.34)	ND (ND)	5.1 (5.4)
	9/28/2015	ND (ND)	ND (ND)	ND (ND)	4.6 (4.6)
	6/15/2016	ND (ND)	ND (ND)	ND (ND)	6.0 (5.7)
	9/27/2016	0.42 (0.37)	1.1 (1.1)	ND (ND)	5.5 (5.5)

Table 2: Historical Groundwater Analytical Results

Monitoring Well ID	Sampling Date	Volatile Organic Compounds (µg/L)			
		PCE	TCE	VC	*cis* -1,2-DCE
MW-9	10/22/1997	ND	ND	ND	ND
	2/19/1999	ND	ND	ND	ND
	6/29/1999	ND	ND	ND	ND
	9/15/1999	ND	ND	ND	ND
	12/14/1999	ND	ND	ND	ND
	3/22/2000	ND	ND	ND	ND
	9/28/2000	ND	ND	ND	ND
	12/20/2000	ND	ND	ND	ND
	3/28/2001	ND	ND	ND	ND
	6/14/2001	ND	ND	ND	ND
	9/12/2001	ND	ND	ND	ND
	12/18/2001	ND	ND	ND	ND
	3/26/2002	ND	ND	***0.21***	0.44
	6/10/2002	ND	ND	ND	0.21
	9/10/2002	ND	ND	ND	0.46
	12/9/2002	ND	ND	ND	0.26
	3/13/2003	ND	ND	ND	ND
	6/18/2003	ND	ND	ND	ND
	9/9/2003	ND	ND	ND	ND
	12/9/2003	ND	ND	ND	ND
	3/10/2004	ND	ND	ND	ND
	6/9/2004	ND	ND	ND	ND
	9/22/2004	ND	ND	ND	ND
	12/13/2004	ND	ND	ND	ND
	3/23/2005	ND	ND	ND	ND
	6/20/2005	ND	ND	ND	ND
	9/8/2005	ND	ND	ND	ND
	3/6/2006	ND	ND	ND	ND
	9/21/2006	ND	ND	ND	ND
	3/16/2007	ND	ND	ND	ND
	9/13/2007	ND	ND	ND	ND
	2/28/2008	ND	ND	ND	ND
	9/8/2008	ND	ND	ND	ND
	3/24/2009	ND	ND	ND	ND
	9/18/2009	ND	ND	ND	ND
	5/18/2010	ND	ND	ND	ND
	10/7/2010	ND	ND	ND	ND
	3/23/2011	ND	ND	ND	ND
	9/8/2011	ND	ND	ND	ND
	3/23/2012	ND	ND	ND	ND
	9/14/2012	ND	ND	ND	ND
	3/28/2013	ND	ND	ND	ND
	9/4/2013	ND	ND	ND	ND
	4/4/2014	ND	ND	ND	ND
	9/23/2014	ND	ND	ND	ND
	3/17/2015	ND	ND	ND	ND
	9/28/2015	ND	ND	ND	ND
	6/15/2016	ND	ND	ND	ND
	9/27/2016	ND	ND	ND	ND

Table 2: Historical Groundwater Analytical Results

Monitoring Well ID	Sampling Date	Volatile Organic Compounds (µg/L)			
		PCE	TCE	VC	*cis*-1,2-DCE
MW-10	10/22/1997	ND	ND	***1.39***	2.53
	2/19/1999	***67***	***14***	ND	22
	6/29/1999	***30***	***14***	ND	11
	9/15/1999	***7***	***8***	ND	7
	12/14/1999	***15***	***14***	ND	21
	3/22/2000	***17***	***9***	ND	11
	9/28/2000	3	***5***	ND	5
	12/20/2000	4	ND	ND	6
	3/28/2001	4.2 (4.6)	***6.6 (6.2)***	***2.1 (2.2)***	11 (10)
	6/14/2001	4.4	***6***	***0.97***	4.6
	9/12/2001	1.1	4.4	***1.2***	3.6
	12/18/2001	1.8	***5.7***	***0.98***	5.2
	3/26/2002	1.1	***5.1***	***0.76***	5.1
	6/10/2002	0.28	4.8	***0.95***	4.5
	9/10/2002	1.3	2	ND	2.4
	12/9/2002	ND	2.5	***0.61***	4.9
	3/13/2003	ND	2.2	***0.22***	3.1
	6/18/2003	ND	1.6	***0.38***	5.7
	9/9/2003	ND	0.84	***0.33***	1.9
	12/9/2003	0.31	3.6	***0.59***	7.5
	3/11/2004	ND	2.8	***0.53***	5.7
	6/9/2004	ND	0.64	***1.3***	4.4
	9/22/2004	ND	0.94	***1.1***	3.2
	12/13/2004	ND	0.81	***0.51***	4.8
	3/23/2005	ND	0.62	***0.62***	4.1
	6/20/2005	0.5	1.5	***0.25***	3.9
MW-10A	3/16/2007	1.1	1.1	***0.28***	7.10
	9/13/2007	ND	1.5	ND	9.1
	2/28/2008	ND	0.82	***0.33***	14
	9/8/2008	ND	0.21	***0.34***	8.7
	3/24/2009	ND	ND	***0.24***	6.5
	9/18/2009	ND	ND	***0.27***	5
	5/18/2010	ND	ND	***0.52***	5.2
	10/7/2010	ND	ND	***0.26 (0.21)***	6.4 (6.3)
	3/23/2011	ND	ND	ND (ND)	6.8 (6.8)
	9/8/2011	ND	ND	**0.43**	4.1
	3/23/2012	ND	ND	**0.21**	4.5
	9/14/2012	ND	ND	ND	4.1
	3/28/2013	ND	ND	ND	4.7
	9/4/2013	ND	ND	**0.54**	5.9
	4/4/2014	ND	ND	ND	4.2
	9/23/2014	ND	ND	***0.39***	5.5
	3/17/2015	ND	ND	***0.65***	5.9
	9/28/2015	ND	ND	***0.41***	3.7
	6/15/2016	ND	ND	***0.91***	5.8
	9/27/2016	ND	ND	***0.37***	3.2

Table 2: Historical Groundwater Analytical Results

Monitoring Well ID	Sampling Date	Volatile Organic Compounds (µg/L)			
		PCE	TCE	VC	*cis*-1,2-DCE
MW-13	6/29/1999	***54***	***42***	ND	45
	9/15/1999	***38***	***35***	ND	41
	12/14/1999	***53***	***48***	ND	67
	3/22/2000	***58***	***40***	ND	28
	9/27/2000	***27***	***19***	ND	16
	12/20/2000	***24***	***13***	ND	9
	3/28/2001	***19***	***18***	***0.78***	15
	6/14/2001	***24***	***17***	***0.49***	6
	9/12/2001	***20***	***12***	ND	4.5
	12/18/2001	***26***	***27***	***0.44***	14
	3/26/2002	***24***	***21***	ND	12
	6/11/2002	***22***	***14***	ND	6.5
	9/12/2002	***14 (12)***	***11 (9.2)***	***ND (0.24)***	5.8 (4.6)
	12/9/2002	***10 (10)***	***6.5 (6.6)***	***0.30 (0.29)***	2.8 (2.7)
	3/13/2003	***12***	***9.3***	***0.27***	3.8
	6/18/2003	***10***	***6.8***	ND	4.3
	9/9/2003	***10***	***6.7***	ND	1.9
	12/9/2003	***12***	***7.2***	ND	2.7
	3/10/2004	***16 (15)***	***7.7 (7.4)***	ND	2.2 (2.2)
	6/9/2004	***7.9***	***5.9***	ND	2.3
	9/22/2004	***11(11)***	***7.7 (7.8)***	ND (ND)	2.7 (2.7)
	12/13/2004	***9.7***	***5.9***	ND	2.3
	3/23/2005	***8.0***	***5.1***	ND	1.7
	6/20/2005	4.9	3.1	ND	1.0
	9/8/2005	***5.0***	3.9	ND	1.5
	3/6/2006	***8.2***	3.5	ND	0.78
	9/21/2006	4.2	2.8	ND	0.67
	3/16/2007	***6.8***	3.1	ND	0.81
	9/13/2007	3.1	2.2	ND	0.59
	2/28/2008	***5.7***	1.4	ND	0.35
	9/8/2008	1.8	2.4	ND	0.57
	3/24/2009	4.3	1.4	ND	0.47
	9/18/2009	2	2.2	ND	0.66
	5/18/2010	4	1.4	ND	0.37
	10/7/2010	1.9	2.5	ND	0.66
	3/23/2011	4.8	1	ND	ND
	9/8/2011	1.5	2.2	ND	0.47
	3/23/2012	4.5	2.1	ND	0.55
	9/14/2012	1.5	2	ND	0.51
	3/28/2013	4.1	2.7	ND	0.87
	9/4/2013	3.1	3.4	ND	1.4
	4/4/2014	4.4	2.2	ND	0.54
	9/23/2014	3.7	3.8	ND	1.1
	3/17/2015	3.5	2.9	ND	1.2
	9/28/2015	4.3	3.6	ND	1.1
	6/15/2016	3	3.4	ND	0.74
	9/27/2016	3.2	3.9	ND	1.1

Table 2: Historical Groundwater Analytical Results

Monitoring Well ID	Sampling Date	Volatile Organic Compounds (µg/L)			
		PCE	TCE	VC	*cis*-1,2-DCE
MW-1	10/22/1997	ND	ND	***7.7***	25.2
	2/19/1999	ND	ND	ND	ND
	6/29/1999	ND	ND	ND	ND
	9/15/1999	ND	ND	ND	ND
	12/14/1999	ND	ND	ND	ND
	3/22/2000	ND	ND	ND	ND
MW-5	10/22/1997	1.58	2.55	ND	ND
	2/19/1999	ND	ND	ND	ND
	6/29/1999	ND	ND	ND	ND
	9/15/1999	ND	ND	ND	ND
	12/14/1999	ND	ND	ND	ND
	3/22/2000	ND	ND	ND	ND
MW-6	10/22/1997	ND	ND	ND	ND
	2/19/1999	ND	ND	ND	ND
MW-7	10/22/1997	ND	ND	ND	ND
	2/18/1999	ND	ND	ND	ND
MW-8	10/22/1997	ND	ND	ND	ND
	2/18/1999	ND	ND	ND	ND
MW-11	10/22/1997	ND	ND	ND	ND
	2/18/1999	ND	ND	ND	ND
MW-12	10/22/1997	ND	ND	ND	ND
	2/19/1999	ND	ND	ND	ND
MW-14	6/29/1999	ND	ND	ND	ND
	9/15/1999	ND	ND	ND	ND
	12/14/1999	ND	ND	ND	ND
	3/22/2000	ND	ND	ND	ND
	9/27/2000	ND	ND	ND	ND
	12/20/2000	ND	ND	ND	ND
	3/28/2001	ND	ND	ND	ND
	6/14/2001	ND	ND	ND	ND
	9/12/2001	ND	ND	ND	ND
MTCA Cleanup Levels		***5.0 A***	***5.0 A***	***0.2 A***	***16 B*** [1]

Notes:
Analytical results in parentheses represent duplicate samples.
Bold Italic = indicates the analytical result exceeds the MTCA Method A or B Cleanup Level.
ND = indicates sample was not detected above the laboratory analytical detection limit.
A = MTCA Method A Cleanup Level (Model Toxics Control Act Cleanup Regulation - Chapter 173-340 WAC).
B = MTCA Method B formula value (Model Toxics Control Act Cleanup Regulation - Chapter 173-340 WAC and Model Toxics Control Act Cleanup Levels and Risk Calculations - February 1996).
[1] Current (2014) MTCA Method B value. Historical value was 80 µg/L.
* Groundwater elevation resided beneath the well screen. Sample could not be collected.
cis-1,2-DCE = *cis*-1,2-Dichloroethene PCE = Perchloroethylene = Tetrachloroethylene
TCE = Trichloroethene VC = Vinyl Chloride

Table 3: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation
MW-1	10 - 20	43.70	10/22/1997	12.41	31.29
			1/14/1998	10.06	33.64
			2/18/1999	8.86	34.84
			6/29/1999	12.35	31.35
			9/15/1999	13.45	30.25
			12/14/1999	9.01	34.69
			3/22/2000	10.14	33.56
			9/27/2000	13.59	30.11
			12/20/2000	12.60	31.10
			3/29/2001	12.30	31.40
			6/13/2001	12.06	31.64
			9/12/2001	13.43	30.27
			12/17/2001	6.63	37.07
			3/26/2002	9.82	33.88
			6/10/2002	11.85	31.85
			9/10/2002	13.33	30.37
			12/9/2002	13.80	29.90
			3/12/2003	11.22	32.48
			6/17/2003	12.41	31.29
			9/9/2003	14.02	29.68
			12/9/2003	9.59	34.11
			3/10/2004	10.21	33.49
			6/9/2004	12.85	30.85
			9/22/2004	12.91	30.79
			12/13/2004	11.17	32.53
			3/23/2005	12.55	31.15
			6/20/2005	10.95	32.75
			9/8/2005	13.49	30.21
			3/6/2006	9.89	33.81
			9/21/2006	12.55	31.15
			3/16/2007	9.77	33.93
			9/13/2007	13.26	30.44
	New Elevation***	43.69	2/28/2008	9.68	34.01
			9/8/2008	NC	NC
			3/24/2009	9.91	33.78
			9/18/2009	12.91	30.78
			5/18/2010	10.01	33.68
			10/7/2010	12.58	31.11
			3/23/2011	9.01	34.68
			9/8/2011	13.03	30.66
			3/23/2012	8.27	35.42
	New Elevation****	47.39	7/9/2012	---	---
			9/14/2012	Dry	Dry
			3/28/2013	10.34	37.05
			9/4/2013	14.15	33.24
			4/4/2014	9.27	38.12
			9/23/2014	12.44	34.95
			3/17/2015	9.52	37.87
			9/28/2015	Dry	Dry
			6/15/2016	11.33	36.06
			9/27/2016	Dry	Dry

Table 3: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation
MW-2	10 - 20	44.95	10/22/1997	16.70	28.25
			1/14/1998	11.51	33.44
			2/18/1999	7.43	37.52
			6/29/1999	12.97	31.98
			9/15/1999	15.46	29.49
			12/14/1999	7.77	37.18
			3/22/2000	7.77	37.18
			9/27/2000	16.41	28.54
			12/20/2000	11.83	33.12
			3/28/2001	9.67	35.28
			6/13/2001	9.85	35.10
			9/12/2001	17.30	27.65
			12/17/2001	6.42	38.53
			3/26/2002	7.72	37.23
			6/10/2002	10.05	34.90
			9/10/2002	7.11	37.84
			12/9/2002	15.10	29.85
			3/12/2003	9.40	35.55
			6/17/2003	14.94	30.01
			9/9/2003	below screen	below screen
			12/9/2003	8.96	35.99
			3/10/2004	10.42	34.53
			6/9/2004	12.32	32.63
			9/22/2004	12.25	32.70
			12/13/2004	9.45	35.50
			3/23/2005	10.21	34.74
			6/20/2005	9.71	35.24
			9/8/2005	13.20	31.75
			3/6/2006	8.06	36.89
			9/21/2006	12.07	32.88
			3/16/2007	8.00	36.95
			9/13/2007	12.58	32.37
	New Elevation***	45.01	2/28/2008	8.69	36.32
			9/8/2008	10.8	34.21
			3/24/2009	8.85	36.16
			9/18/2009	13.15	31.86
			5/18/2010	9.1	35.91
			10/7/2010	11.17	33.84
			3/23/2011	7.55	37.46
			9/8/2011	11.57	33.44
			3/23/2012	6.97	38.04
	New Elevation****	48.59	7/9/2012	---	---
			9/14/2012	11.8	36.79
			3/28/2013	8.01	40.58
			9/4/2013	11.41	37.18
			4/4/2014	7.54	41.05
			9/23/2014	12.25	36.34
			3/17/2015	7.84	40.75
			9/28/2015	13.56	35.03
			6/15/2016	10.18	38.41
			9/27/2016	13.83	34.76

Table 3: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation
MW-3	10 - 20	45.27	10/22/1997	17.11	28.16
			1/14/1998	14.26	31.01
			2/18/1999	12.43	32.84
			6/29/1999	17.36	27.91
			9/15/1999	18.70	26.57
			12/14/1999	12.72	32.55
			3/22/2000	14.22	31.05
			9/27/2000	18.72	26.55
			12/20/2000	17.13	28.14
			3/28/2001	16.81	28.46
			6/13/2001	16.82	28.45
			9/12/2001	18.40	26.87
			12/17/2001	10.67	34.60
			3/26/2002	13.52	31.75
			6/10/2002	16.53	28.74
			9/10/2002	18.35	26.92
			12/9/2002	18.12	27.15
			3/12/2003	15.50	29.77
			6/17/2003	17.09	28.18
			9/9/2003	19.30	25.97
			12/9/2003	13.70	31.57
			3/10/2004	14.02	31.25
			6/9/2004	17.46	27.81
			9/22/2004	17.68	27.59
			12/13/2004	16.31	28.96
			3/23/2005	15.04	30.23
			6/20/2005	16.11	29.16
			9/8/2005	18.48	26.79
			3/16/2007	13.15	32.12
			9/13/2007	17.93	27.34
			2/28/2008	12.45	32.82
			9/8/2008	15.15	30.12
			3/24/2009	13.99	31.28
			9/18/2009	17.73	27.54
			5/18/2010	13.96	31.31
			10/7/2010	16.73	28.54
			3/23/2011	10.34	34.93
			9/8/2011	17.47	27.80
			3/23/2012	9.03	36.24
	New Elevation****	48.91	7/9/2012	---	---
			9/14/2012	18.41	30.5
			3/28/2013	10.47	38.44
			9/4/2013	17.46	31.45
			4/4/2014	9.34	39.57
			9/23/2014	15.47	33.44
			3/17/2015	8.54	40.37
			9/28/2015	17.56	31.35
			6/15/2016	12.52	36.39
			9/27/2016	Dry	Dry

Table 3: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation
MW-4	10 - 20	44.44	10/22/1997	16.18	28.26
	silted up to 18-19'		1/14/1998	13.13	31.31
			2/18/1999	11.85	32.59
			6/29/1999	15.44	29.00
			9/15/1999	17.76	26.68
			12/14/1999	9.46	34.98
			3/22/2000	10.50	33.94
			12/9/2002	15.97	28.47
			12/20/2000	12.66	31.78
			3/28/2001	9.64	34.80
			6/13/01/	9.68	34.76
			9/12/2001	15.32	29.12
			12/17/2001	8.42	36.02
			3/26/2002	8.60	35.84
			6/10/2002	10.24	34.20
			9/10/2002	14.40	30.04
			12/9/2002	15.50	28.94
			3/12/2003	9.00	35.44
			6/17/2003	10.53	33.91
			9/9/2003	13.2	31.24
			12/9/2003	9.56	34.88
			3/10/2004	8.46	35.98
			6/9/2004	11.97	32.47
			9/22/2004	12.83	31.61
			12/13/2004	9.86	34.58
			3/23/2005	16.36	28.08
			6/20/2005	10.03	34.41
			9/8/2005	13.53	30.91
			3/6/2006	8.10	36.34
			9/21/2006	14.81	29.63
			3/16/2007	10.45	33.99
			9/13/2007	14.45	29.99
	New Elevation***	44.32	2/28/2008	10.74	33.58
			9/8/2008	14.70	29.62
			3/24/2009	12.80	31.52
			9/18/2009	16.56	27.76
			5/18/2010	14.00	30.32
			10/7/2010	15.48	28.84
			3/23/2011	10.43	33.89
			9/8/2011	16.62	27.70
			3/23/2012	9.02	35.30
	New Elevation****	47.96	7/9/2012	---	---
			9/14/2012	17.36	30.6
			3/28/2013	12.08	35.88
			9/4/2013	17.19	30.77
			4/4/2014	11.70	36.26
			9/23/2014	16.66	31.30
			3/17/2015	12.37	35.59
			9/28/2015	17.37	30.59
			6/15/2016	16.47	31.49
			9/27/2016	18.02	29.94

Table 3: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation
MW-5	10 - 20	44.87	10/22/1997	14.42	30.02
			1/14/1998	NA**	NA**
			2/18/1999	7.69	37.18
			6/29/1999	10.10	34.77
			9/15/1999	11.12	33.75
			12/14/1999	8.06	36.81
			3/22/2000	8.25	36.62
			9/27/2000	11.58	33.29
			12/20/2000	9.84	35.03
			3/29/2001	9.51	35.36
			6/13/2001	9.32	35.55
			9/12/2001	10.63	34.24
			12/17/2001	6.60	38.27
			3/26/2002	7.21	37.66
			6/10/2002	9.65	35.22
			9/10/2002	9.30	35.57
			12/9/2002	9.66	35.21
			3/12/2003	8.38	36.49
			6/17/2003	9.97	34.9
			9/9/2003	11.64	33.23
			12/9/2003	8.66	36.21
			3/10/2004	7.91	36.96
			6/9/2004	11.36	33.51
			9/22/2004	10.15	34.72
			12/13/2004	8.91	35.96
			3/23/2005	10.04	34.83
			6/20/2005	9.00	35.87
			9/8/2005	10.83	34.04
			3/6/2006	7.77	37.10
			9/21/2006	10.61	34.26
			3/16/2007	7.15	37.72
			9/13/2007	10.44	34.43
	New Elevation***	44.92	2/28/2008	8.82	36.10
			9/8/2008	9.79	35.13
			3/24/2009	8.71	36.21
			9/18/2009	10.97	33.95
			5/18/2010	9.02	35.90
			10/7/2010	9.98	34.94
			3/23/2011	6.86	38.06
			9/8/2011	10.42	34.50
			3/23/2012	6.35	38.57
	New Elevation****	48.52	7/9/2012	---	---
			9/14/2012	10.69	37.83
			3/28/2013	7.93	40.59
			9/4/2013	10.43	38.09
			4/4/2014	8.09	40.43
			9/23/2014	10.13	38.39
			3/17/2015	6.37	42.15[1]
			9/28/2015	10.52	38.00
			6/15/2016	9.73	38.79
			9/27/2016	11.13	37.39

Table 3: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation
MW-6	10 - 20	45.22	10/22/1997	11.01	33.43
			1/14/1998	9.63	35.59
			2/18/1999	8.43	36.79
			6/29/1999	10.70	34.52
			9/15/1999	11.86	33.36
			12/14/1999	8.69	36.53
			3/22/2000	8.80	36.42
			9/27/2000	11.24	33.98
			12/20/2000	10.45	34.77
			3/28/2001	10.19	35.03
			6/13/2001	9.83	35.39
			9/12/2001	10.69	34.53
			12/17/2001	7.61	37.61
			3/26/2002	8.01	37.21
			6/10/2002	9.62	35.60
			12/9/2002	10.30	34.92
			3/12/2003	9.40	35.82
			6/17/2003	10.03	35.19
			9/9/2003	13.11	32.11
			12/9/2003	9.05	36.17
			3/10/2004	8.79	36.43
			6/9/2004	11.40	33.82
			9/22/2004	10.21	35.01
			12/13/2004	9.71	35.51
			3/23/2005	9.84	35.38
			6/20/2005	8.44	36.78
			9/8/2005	10.55	34.67
			3/6/2006	8.00	37.22
			9/21/2006	10.06	35.16
			3/16/2007	8.48	36.74
			9/13/2007	10.17	35.05
	New Elevation***	45.27	2/28/2008	9.13	36.14
			9/8/2008	9.50	35.77
			3/24/2009	9.09	36.18
			9/18/2009	10.76	34.51
			5/18/2010	9.30	35.97
			10/7/2010	9.62	35.65
			3/23/2011	7.84	37.43
			9/8/2011	10.18	35.09
			3/23/2012	7.52	37.75
	New Elevation****	48.84	7/9/2012	---	---
			9/14/2012	10.51	38.33
			3/28/2013	8.20	40.64
			9/4/2013	9.81	39.03
			4/4/2014	7.90	40.94
			9/23/2014	9.30	39.54
			3/17/2015	7.95	40.89
			9/28/2015	10.54	38.30
			6/15/2016	9.58	39.26
			9/27/2016	10.96	37.88

Table 3: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation
MW-7	10 - 20	44.01	10/22/1997	18.59	25.85
			1/14/1998	15.79	28.22
			2/18/1999	14.27	29.74
			6/29/1999	18.89	25.12
			9/15/1999	19.91	24.10
			12/14/1999	14.19	29.82
			3/22/2000	16.16	27.85
			9/27/2000	19.75	24.26
			12/20/2000	18.44	25.57
			3/28/2001	18.36	25.65
			6/13/2001	18.36	25.65
			9/12/2001	19.43	24.58
			12/17/2001	12.65	31.36
			3/26/2002	15.81	28.20
			6/10/2002	18.21	25.80
			9/10/2002	19.79	24.22
			12/9/2002	19.52	24.49
			3/12/2003	17.02	26.99
			6/17/2003	18.44	25.57
			9/9/2003	19.88	24.13
			9/16/2003	abandoned	abandoned
MW-8	10 - 20	46.23	10/22/1997	20.79	23.65
			1/14/1998	17.95	28.28
			2/18/1999	16.51	29.72
			6/29/1999	21.11	25.12
			9/15/1999	22.17	24.06
			12/14/1999	16.43	29.80
			3/22/2000	18.34	27.89
			9/27/2000	22.02	24.21
			12/20/2000	20.66	25.57
			3/28/2001	20.52	25.71
			6/13/2001	20.54	25.69
			9/12/2001	21.63	24.60
			12/17/2001	14.86	31.37
			3/26/2002	18.00	28.23
			6/10/2002	20.38	25.85
			9/10/2002	22.00	24.23
			12/9/2002	21.74	24.49
			3/12/2003	19.22	27.01
			6/17/2003	20.60	25.63
			9/9/2003	22.09	24.14
			9/16/2003	abandoned	abandoned

Table 3: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation
MW-9	10 - 20	44.83	10/22/1997	16.15	28.29
			1/14/1998	13.23	31.60
			2/18/1999	10.51	34.32
			6/29/1999	15.60	29.23
			9/15/1999	17.67	27.16
			12/14/1999	11.02	33.81
			3/22/2000	11.89	32.94
			9/27/2000	17.01	27.82
			12/20/2000	15.58	29.25
			3/28/2001	15.02	29.81
			6/13/2001	14.84	29.99
			9/12/2001	16.88	27.95
			12/17/2001	8.74	36.09
			3/26/2002	11.42	33.44
			6/10/1992	14.64	30.19
			9/10/2002	16.23	28.60
			12/9/2002	16.78	28.05
			3/12/2003	13.65	31.18
			6/17/2003	15.34	29.49
			9/9/2003	18.15	26.68
			12/9/2003	12.59	32.44
			3/10/2004	12.68	32.15
			6/9/2004	15.76	29.07
			9/22/2004	15.94	28.89
			12/13/2004	14.04	30.79
			3/23/2005	14.08	30.75
			6/20/2005	14.51	30.32
			9/8/2005	17.33	27.5
			3/6/2006	11.65	33.18
			9/21/2006	16.15	28.68
			3/16/2007	12.07	32.76
			9/13/2007	16.94	27.89
			2/28/2008	12.57	32.26
			9/8/2008	15.32	29.51
			3/24/2009	14.18	30.65
			9/18/2009	16.79	28.04
			5/18/2010	13.68	31.15
			10/7/2010	15.73	29.1
		*Well box replaced.	3/23/2011	10.47	34.36
	These water levels were corrected using the 7/9/12 survey data.		9/8/2011	16.63	31.81
			3/23/2012	10.10	38.3
	New Elevation****	48.44	7/9/2012	---	---
			9/14/2012	16.09	32.35
			3/28/2013	12.34	36.1
			9/4/2013	16.29	32.15
			4/4/2014	11.25	37.19
			9/23/2014	15.66	32.78
			3/17/2015	11.61	36.83
			9/28/2015	16.77	31.67
			6/15/2016	15.12	33.32
			9/27/2016	18.02	30.42

Table 3: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation
MW-10	10 - 20	44.84	10/22/1997	16.61	27.83
			1/14/1998	13.86	30.98
			2/18/1999	12.11	32.73
			6/29/1999	16.91	27.93
			9/15/1999	18.22	26.62
			12/14/1999	12.37	32.47
			3/22/2000	13.87	30.97
			9/27/2000	18.24	26.60
			12/20/2000	16.63	28.21
			3/28/2001	16.40	28.44
			6/13/2001	16.43	28.41
			9/12/2001	17.92	26.92
			12/17/2001	9.92	34.92
			3/26/2002	12.32	35.52
			6/10/2002	16.14	28.70
			9/10/2002	12.84	32.00
			12/9/2002	18.08	26.76
			3/12/2003	15.12	29.72
			6/17/2003	16.67	28.17
			9/9/2003	18.80	26.04
			12/9/2003	13.56	31.28
			3/10/2004	13.75	31.09
			6/9/2004	17.04	27.80
			9/22/2004	17.22	27.62
			12/13/2004	14.97	29.87
			3/23/2005	16.21	28.63
			6/20/2005	15.88	28.96
			8/31/2005	abandoned	abandoned
MW-10A	15 - 20	44.74	3/16/2007	13.80	30.94
			9/13/2007	17.67	27.07
			2/28/2008	13.80	30.94
			9/8/2008	15.93	28.81
			3/24/2009	15.26	29.48
			9/18/2009	17.19	27.55
			5/18/2010	14.89	29.85
			10/7/2010	16.72	28.02
			3/23/2011	12.83	31.91
			9/8/2011	17.64	27.10
			3/23/2012	12.03	32.71
	New Elevation****	48.37	7/9/2012	---	---
			9/14/2012	17.52	30.85
			3/28/2013	14.20	34.17
			9/4/2013	17.39	30.98
			4/4/2014	13.40	34.97
			9/23/2014	17.26	31.11
			3/17/2015	14.27	34.10
			9/28/2015	17.91	30.46
			6/15/2016	16.95	31.42
			9/27/2016	18.45	29.92

Table 3: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation
MW-11	10 - 25	47.18	10/22/1997	21.91	22.53
			1/14/1998	19.05	28.13
			2/18/1999	17.51	29.67
			6/29/1999	22.24	24.94
			9/15/1999	23.31	23.87
			12/14/1999	17.44	29.74
			3/22/2000	19.42	27.76
			9/27/2000	23.13	24.05
			12/20/2000	21.75	25.43
			3/28/2001	21.64	25.54
			6/13/2001	21.85	25.33
			9/12/2001	22.73	24.45
			12/17/2001	15.94	31.24
			3/26/2002	19.10	28.08
			6/10/2002	21.50	25.68
			9/10/2002	23.13	24.05
			12/9/2002	22.84	24.34
			3/12/2003	20.28	26.90
			6/17/2003	21.78	25.40
			9/9/2003	23.20	23.98
			9/16/2003	abandoned	abandoned
MW-12	10 - 25	44.03	10/22/1997	17.41	27.03
			1/14/1998	14.16	29.87
			2/18/1999	12.95	31.08
			6/29/1999	17.65	26.38
			9/15/1999	18.81	25.22
			12/14/1999	12.84	31.19
			3/22/2000	14.68	29.35
			9/27/2000	18.78	25.25
			12/20/2000	17.30	26.73
			3/28/2001	17.25	26.78
			6/13/2001	17.25	26.78
			9/12/2001	18.49	25.54
			12/17/2001	11.11	32.92
			3/26/2002	14.46	29.57
			6/10/2002	17.05	26.98
			9/10/2002	18.78	25.25
			12/9/2002	18.62	25.41
			3/12/2003	15.94	28.09
			6/17/2003	17.39	26.64
			9/9/2003	19.06	24.97
			9/16/2003	abandoned	abandoned

Table 3: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation
MW-13	10 - 20	43.86	6/29/1999	11.27	32.59
			9/15/1999	12.50	31.36
			12/14/1999	6.86	37.00
			3/22/2000	7.47	36.39
			9/27/2000	12.26	31.60
			12/20/2000	12.02	31.84
			3/28/2001	9.86	34.00
			6/13/2001	10.71	33.15
			9/12/2001	12.00	31.86
			12/17/2001	5.49	38.37
			3/26/2002	7.12	36.74
			6/10/2002	9.84	34.02
			9/10/2002	9.59	34.27
			12/9/2002	10.10	33.76
			3/12/2003	9.61	34.25
			6/17/2003	10.66	33.20
			9/9/2003	12.62	31.24
			3/10/2004	7.61	36.25
			6/9/2004	10.99	32.87
			9/22/2004	11.85	32.01
			12/13/2004	12.47	31.39
			3/23/2005	9.57	34.29
			6/20/2005	9.90	33.96
			9/8/2005	11.78	32.08
			3/6/2006	7.27	36.59
			9/21/2006	11.78	32.08
			3/16/2007	7.45	36.41
			9/13/2007	11.76	32.10
	New Elevation***	43.89	2/28/2008	7.80	36.09
			9/8/2008	10.74	33.15
			3/24/2009	8.41	35.48
			9/18/2009	11.93	31.96
			5/18/2010	8.6	35.29
			10/7/2010	11.52	32.37
			3/23/2011	7.02	36.87
			9/8/2011	11.52	32.37
			3/23/2012	6.70	37.19
	New Elevation****	47.47	7/9/2012	---	---
			9/14/2012	11.28	36.19
			3/28/2013	7.74	39.73
			9/4/2013	10.34	37.13
			4/4/2014	7.45	40.02
			9/23/2014	10.96	36.51
			3/17/2015	7.01	40.46
			9/28/2015	10.62	36.85
			6/15/2016	9.31	38.16
			9/27/2016	10.95	36.52

Table 3: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation
MW-14	10 - 20	45.90	6/29/1999	17.02	28.88
			9/15/1999	18.39	27.51
			12/14/1999	12.33	33.5 7
			3/22/2000	13.77	32.13
			9/27/2000	18.45	27.45
			12/20/2000	17.00	28.90
			3/28/2001	16.56	29.34
			6/13/2001	16.58	29.32
			9/12/2001	18.12	27.78
			12/17/2001	9.94	35.96
			3/26/2002	13.40	32.50
			6/10/2002	16.22	29.68
			9/10/2002	18.95	26.95
			12/9/2002	18.19	27.71
			3/12/2003	15.22	30.68
			6/17/2003	16.79	29.11
			9/9/2003	18.98	26.92
			3/10/2004	13.81	32.09
			6/9/2004	17.20	28.70
			9/22/2004	17.41	28.49
			12/13/2004	15.36	30.54
			3/23/2005	16.36	29.54
			6/20/2005	16.06	29.84
			9/8/2005	18.25	27.65
			3/6/2006	13.01	32.89
			9/21/2006	17.04	28.86
			3/16/2007	13.64	32.26
			9/13/2007	17.96	27.94
	New Elevation***	45.89	2/28/2008	12.75	33.14
			9/8/2008	16.19	29.70
			3/24/2009	11.37	34.52
			9/18/2009	>12.41†	---
			5/18/2010	11.49	34.40
			10/7/2010	>12.41†	---
			3/23/2011	10.17	35.72
			9/8/2011	>12.41†	---
			3/23/2012	9.67	36.22
	New Elevation****	49.5	7/9/2012	---	---
			9/14/2012	Dry	Dry
			3/28/2013	Dry	Dry
			5/2/2013	12.05	37.45
			9/4/2013	16.21	33.29
			4/4/2014	10.58	38.92
			9/23/2014	16.96	32.54
			3/17/2015	11.61	37.89
			9/28/2015	Dry	Dry
			6/15/2016	16.70	32.80
			9/27/2016	Dry	Dry

Notes:

* These elevations are of the top of the PVC well casing measured in feet above mean sea level (MSL).

** MW-5 was not accessible for the 1/14/98 measurement.

***Wells re-surveyed November 2007 and reported in NGVD29 datum.

****Wells re-surveyed in July 2013 and reported in NAVD88 datum.

1 Anomalous groundwater elevation reading. Value was not used in contouring.

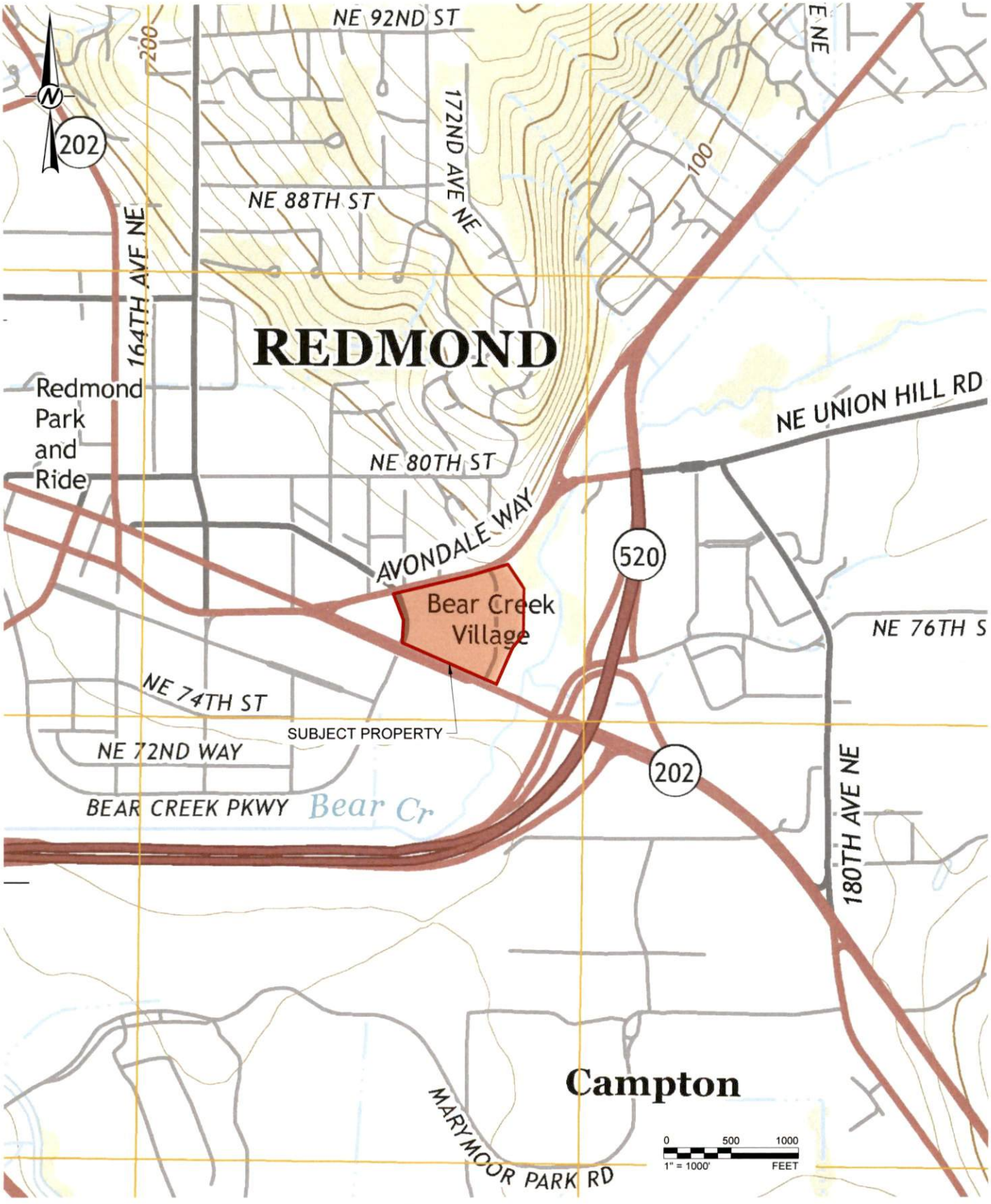
† No water was observed in the well. Bottom of the well was tagged at 12.41 feet below TOC on 9/18/2009. Well was jet-routed on 11/13/2012 and bottom of well tagged at 18.41 feet below TOC.

TOC = top of PVC well casing.

NC = Not Collected due to damaged well monument.

bgs = below ground surface.

FIGURES



CLIENT
TMT BEAR CREEK SHOPPING CENTER, INC.

CONSULTANT
Golder Associates

YYYY-MM-DD	2016-11-07
DESIGNED	
PREPARED	REDMOND
REVIEWED	EA
APPROVED	EA

PROJECT
BEAR CREEK GROUNDWATER MONITORING - SEPTEMBER 2016
BEAR CREEK SHOPPING CENTER
REDMOND, WA

TITLE
SITE LOCATION MAP

PROJECT NO.	PHASE	REV.	FIGURE
152539316	200	A	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

1 in

0

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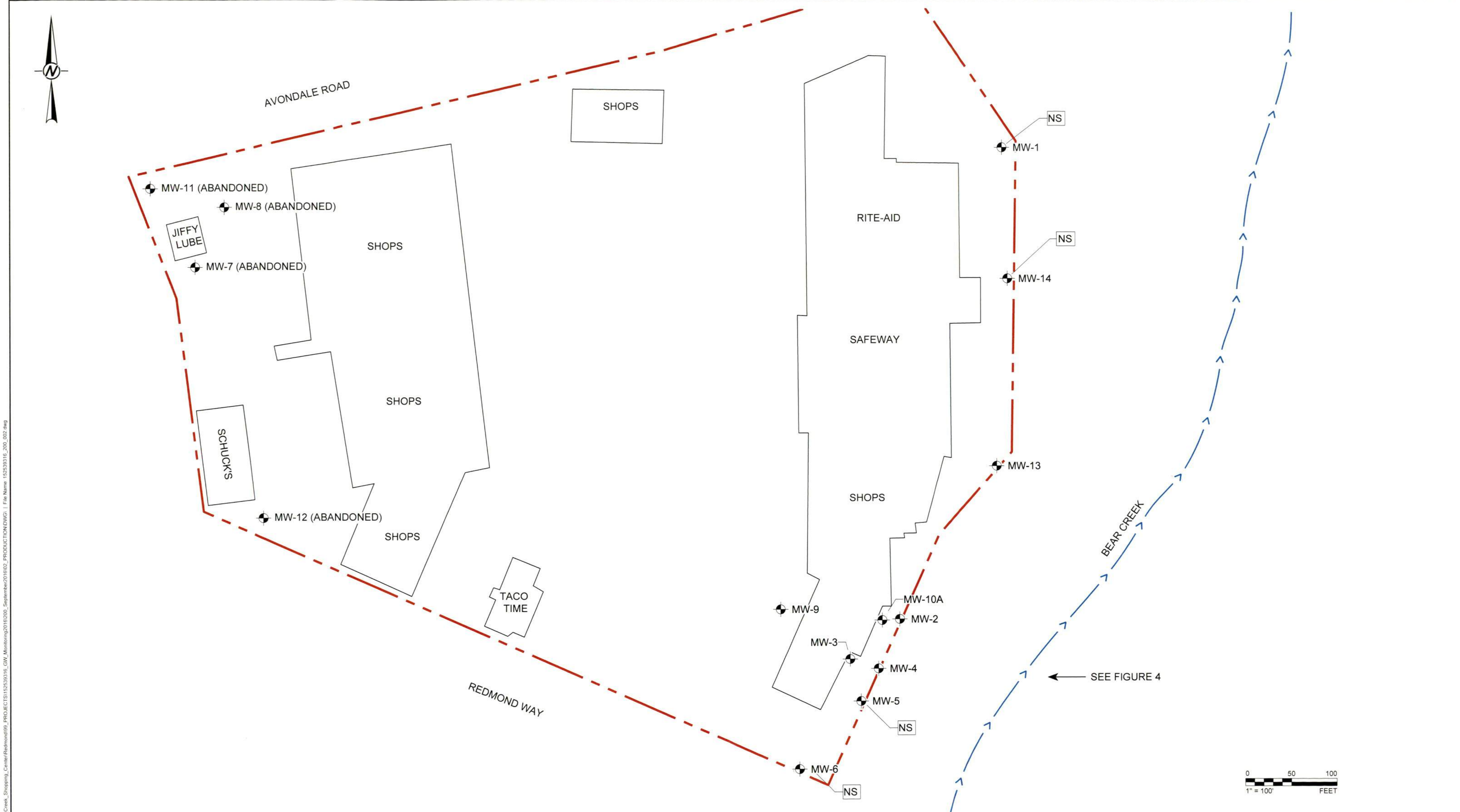


LEGEND

PROPERTY BOUNDARY

MW-12 EXISTING MONITORING WELL

NS NOT SAMPLED

CLIENT
TMT BEAR CREEK SHOPPING CENTER, INC.

PROJECT
BEAR CREEK GROUNDWATER MONITORING - SEPTEMBER 2016
BEAR CREEK SHOPPING CENTER
REDMOND, WA

CONSULTANT

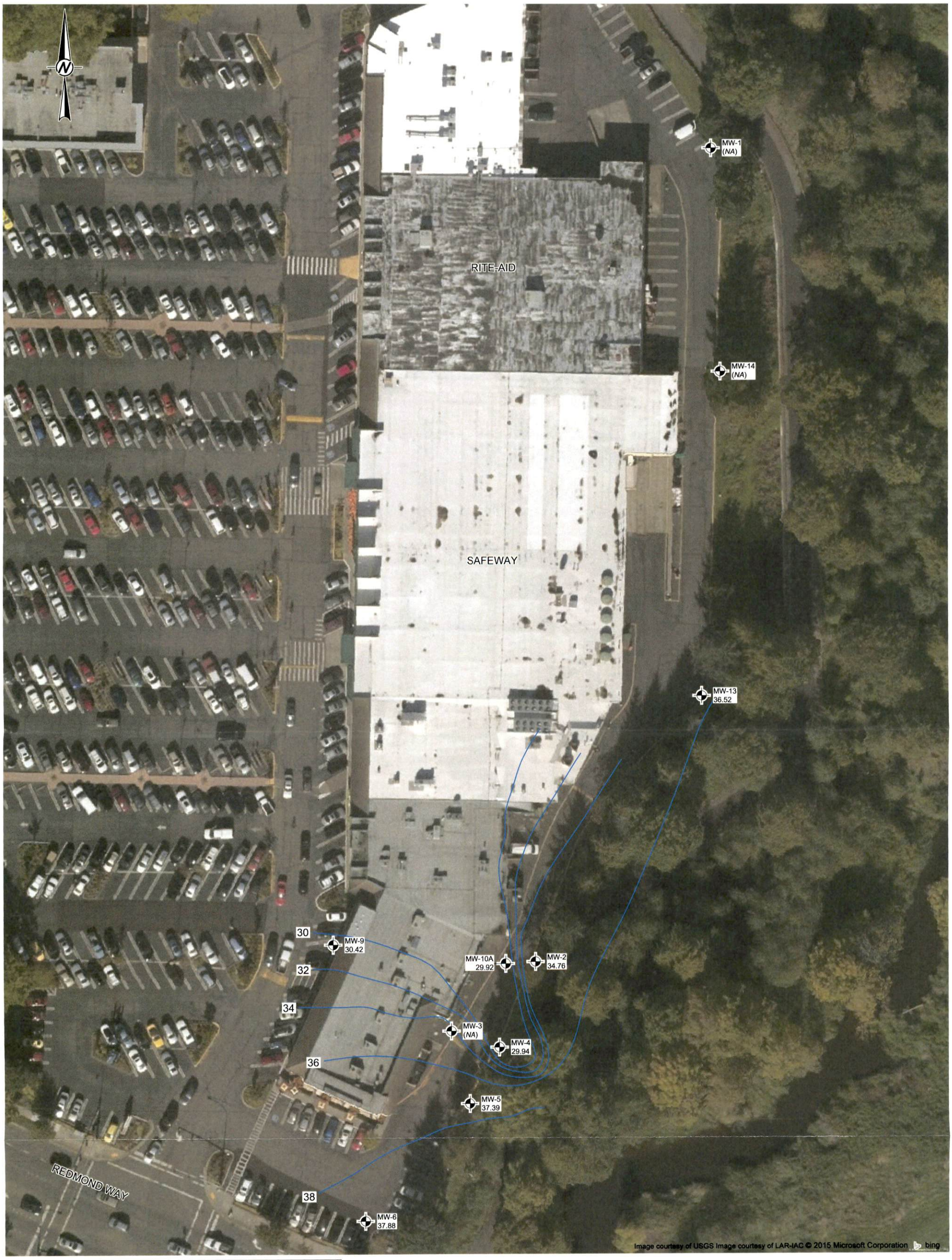
Golder Associates

YYYY-MM-DD	2016-11-07
DESIGNED	
PREPARED	REDMOND
REVIEWED	EA
APPROVED	EA

TITLE
GROUNDWATER MONITORING WELL LOCATIONS

PROJECT NO.	PHASE	REV.	FIGURE
152539316	200	A	2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

MW-2 34.76	MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION, FEET ABOVE MSL.
37	APPROXIMATE GROUNDWATER CONTOUR WITH ELEVATION, FEET ABOVE MSL, SEPTMEBER 28, 2015. DASHED WHERE APPROPRIATE.
(NA)	WATER ELEVATION COULD NOT BE MEASURED BECAUSE WELL WAS DRY.

0 30 60
1" = 60' FEET

CLIENT
TMT BEAR CREEK SHOPPING CENTER, INC.

CONSULTANT
Golder Associates

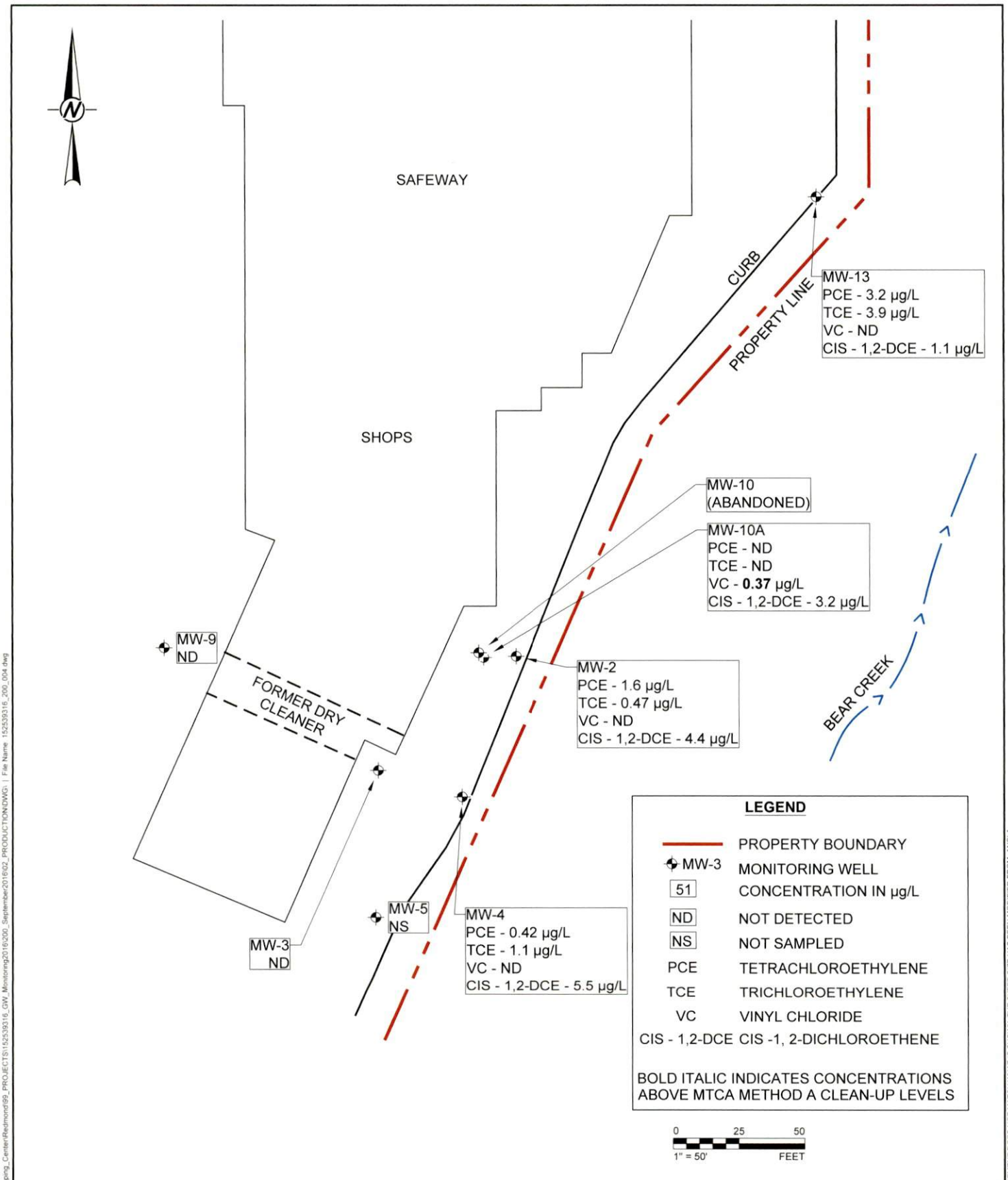
YYYY-MM-DD	2016-11-07
DESIGNED	
PREPARED	REDMOND
REVIEWED	EA
APPROVED	EA

PROJECT
BEAR CREEK GROUNDWATER MONITORING - SEPTEMBER 2016
BEAR CREEK SHOPPING CENTER
REDMOND, WA

TITLE
GROUNDWATER ELEVATIONS

PROJECT NO.	PHASE	REV.	FIGURE
152539316	200	A	3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
1 in
0



CLIENT
TMT BEAR CREEK SHOPPING CENTER, INC.

CONSULTANT
Golder Associates

YYYY-MM-DD	2016-11-07
DESIGNED	
PREPARED	REDMOND
REVIEWED	EA
APPROVED	EA

PROJECT
BEAR CREEK GROUNDWATER MONITORING - SEPTEMBER 2016
BEAR CREEK SHOPPING CENTER
REDMOND, WA

TITLE
GROUNDWATER CONCENTRATIONS - SOUTHEAST AREA

PROJECT NO.	PHASE	REV.	FIGURE
152539316	200	A	4

Path: \\redmond\geomat$\geomatics\TMT_Bear_Creek_Shopping_Center\Redmond\99_PROJECTS\152539316_GW_Monitoring\2016\200_September2016\02_PRODUCTION\DWG\ | File Name: 152539316_200_004.dwg

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A
1 in
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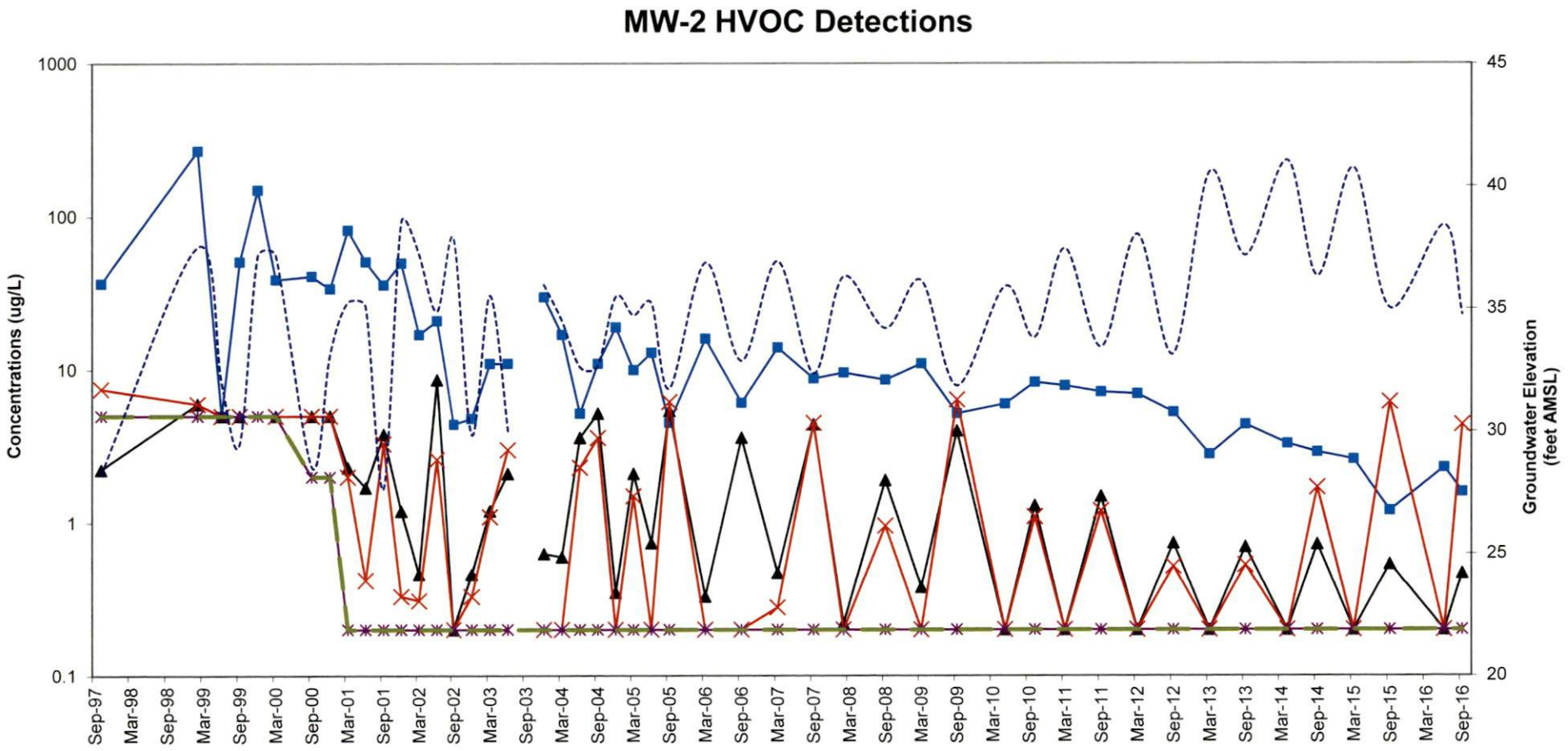


Legend

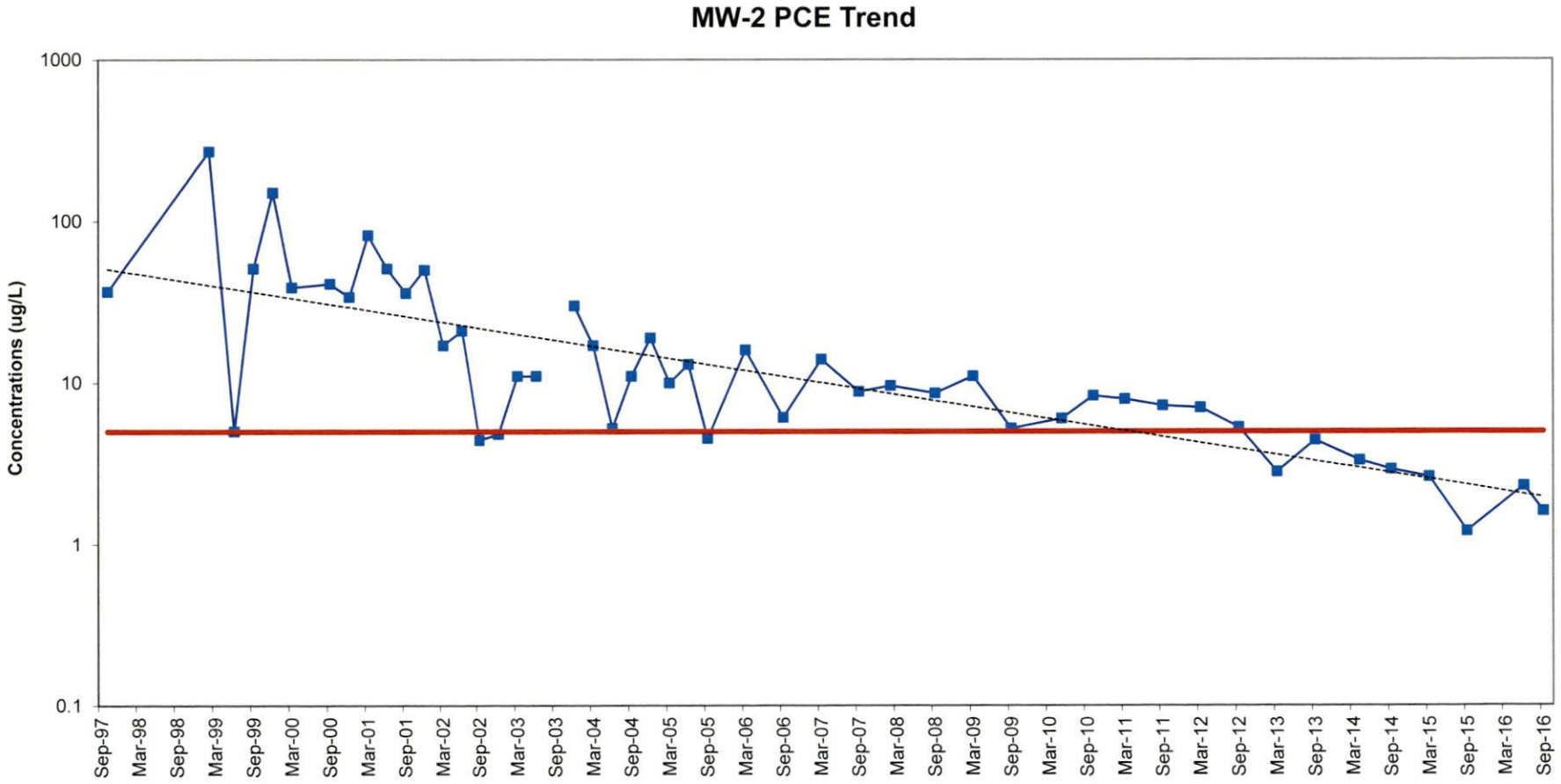
- Concentration of PCE
- Concentration of TCE
- Concentration of cis-1,2-DCE
- Concentration of Vinyl Chloride
- Laboratory Detection Limit
- Groundwater Elevation

Note: Use of different analytical methods causes variability in Laboratory Detection Limits.
On 9/9/2003 the water level was below the screen, so no sample was collected.

Figure 5a MW-2 HVOC Detections Over Time
September 2016 Groundwater Monitoring Event

Bear Creek Village Shopping Center
Redmond, Washington

Golder Associates



Legend

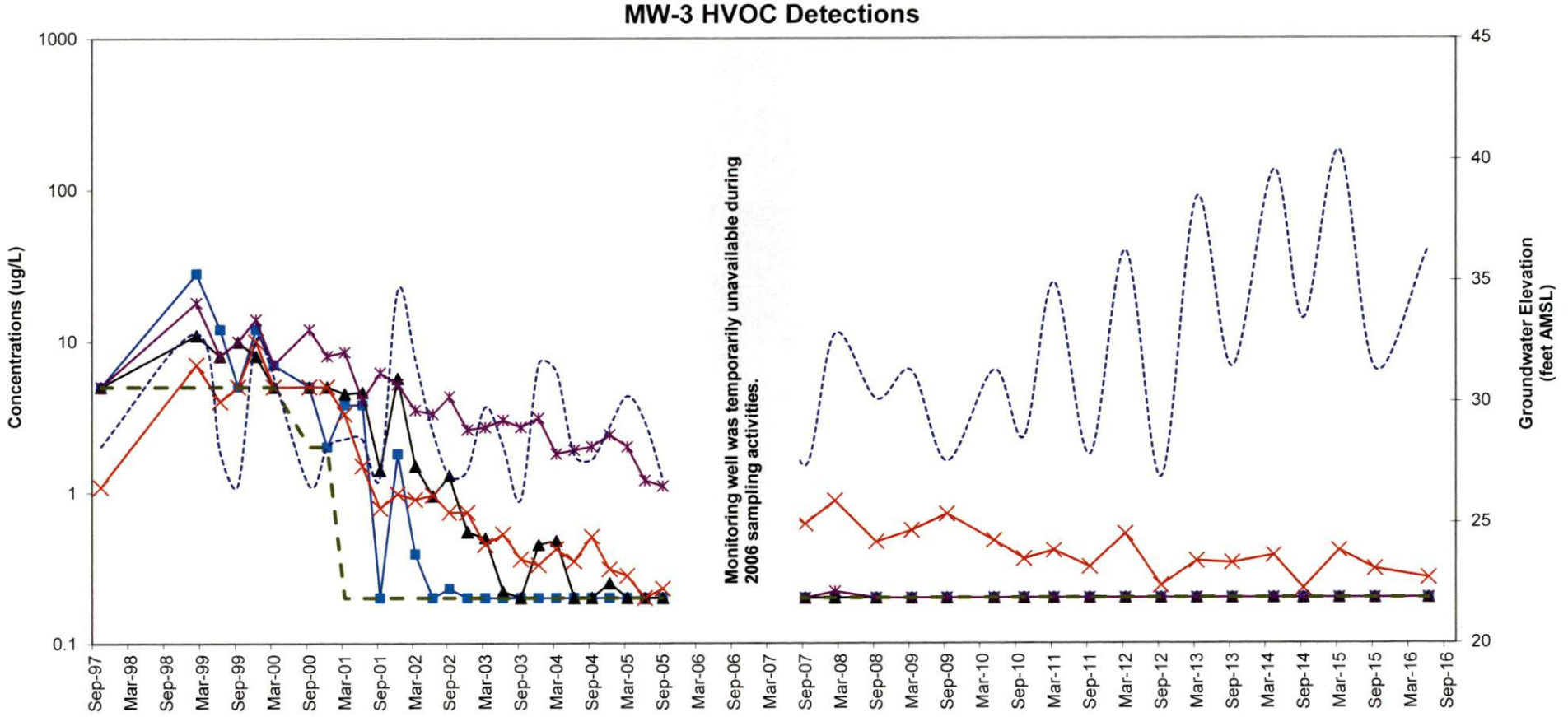
Concentration of PCE — Cleanup Level (5 ug/L) ---------- PCE Trendline

Note: Use of different analytical methods causes variability in Laboratory Detection Limits.
On 9/9/2003 the water level was below the screen, so no sample was collected.

Figure 5b MW-2 PCE Trend Over Time
September 2016 Groundwater Monitoring Event

Bear Creek Village Shopping Center
Redmond, Washington

Golder Associates



Legend

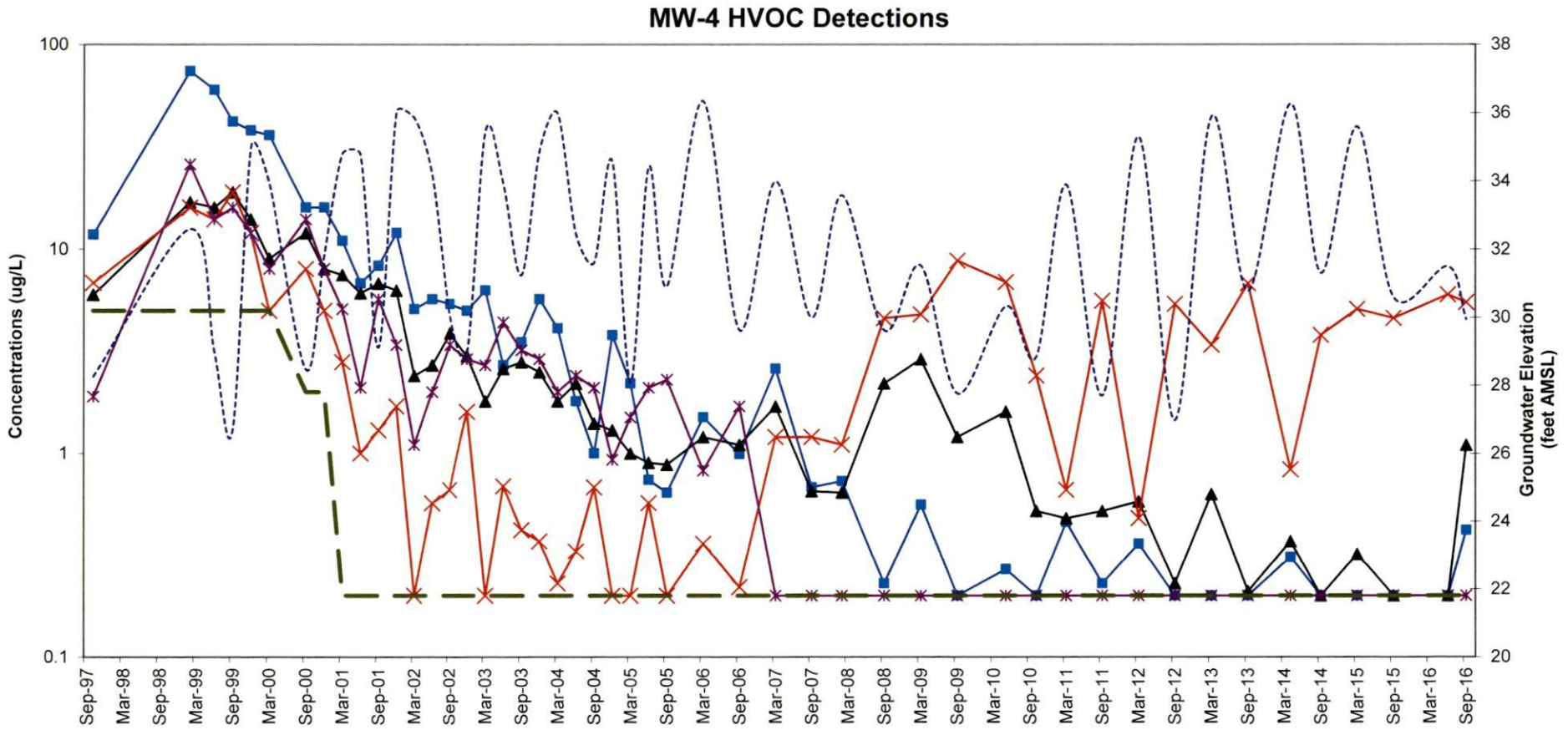
- Concentration of PCE
- Concentration of TCE
- Concentration of cis-1,2-DCE
- Concentration of Vinyl Chloride
- Laboratory Detection Limit
- Groundwater Elevation

Note: use of different analytical methods causes variability in Laboratory Detection Limits.

Figure 6 - MW-3 HVOC Detections Over Time
September 2016 Groundwater Monitoring Event

Bear Creek Village Shopping Center
Redmond, Washington

Golder Associates



Legend

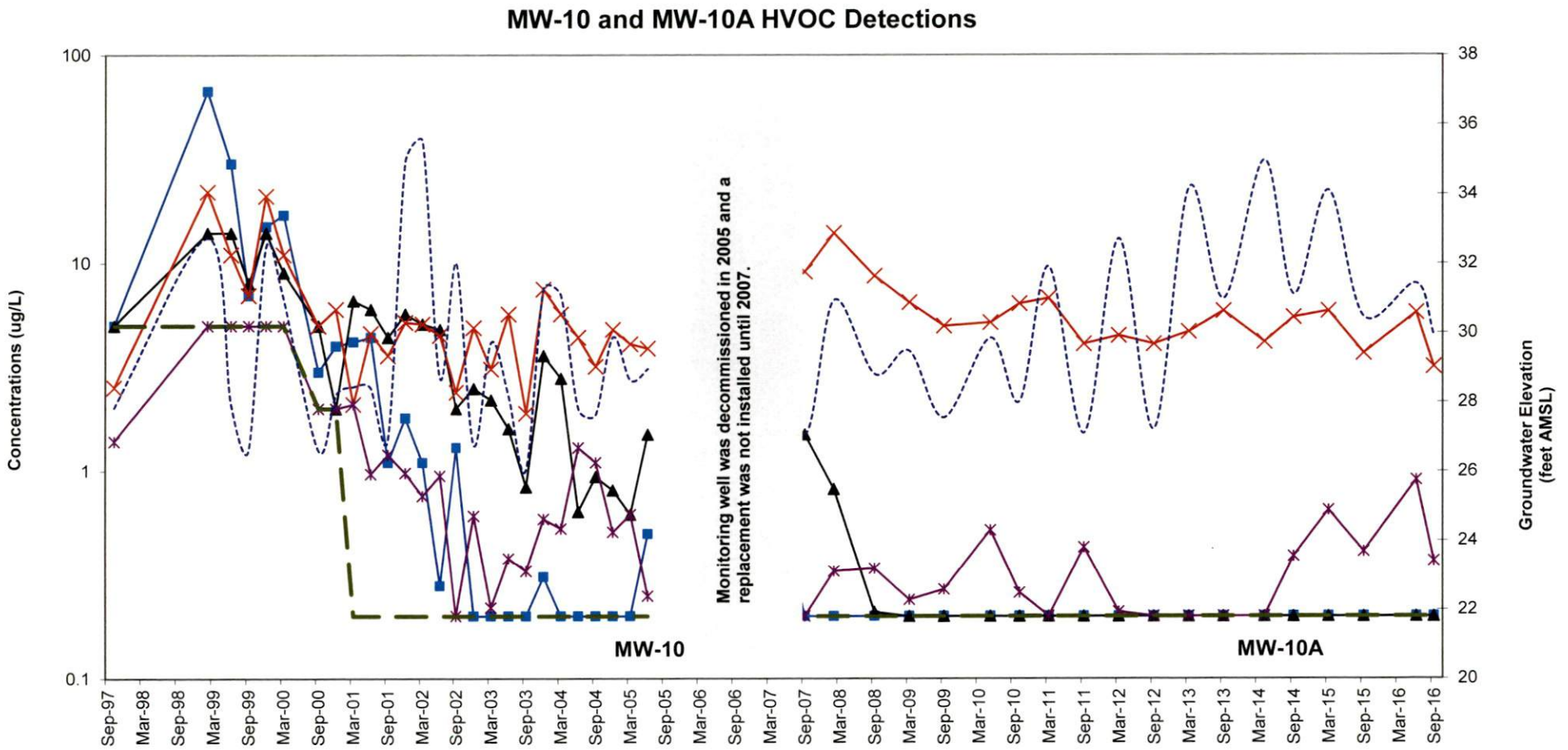
- Concentration of PCE
- Concentration of TCE
- Concentration of cis-1,2-DCE
- Concentration Of Vinyl Chloride
- Laboratory Detection Limit
- Groundwater Elevation

Note: use of different analytical methods causes variability in Laboratory Detection Limits.

Figure 7 - MW-4 HVOC Detections Over Time
September 2016 Groundwater Monitoring Event

Bear Creek Village Shopping Center
Redmond, Washington

Golder Associates



Legend

- Concentration of PCE
- Concentration of TCE
- Concentration of cis-1,2-DCE
- Concentration Of Vinyl Chloride
- Laboratory Detection Limit
- Groundwater Elevation

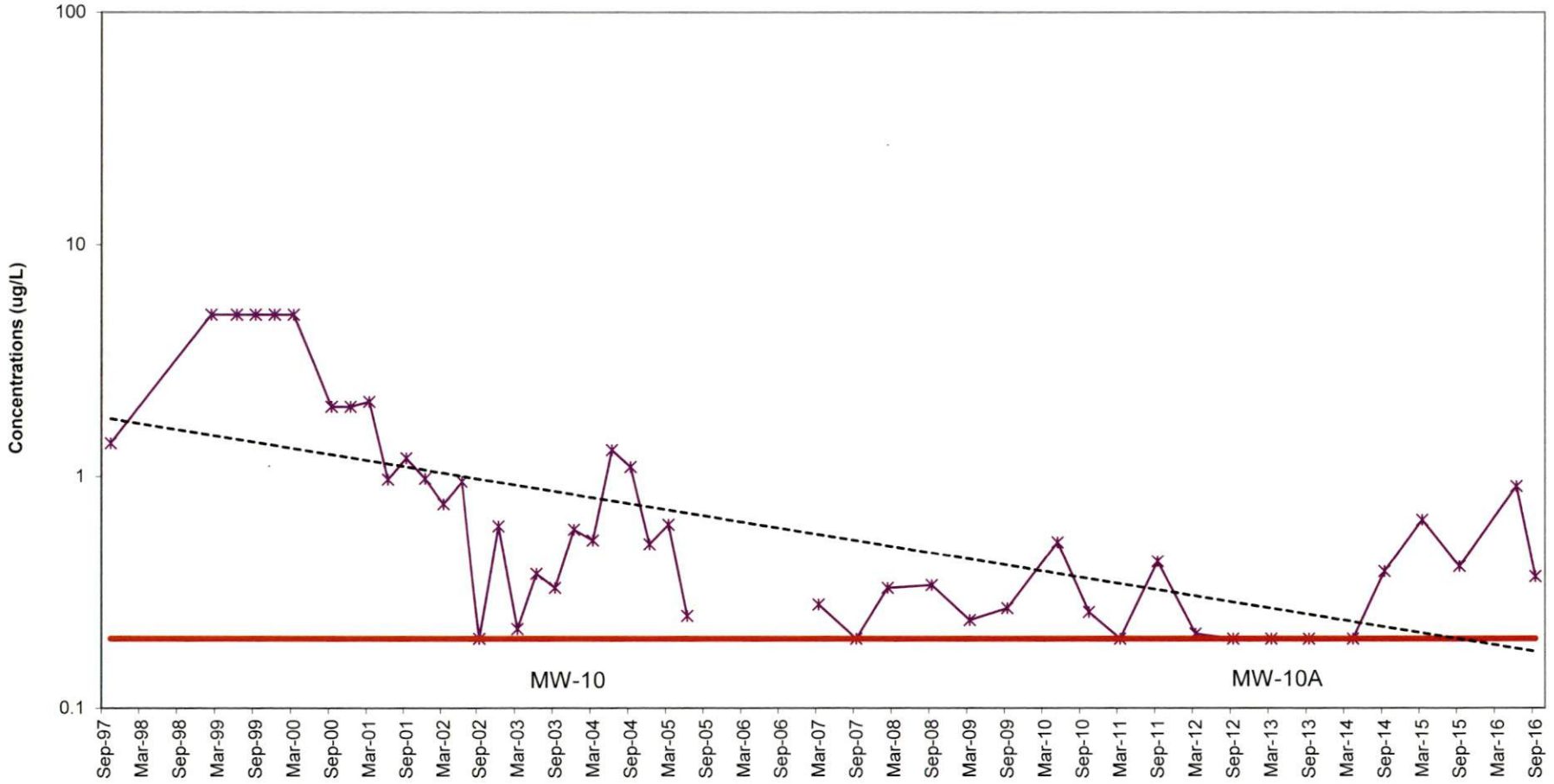
Notes:
Use of different analytical methods causes variability in Laboratory Detection Limits.
MW-10 was abandoned after June 2005 sampling event. MW-10A is the replacement well for MW-10, installed in March 2007.

Figure 8a - MW-10 and MW-10A HVOC Detections Over Time
September 2016 Groundwater Monitoring Event

Bear Creek Village Shopping Center
Redmond, Washington

Golder Associates

MW-10 and MW-10A Vinyl Chloride Trend



Legend

Concentration Of Vinyl Chloride

Cleanup Level (0.2 ug/L)

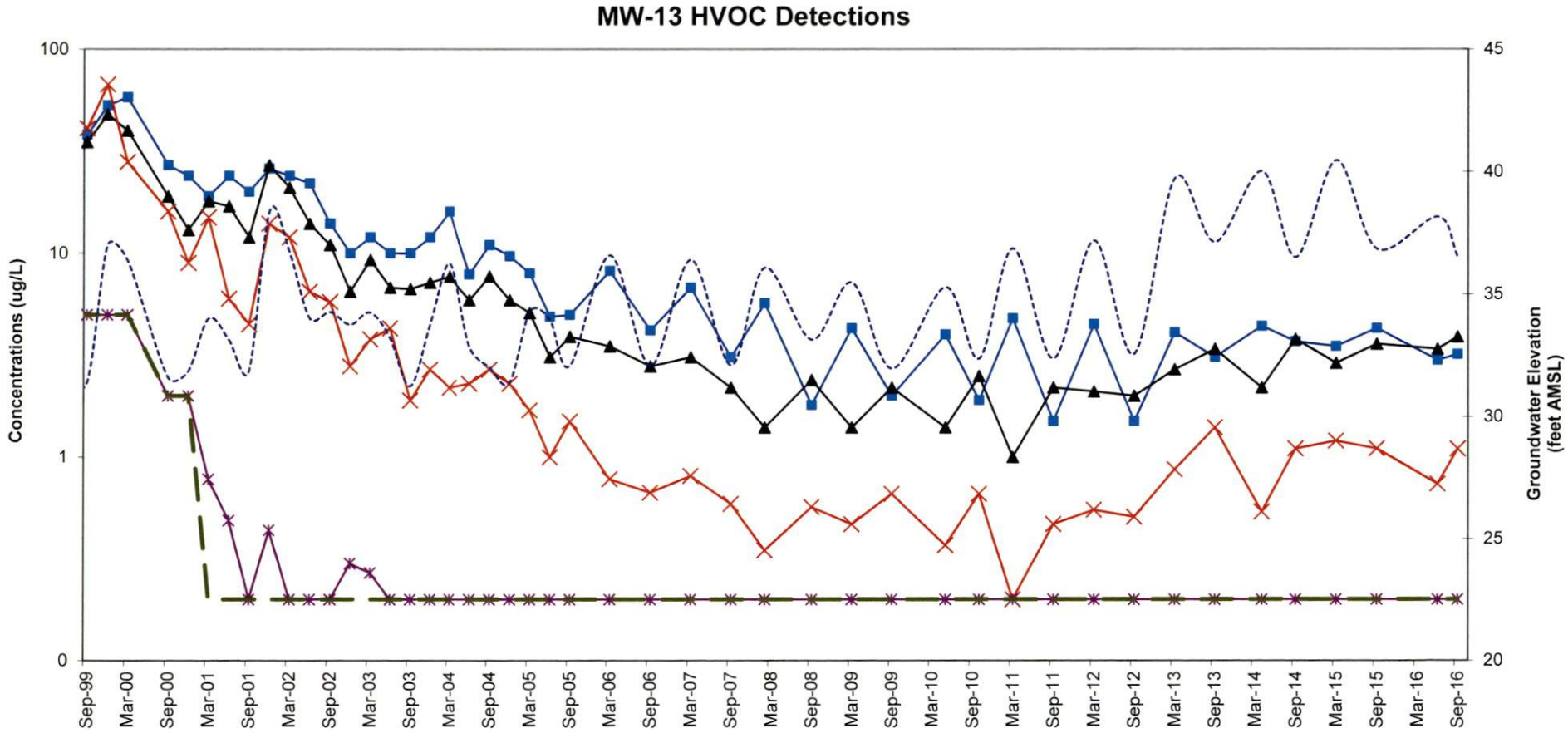
Vinyl Chloride Trendline

Notes:
Use of different analytical methods causes variability in Laboratory Detection Limits.
MW-10 was abandoned after June 2005 sampling event. MW-10A is the replacement well for MW-10.

Figure 8b - MW-10 and MW-10A
Vinyl Chloride Trend Over Time
Setpember 2016 Groundwater Monitoring Event

Bear Creek Village Shopping Center
Redmond, Washington

Golder Associates



Legend

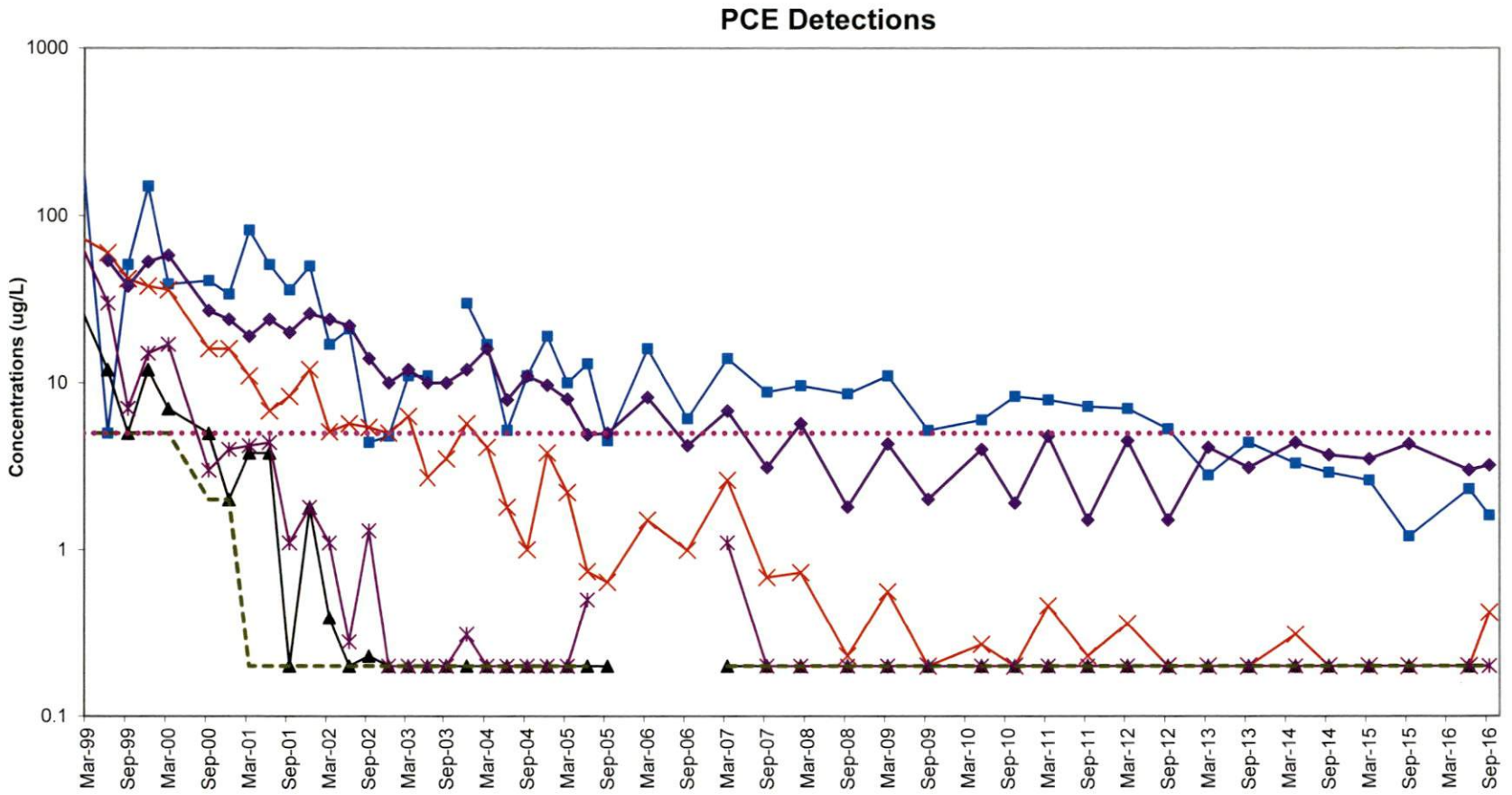
- Concentration of PCE
- Concentration of TCE
- Concentration of cis-1,2-DCE
- Concentrations Of Vinyl Chloride
- Laboratory Detection Limit
- Groundwater Elevation

Note: use of different analytical methods causes variability in Laboratory Detection Limits.

Figure 9 - MW-13 HVOC Detections Over Time
September 2016 Groundwater Monitoring Event

Bear Creek Village Shopping Center
Redmond, Washington

Golder Associates



Legend

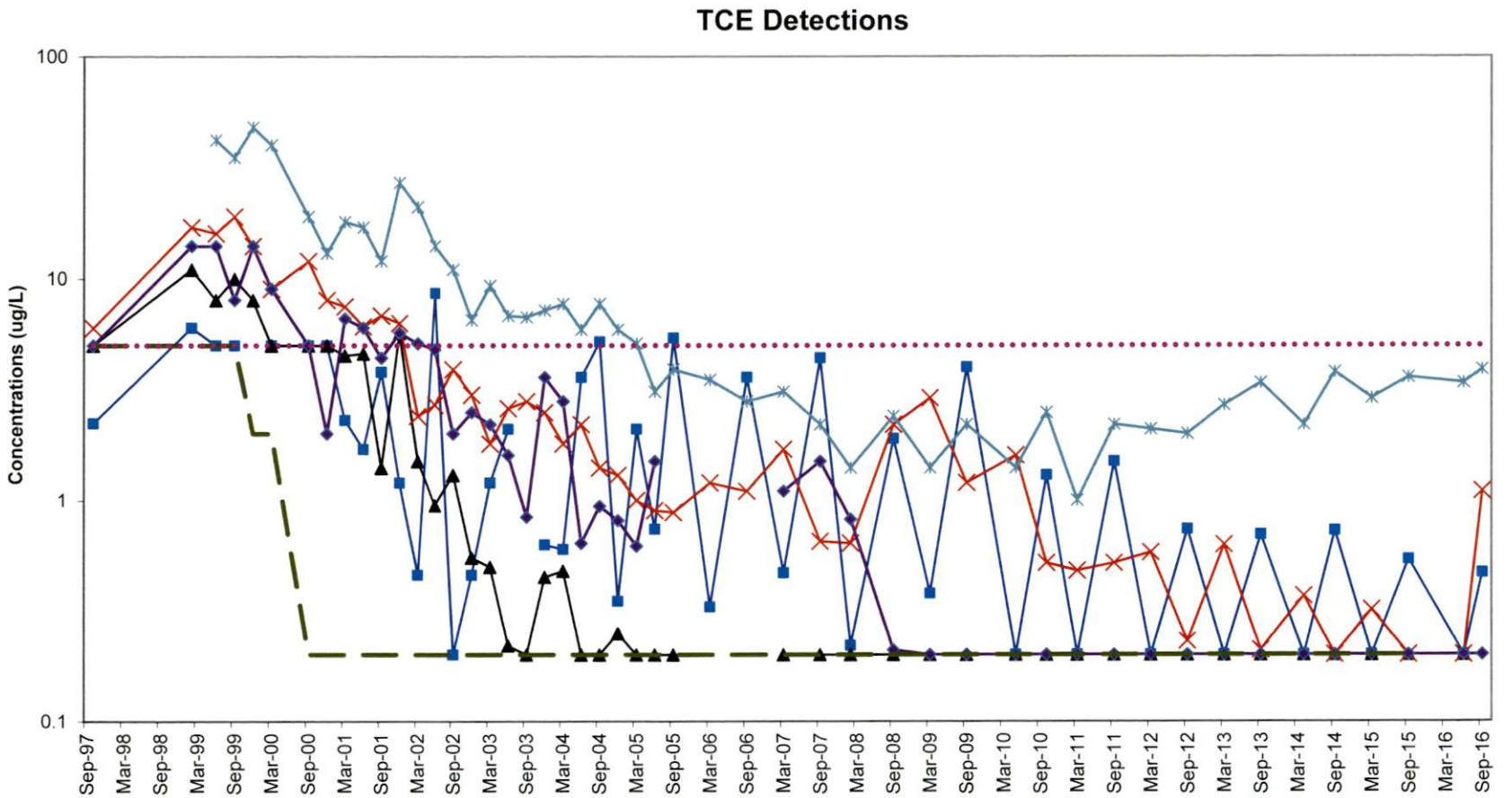
- MW-2 Concentration of PCE
- MW-3 Concentration of PCE
- MW-4 Concentration of PCE
- MW-10/10A Concentration of PCE
- MW-13 Concentration of PCE
- Laboratory Detection Limit
- Cleanup Level (5 ug/L)

Note: use of different analytical methods causes variability in Laboratory Detection Limits

Figure 10 - PCE Detections Over Time
September 2016 Groundwater Monitoring Event

Bear Creek Village Shopping Center
Redmond, Washington

Golder Associates



Legend

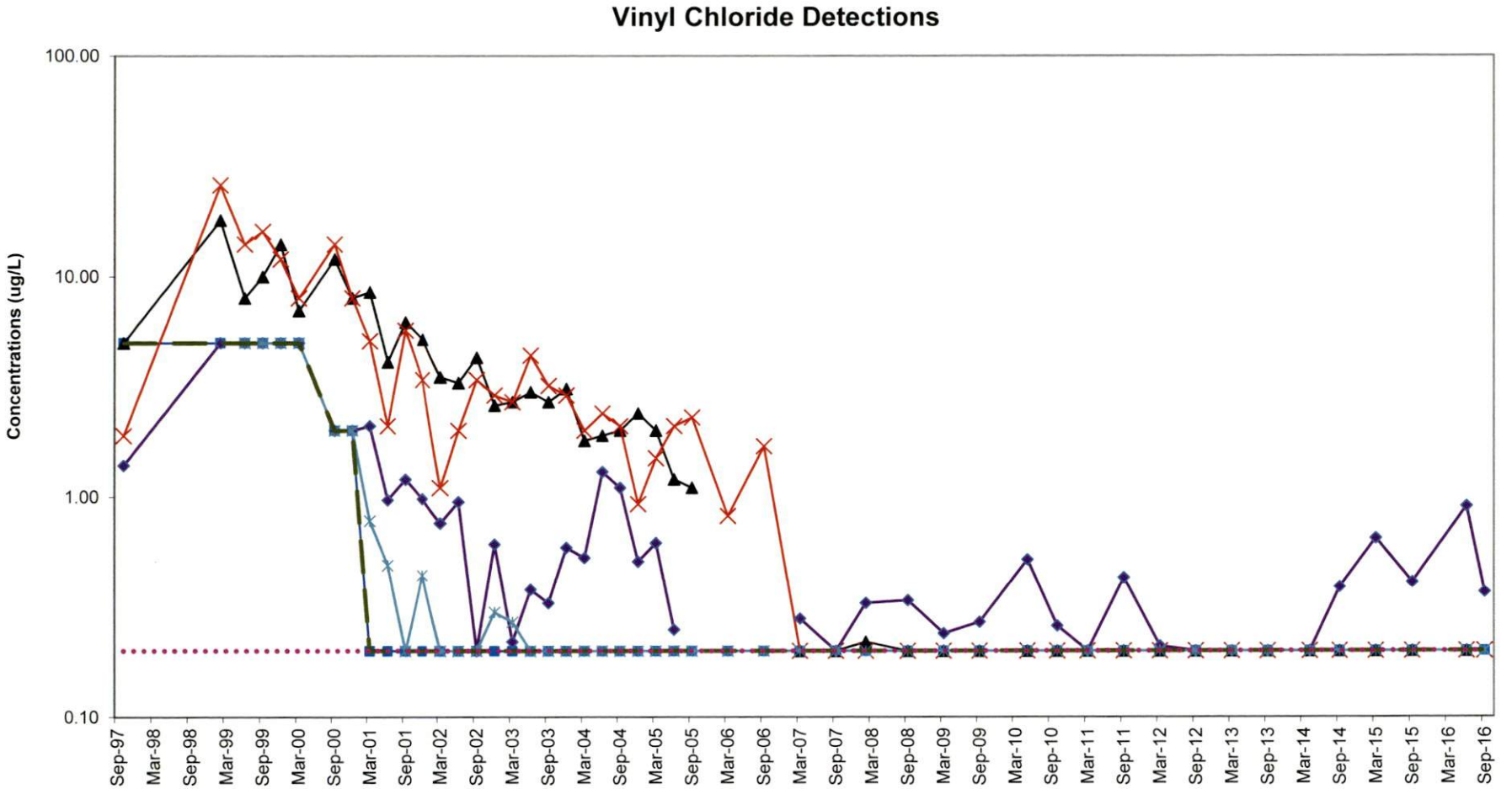
- MW-2 Concentration of TCE
- MW-3 Concentration of TCE
- MW-4 Concentration of TCE
- MW-10/10A Concentration of TCE
- MW-13 Concentration of TCE
- Laboratory Detection Limit
- Cleanup Level (5 ug/L)

Note: use of different analytical methods causes variability in Laboratory Detection Limits

Figure 11 - TCE Detections Over Time
September 2016 Groundwater Monitoring Event

Bear Creek Village Shopping Center
Redmond, Washington

Golder Associates



Legend

- MW-2 Concentration Of Vinyl Chloride
- MW-3 Concentration Of Vinyl Chloride
- MW-4 Concentration Of Vinyl Chloride
- MW-10/10A Concentration Of Vinyl Chloride
- MW-13 Concentrations Of Vinyl Chloride
- Laboratory Detection Limit
- Cleanup Level (0.2 ug/L)

Note: use of different analytical methods causes variability in Laboratory Detection Limits

Figure 12 - Vinyl Chloride Detections Over Time
September 2016 Groundwater Monitoring Event

Bear Creek Village Shopping Center
Redmond, Washington

Golder Associates

APPENDIX A
SAMPLE INTEGRITY DATA SHEETS

SAMPLE INTEGRITY DATA SHEET

Plant/Site Bear Creek Village **Project No.** 152-5393-16.002

Site Location Redmond, WA **Sample ID** MW-2

Sampling Location Groundwater Monitoring well – end of dedicated sampling tube

Technical Procedure Reference(s) TG 1.2-23; TG 1.4-6a; TG 1.2-20

Type of Sampler peristaltic pump

Date 9/27/16 **Time** 1205

Media water **Station** MW-2

Sample Type: [grab] time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 13.87 BTOC 9/27/16 1124

Screened Interval: 10-20

Pump intake at: ~18' BTOC

Sample Description Clear

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

Aliquot Amount		Container	Preservation / Amount
3- 40 mL	HVOC	VOA Vial	HCl

Sampler (signature) Eric Odom **Date** 9/27/16

Supervisor (signature) [signature] **Date** 9/30/16

Well ID MW-2
Date 9/27/16
Time Begin Purge 1125
Time Collect Sample 1205

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	Turbidity NTU	DO mg/L	eH rel mV
14.51	1135	–	5.76	84.7	15.7	5.38	1.28	95.1
14.98	1140	–	5.76	85.1	15.8	6.19	1.16	95.4
15.29	1145	–	5.76	85.5	15.8	3.62	0.82	95.7
15.71	1150	–	5.76	85.9	15.7	3.18	0.59	96.2
16.42	1155	–	5.75	86.0	15.4	3.90	0.66	97.2
16.82	1200	–	5.76	85.2	15.5	3.36	0.82	94.2

Comments: MW-2 purged dry during sample. Shut down allow recharge
Collected sample but has some sediment

Purge Rate: 180 ml/min

Sampler's Initials EA

SAMPLE INTEGRITY DATA SHEET

Plant/Site Bear Creek Village **Project No.** 152-5393-16.002

Site Location Redmond, WA **Sample ID** NA

Sampling Location Groundwater Monitoring well – end of dedicated sampling tube

Technical Procedure Reference(s) TG 1.2-23; TG 1.4-6a; TG 1.2-20

Type of Sampler peristaltic pump

Date _____ **Time** _____

Media water **Station** _____

Sample Type: [grab] time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: >15.1 BTOC 9/27/16 @ 0832 DRY

Screened Interval: _____

Pump intake at: BTOC

Sample Description No Sample

Field Measurements on Sample (pH, conductivity, etc.) _____

See Field Parameters Sheet

Aliquot Amount		Container	Preservation / Amount
3- 40 mL	HVOC	VOA Vial	HCl

Sampler (signature) Eric Odaar **Date** 9/27/16

Supervisor (signature) [signature] **Date** 9/30/16

Well ID MW-3

Date —

Time Begin Purge —

Time Collect Sample —

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	Turbidity NTU	DO mg/L	eH rel mV

Comments: Well Dry - No sample

Purge Rate:

Sampler's Initials CA

SAMPLE INTEGRITY DATA SHEET

Plant/Site Bear Creek Village **Project No.** 152-5393-16.002

Site Location Redmond, WA **Sample ID** mw-4 & mw-44 - duplicate

Sampling Location Groundwater Monitoring well – end of dedicated sampling tube

Technical Procedure Reference(s) TG 1.2-23; TG 1.4-6a; TG 1.2-20

Type of Sampler peristaltic pump

Date 9/27/16 **Time** 1450 1455 duplicate

Media water **Station** mw-4

Sample Type: [grab] time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 17.99 BTOC 9/27/16 @ 1344

Screened Interval: 10-20

Pump intake at: 19.5 BTOC

Sample Description Clear

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

Aliquot Amount		Container	Preservation / Amount
3- 40 mL	HVOC	VOA Vial	HCl

Sampler (signature) [signature] **Date** 9/27/16

Supervisor (signature) [signature] **Date** 9/30/16

Well ID MW-4
Date 9/27/16
Time Begin Purge 1345
Time Collect Sample 1450 1455

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	Turbidity NTU	DO mg/L	eH rel mV
18.87	1355	~	5.86	158.3	14.9	89.7	0.90	80.5
19.15	1400	~	5.90	159.7	14.9	21.6	1.42	78.9
19.16	1405	~	5.86	163.0	15.1	75.3	0.96	79.5
19.16	1410	~	5.88	165.8	15.6	28.9	0.83	77.1
19.25	1415	~	5.89	166.4	15.5	9.97	0.76	75.3
19.43	1420	—	5.89	167.4	15.3	74.9	0.72	74.3
19.25	1448		5.98	171.0	16.6	5.54	~~160.7~~ FR 1.94	99.4

Comments: Bottom of well @ ~19.5 - shut down and allow recharge

Purge Rate: 180 mL/min Dec to 140 mL/min @ 1401

140

Sampler's Initials EA

SAMPLE INTEGRITY DATA SHEET

Plant/Site Bear Creek Village **Project No.** 152-5393-16.002

Site Location Redmond, WA **Sample ID**

Sampling Location Groundwater Monitoring well – end of dedicated sampling tube

Technical Procedure Reference(s) TG 1.2-23; TG 1.4-6a; TG 1.2-20

Type of Sampler peristaltic pump

Date 9/27/16 **Time** 0940

Media water **Station** MW-9

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 18.02 BTOC 9/27/16 @ 0852

Screened Interval: 10-20

Pump intake at: ~~19.6~~ 15.7 BTOC

Sample Description Clear

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

Aliquot Amount		Container	Preservation / Amount
3- 40 mL	HVOC	VOA Vial	HCl

Sampler (signature) [signature] **Date** 9/27/16

Supervisor (signature) [signature] **Date** 9/30/16

Well ID mw-9
Date 9/27/16
Time Begin Purge 0907
Time Collect Sample 0940

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	Turbidity NTU	DO mg/L	eH rel mV
18.43	0913	—	5.86	274.6	16.9	1.72	0.86	58.1
18.61	0918	—	5.88	276.2	16.8	1.05	0.80	42.7
18.75	0923	—	5.89	277.2	16.7	0.66	0.59	35.4
19.04	0928	—	5.90	276.6	16.5	1.10	0.48	27.2
19.30	0933	—	5.90	276.2	16.5	1.37	0.40	21.4
19.50	0938	—	5.96	275.9	16.4	1.74	0.52	11.7

Comments:

Purge Rate: 180 ml/min

Sampler's Initials EQ

SAMPLE INTEGRITY DATA SHEET

Plant/Site Bear Creek Village **Project No.** 152-5393-16.002

Site Location Redmond, WA **Sample ID** MW-10A

Sampling Location Groundwater Monitoring well – end of dedicated sampling tube

Technical Procedure Reference(s) TG 1.2-23; TG 1.4-6a; TG 1.2-20

Type of Sampler peristaltic pump

Date 9/27/16 **Time** 1330

Media water **Station** MW-10A

Sample Type: [grab] time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 18.60 BTOC 9/27/16 1249

Screened Interval: 10 - 25

Pump intake at: 19.5 BTOC

Sample Description Clear

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

Aliquot Amount		Container	Preservation / Amount
3- 40 mL	HVOC	VOA Vial	HCl

Sampler (signature) Erin Adams **Date** 9/27/16

Supervisor (signature) [signature] **Date** 9/30/16

Well ID MW10A
Date 9/27/16
Time Begin Purge 1250
Time Collect Sample 1330

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	Turbidity NTU	DO mg/L	eH rel mV
18.89	1300	—	6.09	152.9	17.1	190	1.29	107.3
18.89	1305	—	6.10	157.0	17.0	28.3	0.99	87.5
18.91	1310	—	6.11	158.1	17.0	9.15	0.87	75.1
18.95	1315	—	6.12	161.5	16.9	5.32	0.82	64.0
18.99	1320	—	6.13	163.6	16.8	5.59	0.75	56.0
18.99	1325	—	6.14	167.0	16.7	3.12	0.76	49.5

Comments: Initial Purge gray muddy

Purge Rate: 180 mL/min

Sampler's Initials [signature]

SAMPLE INTEGRITY DATA SHEET

Plant/Site Bear Creek Village **Project No.** 152-5393-16.002

Site Location Redmond, WA **Sample ID** MW-13

Sampling Location Groundwater Monitoring well – end of dedicated sampling tube

Technical Procedure Reference(s) TG 1.2-23; TG 1.4-6a; TG 1.2-20

Type of Sampler peristaltic pump

Date 9/27/16 **Time** 1105

Media water **Station** MW-13

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 10.92 BTOC 9/27/16 1019

Screened Interval: 10-20

Pump intake at: ~15 BTOC

Sample Description Clear

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

Aliquot Amount		Container	Preservation / Amount
3- 40 mL	HVOC	VOA Vial	HCl

Sampler (signature) Eric Olson **Date** 9/27/16

Supervisor (signature) [signature] **Date** 9/30/16

Well ID MW-13
Date 9/27/16
Time Begin Purge 1020
Time Collect Sample 1105

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	Turbidity NTU	DO mg/L	eH rel mV
11.30	1030	—	5.67	104.1	16.4	141	0.62	77.2
11.36	1035	—	5.70	105.5	16.3	106	0.38	78.0
11.40	1040	—	5.66	107.9	16.4	68.3	0.56	80.6
11.41	1045	—	5.68	109.6	16.4	49.9	0.40	50.3
11.43	1050	—	5.69	111.4	16.3	26.8	0.33	79.3
11.45	1055	—	5.71	112.5	16.3	11.8	0.29	78.1
11.44	1100		5.72	112.3	16.3	3.70	0.28	77.5

Comments: Reddish Fe floc with initial purge water

Purge Rate: 200 ml/min

Sampler's Initials EQ

SAMPLE INTEGRITY DATA SHEET

Plant/Site Bear Creek Village **Project No.** 152-5393-16.002

Site Location Redmond, WA **Sample ID** EB

Sampling Location Groundwater Monitoring well – end of dedicated sampling tube

Technical Procedure Reference(s) TG 1.2-23; TG 1.4-6a; TG 1.2-20

Type of Sampler peristaltic pump

Date 9/27/16 **Time** 1340

Media water **Station** EB at mw-10A

Sample Type: [grab] time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: NA BTOC

Screened Interval: —

Pump intake at: NA BTOC

Sample Description Equipment blank using Lab provided DI water purged through new tubing

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

Aliquot Amount		Container	Preservation / Amount
3- 40 mL	HVOC	VOA Vial	HCl

Sampler (signature) [signature] **Date** 9/27/16

Supervisor (signature) [signature] **Date** 9/30/16

Well ID EB

Date 9/27/16

Time Begin Purge —

Time Collect Sample — NA

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	Turbidity NTU	DO mg/L	eH rel mV

Comments:

Equipment Blank

Purge Rate:

Sampler's Initials EA

APPENDIX B
LABORATORY ANALYTICAL REPORTS

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 4, 2016

Eric Adams
Golder Associates Inc.
18300 NE Union Hill Road
Suite 200
Redmond, WA 98052-3333

Re: Analytical Data for Project 152-5393-16
Laboratory Reference No. 1609-349

Dear Eric:

Enclosed are the analytical results and associated quality control data for samples submitted on September 27, 2016.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 4, 2016
Samples Submitted: September 27, 2016
Laboratory Reference: 1609-349
Project: 152-5393-16

Case Narrative

Samples were collected on September 27, 2016 and received by the laboratory on September 27, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: October 4, 2016
Samples Submitted: September 27, 2016
Laboratory Reference: 1609-349
Project: 152-5393-16

HALOGENATED VOLATILES EPA 8260C
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-9**					
Laboratory ID:	09-349-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloromethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Vinyl Chloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Iodomethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Methylene Chloride	ND	1.0	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroform	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromodichloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chloroethyl Vinyl Ether	ND	3.9	EPA 8260C	9-30-16	9-30-16	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-9**					
Laboratory ID:	09-349-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromoform	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Bromobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,2,2-Tetrachloroethane	ND	0.26	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Hexachlorobutadiene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*71-131*				
Toluene-d8	*89*	*80-127*				
4-Bromofluorobenzene	*93*	*80-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-13**					
Laboratory ID:	09-349-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloromethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Vinyl Chloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Iodomethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Methylene Chloride	ND	1.0	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	1.1	0.20	EPA 8260C	9-30-16	9-30-16	
Bromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroform	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	3.9	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromodichloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chloroethyl Vinyl Ether	ND	3.9	EPA 8260C	9-30-16	9-30-16	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-13**					
Laboratory ID:	09-349-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	3.2	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromoform	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Bromobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,2,2-Tetrachloroethane	ND	0.26	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Hexachlorobutadiene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*71-131*				
Toluene-d8	*104*	*80-127*				
4-Bromofluorobenzene	*96*	*80-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-10A**					
Laboratory ID:	09-349-03					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloromethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Vinyl Chloride	0.37	0.20	EPA 8260C	9-30-16	9-30-16	
Bromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Iodomethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Methylene Chloride	ND	1.0	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	3.2	0.20	EPA 8260C	9-30-16	9-30-16	
Bromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroform	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromodichloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chloroethyl Vinyl Ether	ND	3.9	EPA 8260C	9-30-16	9-30-16	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-10A**					
Laboratory ID:	09-349-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromoform	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Bromobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,2,2-Tetrachloroethane	ND	0.26	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Hexachlorobutadiene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*71-131*				
Toluene-d8	*103*	*80-127*				
4-Bromofluorobenzene	*94*	*80-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**EB**					
Laboratory ID:	09-349-04					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloromethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Vinyl Chloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Iodomethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Methylene Chloride	ND	1.0	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroform	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromodichloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chloroethyl Vinyl Ether	ND	3.9	EPA 8260C	9-30-16	9-30-16	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**EB**					
Laboratory ID:	09-349-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromoform	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Bromobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,2,2-Tetrachloroethane	ND	0.26	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Hexachlorobutadiene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*71-131*				
Toluene-d8	*107*	*80-127*				
4-Bromofluorobenzene	*94*	*80-125*				

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Samples Submitted: September 27, 2016
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4**					
Laboratory ID:	09-349-05					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloromethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Vinyl Chloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Iodomethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Methylene Chloride	ND	1.0	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	5.5	0.20	EPA 8260C	9-30-16	9-30-16	
Bromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroform	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	1.1	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromodichloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chloroethyl Vinyl Ether	ND	3.9	EPA 8260C	9-30-16	9-30-16	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4**					
Laboratory ID:	09-349-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	0.42	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromoform	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Bromobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,2,2-Tetrachloroethane	ND	0.26	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Hexachlorobutadiene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*71-131*				
Toluene-d8	*103*	*80-127*				
4-Bromofluorobenzene	*93*	*80-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-44**					
Laboratory ID:	09-349-06					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloromethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Vinyl Chloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Iodomethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Methylene Chloride	ND	1.0	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	5.5	0.20	EPA 8260C	9-30-16	9-30-16	
Bromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroform	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	1.1	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromodichloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chloroethyl Vinyl Ether	ND	3.9	EPA 8260C	9-30-16	9-30-16	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-44**					
Laboratory ID:	09-349-06					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	0.37	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromoform	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Bromobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,2,2-Tetrachloroethane	ND	0.26	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Hexachlorobutadiene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*106*	*71-131*				
Toluene-d8	*97*	*80-127*				
4-Bromofluorobenzene	*90*	*80-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2**					
Laboratory ID:	09-349-07					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloromethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Vinyl Chloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Iodomethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Methylene Chloride	ND	1.0	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	0.40	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	4.4	0.20	EPA 8260C	9-30-16	9-30-16	
Bromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroform	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	0.47	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromodichloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chloroethyl Vinyl Ether	ND	3.9	EPA 8260C	9-30-16	9-30-16	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-2**					
Laboratory ID:	09-349-07					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	1.6	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromoform	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Bromobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,2,2-Tetrachloroethane	ND	0.26	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Hexachlorobutadiene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*71-131*				
Toluene-d8	*104*	*80-127*				
4-Bromofluorobenzene	*90*	*80-125*				

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Samples Submitted: September 27, 2016
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	09-349-08					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloromethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Vinyl Chloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Iodomethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Methylene Chloride	ND	1.0	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroform	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromodichloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chloroethyl Vinyl Ether	ND	3.9	EPA 8260C	9-30-16	9-30-16	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	09-349-08					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromoform	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Bromobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,2,2-Tetrachloroethane	ND	0.26	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Hexachlorobutadiene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*109*	*71-131*				
Toluene-d8	*104*	*80-127*				
4-Bromofluorobenzene	*95*	*80-125*				

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HALOGENATED VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0930W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloromethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Vinyl Chloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Iodomethane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Methylene Chloride	ND	1.0	EPA 8260C	9-30-16	9-30-16	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chloroform	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Trichloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromomethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromodichloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chloroethyl Vinyl Ether	ND	3.9	EPA 8260C	9-30-16	9-30-16	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-30-16	9-30-16	

Date of Report: October 4, 2016
Samples Submitted: September 27, 2016
Laboratory Reference: 1609-349
Project: 152-5393-16

HALOGENATED VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0930W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Tetrachloroethene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Dibromochloromethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Chlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Bromoform	ND	1.0	EPA 8260C	9-30-16	9-30-16	
Bromobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,1,2,2-Tetrachloroethane	ND	0.26	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-30-16	9-30-16	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-30-16	9-30-16	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Hexachlorobutadiene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-30-16	9-30-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*71-131*				
Toluene-d8	*107*	*80-127*				
4-Bromofluorobenzene	*93*	*80-125*				

Date of Report: October 4, 2016
Samples Submitted: September 27, 2016
Laboratory Reference: 1609-349
Project: 152-5393-16

HALOGENATED VOLATILES EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0930W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**10.5**	**8.84**	10.0	10.0	105	88	62-132	17	20	
Benzene	**10.9**	**9.60**	10.0	10.0	109	96	75-121	13	15	
Trichloroethene	**9.76**	**8.50**	10.0	10.0	98	85	65-115	14	15	
Toluene	**11.1**	**10.0**	10.0	10.0	111	100	78-120	11	15	
Chlorobenzene	**10.8**	**9.31**	10.0	10.0	108	93	77-118	15	15	
Surrogate:										
Dibromofluoromethane					*99*	*103*	*71-131*			
Toluene-d8					*101*	*104*	*80-127*			
4-Bromofluorobenzene					*92*	*90*	*80-125*			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

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OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Golder Associates
Project Number: 152 5393-16
Project Name: Bear Creek Village
Project Manager: Eric Adams
Sampled by: Eric Adams

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 09-349

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	% Moisture
1	MW-9	9-27-16	0940	W	3						X												
2	MW-13	↓	1105	W	3						X												
3	MW-10A		1330	W	3						X												
4	EB		1340	W	3						X												
5	MW-4		1450	W	3						X												
6	MW-44		1455	W	3						X												
7	MW-2		1205	W	3						X												
8	Trip Blank	↓	Lab	W	3						X												

	Signature	Company	Date	Time
Relinquished	Eric Adams	Golder Associates	9-27-16	1608
Received		OSE	9/27/16	1608
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐