



REPORT

Groundwater Monitoring March 2021 Bear Creek Village Shopping Center

Submitted to:

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Table of Contents

1.0 INTRODUCTION	1
1.1 Site Description	1
1.2 Purpose and Scope.....	1
2.0 MARCH 2021 GROUNDWATER SAMPLING.....	1
2.1 Groundwater Investigation Methods	1
2.2 Water Level Measurements and Groundwater Flow Direction	2
2.3 Groundwater Quality	3
2.3.1 Perchloroethylene	3
2.3.2 Trichloroethene	3
2.3.3 Cis-1,2-Dichlorethene	3
2.3.4 Vinyl Chloride	3
2.3.5 1,3-Dichlorobenzene.....	4
3.0 CONCLUSIONS AND RECOMMENDATIONS	4
3.1 Findings and Conclusions	4
3.2 Recommendations	4
4.0 CLOSING	5
5.0 REFERENCES	6

TABLES

Table 1: March 2021 Groundwater Analytical Results

Table 2: Historical Groundwater Analytical Results

Table 3: March 2021 Field Parameters

Table 4: Historical Groundwater Elevations

FIGURES

Figure 1: Site Location Map

Figure 2: Groundwater Monitoring Well Locations

Figure 3: Groundwater Elevations, March 2021 Groundwater Monitoring

Figure 4: Groundwater Concentrations – Southeast Area March 2021 Groundwater Monitoring

Figure 5: MW-10 and MW-10A HVOC Detections Over Time

Figure 6: MW-13 HVOC Detections Over Time

Figure 7: PCE Detections Over Time

Figure 8: TCE Detections Over Time

Figure 9: Vinyl Chloride Detections Over Time

APPENDICES**APPENDIX A**

Sample Integrity Data Sheets

APPENDIX B

Laboratory Analytical Reports

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 March 2021.

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 on 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 in previous monitoring reports (Golder 2020a).

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 two on-site groundwater-monitoring wells (MW) (MW-10A, and MW-13) in accordance with the approved Ecology request on January 14, 2020 to temporarily reduce groundwater sampling from six to two monitor wells (Golder 2020b).
- Collection of other data from these wells including groundwater level measurements, pH, conductivity, dissolved oxygen, turbidity, oxidation-reduction potential, and temperature.
- Quality control procedures, including the analysis of a duplicate sample (duplicate collected from MW-13, which was identified with the sample number MW-23), and an equipment 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 MARCH 2021 GROUNDWATER SAMPLING

2.1 Groundwater Investigation Methods

On March 9, 2021, Golder sampled groundwater from two groundwater monitoring wells (MW-10A and MW-13). The wells were purged and sampled in accordance with EPA low-flow sampling guidelines. Figure 2 depicts the location of all pertinent on-site monitoring wells. The March 2021 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 (Golder 2020a). Sampling conditions and data collected during the monitoring event were recorded on the Sample Integrity Data Sheets

(SIDS) contained in Appendix A and summarized in Table 3. 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 4 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. Each well was slowly purged of water at a rate of approximately 250 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 approximately 5-minute intervals until parameters were stable, Table 3. All field parameters were recorded on the SIDS (Appendix A).
- Upon completion of purging, groundwater samples were collected by directly capturing groundwater in three 40-mL vials pre-preserved with hydrochloric acid. The 40-mL VOA vials were sealed with septa-lined caps and sealed void of air bubbles. The samples were labeled and placed in a cooler with ice.
- For quality control purposes, a duplicate sample and equipment blank were collected. The duplicate sample was collected from MW-13, which was identified with the sample label MW-23. The equipment blank was collected after sampling at MW-10A.
- The collected samples were transported to OnSite Environmental Inc. in Redmond, Washington for chemical 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 quality control goal for the project analytical data is to achieve a control limit of +/- 20 percent relative percent difference (RPD) between an original and its duplicate sample for an individual well. For the March 2021 Event, the duplicates (MW-13 and MW-23) were collected at the same time from well MW-13. Results for the duplicate are included in Table 2 as bracketed results associated with MW-13. Figure 4 depicts the detected HVOCS concentrations for the wells sampled in March 2021. Figures 5 and 6 depict the detected concentrations of HVOCS for each well over time.

2.2 Water Level Measurements and Groundwater Flow Direction

Static groundwater levels were measured in all on-site monitoring wells (including those that are not sampled for HVOCS) on March 9, 2021 for the March 2021 groundwater sampling event. The groundwater levels measured that day (as well as during historical sampling) are summarized in Table 4. Groundwater elevations on the site are generally at their highest levels during the wetter winter/spring months and lower during the drier summer/fall months. The March 2021 sampling event groundwater levels were similar to previous Spring events and the seasonal trend remained consistent with previous events.

The groundwater elevation contour map for March 9, 2021 data is presented 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, which suggests that Bear Creek loses water to the aquifer. The groundwater gradient measured on March 9, 2021 is generally consistent with historical monitoring results. Low groundwater elevations are observed in MW-3, MW-4, and MW-10A compared with elevation in surrounding

wells. Possible causes for the low groundwater elevations could be from excavations in the area during cleanup actions or storm water pipe installations. MW-3, MW-4, and MW-10A values were not used in contouring for Figure 3.

2.3 Groundwater Quality

The groundwater analytical data for PCE, and PCE's HVOCS degradation compounds [trichloroethylene (TCE), 1,3-dichlorobenzene (1,3-DCE), 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 and data validation. The HVOCS concentrations detected during this round of sampling are depicted in Figure 4. Groundwater HVOCS concentrations and elevations with respect to time for MW-10/10A and MW-13 are depicted in Figures 5 and 6 for the last 21 years.

PCE or its degradation compounds were detected in both monitoring wells sampled during this period. Both wells are located on the eastern side of the former dry cleaner facility.

2.3.1 Perchloroethylene

PCE was detected in MW-13 at a concentration of 2.3 micrograms per liter ($\mu\text{g}/\text{L}$) during the March 2021 sampling event. The practical quantitation limit, or PQL, is 0.20 $\mu\text{g}/\text{L}$. Figure 7 depicts the PCE detections for the routinely sampled wells since 1999. This figure shows an overall decline of PCE concentrations across the site over time. PCE concentrations did not exceed the Model Toxics Control Act (MTCA) Method A Cleanup Level of 5.0 $\mu\text{g}/\text{L}$ in any wells during the March 2021 sampling event. PCE concentrations have not exceeded the MTCA Method A Cleanup Level of 5.0 $\mu\text{g}/\text{L}$ in any Site monitoring well since the March 2013 sampling event.

2.3.2 Trichloroethylene

TCE was detected (2.0 $\mu\text{g}/\text{L}$) in MW-13 at a concentration greater than the PQL (0.20 $\mu\text{g}/\text{L}$) during the March 2021 sampling event. Figure 8 depicts the TCE detections for MW-2, MW-3, MW-4, MW-10A, and MW-13 since 1997. TCE concentrations did not exceed the MTCA Method A Cleanup Level of 5.0 $\mu\text{g}/\text{L}$ in any Site wells during the March 2021 sampling event. Figure 8 shows an overall decline of TCE concentrations across the Site over time. MW-13 had a slight increasing TCE trend from 2011 to 2017 but concentrations appear to be decreasing since 2017. Seasonal fluctuations remain common. TCE concentrations have not exceeded the MTCA Method A Cleanup Level of 5.0 $\mu\text{g}/\text{L}$ in any Site monitoring well since the March 2005 sampling event with only one exception. The one exception being TCE was detected (5.1 $\mu\text{g}/\text{L}$) during the September 2017 monitoring event.

2.3.3 Cis-1,2-Dichlorethene

Cis-1,2-DCE was detected at concentrations greater than the PQL (0.20 $\mu\text{g}/\text{L}$) in MW-10A, and MW-13 at concentrations of 3.0 $\mu\text{g}/\text{L}$, and 0.84 $\mu\text{g}/\text{L}$, respectively. The concentrations of cis-1,2-DCE detected during the March 2021 sampling event were all less than the current MTCA Method B Cleanup Level of 16 $\mu\text{g}/\text{L}$. Cis-1,2-DCE has never been detected at a concentration exceeding the current or historical (80 $\mu\text{g}/\text{L}$) MTCA Method B Cleanup Level in effect in any of the wells.

2.3.4 Vinyl Chloride

Vinyl Chloride was detected (0.38 $\mu\text{g}/\text{L}$) at a greater than the PQL of 0.2 $\mu\text{g}/\text{L}$ in MW-10A during the March 2021 sampling event. The concentration of vinyl chloride was greater than the MTCA Method A Cleanup Level of 0.2 $\mu\text{g}/\text{L}$. Figure 9 depicts the vinyl chloride detections for MW-2, MW-3, MW-4, MW-10A, and MW-13 since 1997. This figure shows a general overall site-wide decline of vinyl chloride concentrations with only one exception, MW-

10A. Vinyl Chloride concentrations have not exceeded the MTCA Method A Cleanup Level of 0.2 µg/L in any Site monitoring well since the March 2007 sampling event except at MW-10A.

2.3.5 1,3-Dichlorobenzene

1,3-Dichlorobenzene was not detected in any of the groundwater samples, or equipment blank samples, collected during the March 2021 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. 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.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 Findings and Conclusions

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

- During the March 2021 sampling event, there were no detections of any of the constituents of concern (COCs) exceeding MTCA Method A Cleanup Levels, with only one exception; MW-10A had a detection of vinyl chloride exceeding the MTCA Method A Cleanup Level (0.2 µg/L).
- The current results indicate an overall decrease in PCE concentrations has occurred in 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.
- The review of the last five years of groundwater monitoring results indicate that the rate of biodegradation of HVOCS appears to have slowed down, i.e. the decrease in concentrations of HVOCS has leveled off to some degree, particularly MW-13.

3.2 Recommendations

Based on the findings and conclusions of the March 2021 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 monitoring events below MTCA cleanup levels are achieved 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 September 2021.
- The wells sampled during the next groundwater monitoring event should include MW-10A and MW-13 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.

4.0 CLOSING

Golder is pleased to continue working with you 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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Project Hydrogeologist



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Tables

Table 1: March 2021 Groundwater Analytical Results

Analytes	Cleanup Level	Units	Monitoring Well		
			MW-10A	MW-13	MW-23*
PCE	5.0 (A)	µg/L	<0.20	2.3	2.2
TCE	5.0 (A)	µg/L	<0.20	2.0	2.1
VC	0.2 (A)	µg/L	0.39	<0.20	<0.20
cis-1,2-DCE	16 (B)	µg/L	3.0	0.84	0.77
1,3-DCB	---	µg/L	<0.20	<0.20	<0.20
Groundwater Elevation		ft amsl	35.0	40.4	40.4

Notes:

cis-1,2-DCE = *cis*-1,2-Dichloroethene
TCE = Trichloroethene

PCE = Perchloroethylene = Tetrachloroethylene
VC = Vinyl Chloride

1,3-DCB = 1,3-Dichlorobenzene

<0.20 = 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-13.

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.

Table 2: Historical Groundwater 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	<5.0	7.52
	2/19/1999	270	6	<5.0	6
	6/29/1999	<5.0	<5.0	<5.0	<5.0
	9/15/1999	51	<5.0	<5.0	<5.0
	12/14/1999	150	<5.0	<5.0	<5.0
	3/22/2000	39	<5.0	<5.0	<5.0
	9/27/2000	41	<2.0	<2.0	<2.0
	12/20/2000	34	<2.0	<2.0	<2.0
	3/29/2001	82	2.3	<0.20	3
	6/14/2001	51	1.7	<0.20	0.42
	9/12/2001	36	3.8	0.22	3.3
	12/18/2001	50	1.2	<0.20	0.33
	3/26/2002	17 (18)	0.46 (0.45)	<0.20	0.31 (0.37)
	6/10/2002	21 (21)	8.6 (7.0)	<0.20 (<0.20)	2.6 (2.4)
	9/12/2002	4.4	<0.20	<0.20	<0.20
	12/9/2002	4.8	0.46	<0.20	0.33
	3/13/2003	11	1.2	<0.20	1.1
	6/17/2003	11	2.1	0.47	3
	9/9/2003	*	*	*	*
	12/9/2003	30 (28)	0.63 (0.68)	<0.20	<0.20
	3/10/2004	17	0.6	<0.20	<0.20
	6/9/2004	5.2	3.6	<0.20	2.3
	9/22/2004	11	5.2	<0.20	3.6
	12/13/2004	19	0.35	<0.20	<0.20
	3/23/2005	10	2.1	<0.20	1.5
	6/20/2005	13	0.74	<0.20	<0.20
	9/8/2005	4.5	5.4	<0.20	6.2
	3/6/2006	16	0.33	<0.20	<0.20
	9/21/2006	6.1	3.6	<0.20	3.6
	3/16/2007	14	0.47	<0.20	0.28
	9/13/2007	8.8	4.4	<0.20	4.5
	2/28/2008	9.6	0.22	<0.20	<0.20
	9/8/2008	8.6 (8.1)	1.9 (1.9)	<0.20	0.96 (1.0)
	3/24/2009	11(11)	0.38 (0.28)	<0.20	<0.20
	9/18/2009	5.2	4	<0.20	6.4
	5/18/2010	6	<0.20	<0.20	<0.20
	10/7/2010	8.3	1.3	<0.20	1.1
	3/23/2011	7.9	<0.20	<0.20	<0.20
	9/8/2011	7.2	1.5	<0.20	1.2
	3/23/2012	7.0	<0.20	<0.20	<0.20
	9/14/2012	5.3	0.74	<0.20	0.52
	3/28/2013	2.8	<0.20	<0.20	<0.20
	9/4/2013	4.4	0.70	<0.20	0.53
	4/4/2014	3.3	<0.20	<0.20	<0.20
	9/23/2014	2.9	0.73	<0.20	1.7
	3/17/2015	2.6	<0.20	<0.20	<0.20
	9/28/2015	1.2	0.54	<0.20	6.2
	6/15/2016	2.3	0.2	<0.20	<0.20
	9/27/2016	1.6	0.47	<0.20	4.4
	3/29/2017	0.6	<0.20	<0.20	<0.20
	9/14/2017	*	*	*	*
	3/27/2018	0.57	<0.20	<0.20	<0.20
	11/28/2018	2.2	<0.20	<0.20	<0.20
	3/21/2019	1.4	<0.20	<0.20	<0.20
	9/25/2019	1.7	<0.20	<0.20	0.75

Table 2: Historical Groundwater Results

Monitoring Well ID	Sampling Date	Volatile Organic Compounds (µg/L)			
		PCE	TCE	VC	cis -1,2-DCE
MW-3	10/22/1997	<5.0	<5.0	<5.0	1.09
	2/19/1999	28	11	7	18
	6/29/1999	12	8	4	8
	9/15/1999	<5.0	10	<5.0	10
	12/14/1999	12	8	10	14
	3/22/2000	7	5	<5.0	7
	9/27/2000	<2.0	<2.0	<2.0	12
	12/20/2000	2	<2.0	<2.0	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	<0.20	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	<0.20	0.95	0.96	3.3
	9/10/2002	0.23	1.3	0.74	4.3
	12/9/2002	<0.20	0.55	0.74	2.6
	3/13/2003	<0.20	0.5(0.50)	0.45(0.45)	2.7(2.7)
	6/17/2003	<0.20	0.22	0.53	3
	9/9/2003	<0.20	<0.20	0.36	2.7
	12/9/2003	<0.20	0.45	0.33	3.1
	3/11/2004	<0.20	0.48	0.42	1.8
	6/9/2004	<0.20	<0.20	0.35	1.9
	9/22/2004	<0.20	<0.20	0.51	2.0
	12/13/2004	<0.20	0.25	0.31	2.4
	3/23/2005	<0.20	<0.20	0.28	2.0
	6/20/2005	<0.20	<0.20	<0.20	1.2 (1.3)
	9/8/2005	<0.20	<0.20	0.23	1.1
	3/16/2007	<0.20	<0.20	<0.20	0.88
	9/13/2007	<0.20	<0.20	<0.20	0.62
	2/28/2008	<0.20	<0.20	0.22	0.88
	9/8/2008	<0.20	<0.20	<0.20	0.47
	3/24/2009	<0.20	<0.20	<0.20	0.56
	9/18/2009	<0.20	<0.20	<0.20	0.72 (0.73)
	5/18/2010	<0.20	<0.20	<0.20	0.48 (0.52)
	10/7/2010	<0.20	<0.20	<0.20	0.36
	3/23/2011	<0.20	<0.20	<0.20	0.41
	9/8/2011	<0.20	<0.20	<0.20	0.32
	3/23/2012	<0.20	<0.20	<0.20	0.53
	9/14/2012	<0.20	<0.20	<0.20	0.24
	3/28/2013	<0.20	<0.20	<0.20	0.35
	9/4/2013	<0.20	<0.20	<0.20	0.34
	4/4/2014	<0.20	<0.20	<0.20	0.38
	9/23/2014	<0.20	<0.20	<0.20	0.23
	3/17/2015	<0.20	<0.20	<0.20	0.41
	9/28/2015	<0.20	<0.20	<0.20	0.31
	6/15/2016	<0.20	<0.20	<0.20	0.27
	9/27/2016	*	*	*	*
	3/29/2017	<0.20	<0.20	<0.20	0.29
	9/14/2017	*	*	*	*
	3/27/2018	<0.20 (<0.20)	<0.20 (<0.20)	<0.20 (<0.20)	<0.20 (<0.20)
	11/28/2018	<0.20 (<0.20)	<0.20 (<0.20)	<0.20 (<0.20)	0.27 (0.25)
	3/21/2019	<0.20 (<0.20)	<0.20 (<0.20)	<0.20 (<0.20)	<0.20 (<0.20)
	9/25/2019	<0.20 (<0.20)	<0.20 (<0.20)	<0.20 (<0.20)	0.21 (<0.20)

Table 2: Historical Groundwater 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	<5.0	8
	9/27/2000	16	12	8	14
	12/20/2000	16	8	<2.0	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	<0.20	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	<0.20	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	<0.20	0.93
	3/23/2005	2.2	1.0	<0.20	1.5
	6/20/2005	0.74	0.93	0.57	2.1
	9/8/2005	0.64 (0.65)	0.88 (0.88)	<0.20 (<0.20)	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)	<0.20 (<0.20)	1.2 (1.2)
	9/13/2007	0.68 (0.63)	0.65 (0.71)	<0.20 (<0.20)	1.2 (1.3)
	2/28/2008	0.73 (0.72)	0.64 (0.61)	0.2 (<0.20)	1.1 (1.1)
	9/8/2008	0.23	2.2	<0.20	4.6
	3/24/2009	0.56	2.9	<0.20	4.8
	9/18/2009	<0.20	1.2	<0.20	8.8
	5/18/2010	0.27	1.6	<0.20	6.9
	10/7/2010	<0.20	0.52	<0.20	2.4
	3/23/2011	0.46	0.48	<0.20	0.66
	9/8/2011	0.23 (0.25)	0.52 (0.58)	<0.20 (<0.20)	5.6 (5.1)
	3/23/2012	0.36 (0.34)	0.58 (0.57)	<0.20 (<0.20)	0.48 (0.47)
	9/14/2012	<0.20 (<0.20)	0.23 (0.29)	<0.20 (<0.20)	5.4 (6.1)
	3/28/2013	<0.20 (<0.20)	0.63 (0.62)	<0.20 (<0.20)	3.4 (3.5)
	9/4/2013	<0.20 (<0.20)	0.21 (0.21)	<0.20 (<0.20)	6.8 (6.7)
	4/4/2014	0.31 (0.29)	0.37 (0.36)	<0.20 (<0.20)	0.83 (0.85)
	9/23/2014	<0.20 (<0.20)	<0.20 (<0.20)	<0.20 (<0.20)	3.8 (3.9)
	3/17/2015	<0.20 (<0.20)	0.32 (0.34)	<0.20 (<0.20)	5.1 (5.4)
	9/28/2015	<0.20 (<0.20)	<0.20 (<0.20)	<0.20 (<0.20)	4.6 (4.6)
	6/15/2016	<0.20 (<0.20)	<0.20 (<0.20)	<0.20 (<0.20)	6.0 (5.7)
	9/27/2016	0.42 (0.37)	1.1 (1.1)	<0.20 (<0.20)	5.5 (5.5)
	3/29/2017	<0.20 (<0.20)	0.35 (0.36)	<0.20 (<0.20)	3.6 (3.8)
	9/14/2017	1.4 (1.5)	3.0 (3.0)	<0.20 (<0.20)	8.0 (8.1)
	3/27/2018	<0.20	<0.20	<0.20	2.4
	11/28/2018	<0.20	<0.20	<0.20	5.2
	3/21/2019	<0.20	<0.20	<0.20	2.8
	9/25/2019	<0.20	<0.20	<0.20	6.0

Table 2: Historical Groundwater Results

Monitoring Well ID	Sampling Date	Volatile Organic Compounds (µg/L)			
		PCE	TCE	VC	cis -1,2-DCE
MW-9	10/22/1997	<5.0	<5.0	<5.0	<5.0
	2/19/1999	<5.0	<5.0	<5.0	<5.0
	6/29/1999	<5.0	<5.0	<5.0	<5.0
	9/15/1999	<5.0	<5.0	<5.0	<5.0
	12/14/1999	<5.0	<5.0	<5.0	<5.0
	3/22/2000	<5.0	<5.0	<5.0	<5.0
	9/28/2000	<2.0	<2.0	<2.0	<2.0
	12/20/2000	<2.0	<2.0	<2.0	<2.0
	3/28/2001	<0.20	<0.20	<0.20	<0.20
	6/14/2001	<0.20	<0.20	<0.20	<0.20
	9/12/2001	<0.20	<0.20	<0.20	<0.20
	12/18/2001	<0.20	<0.20	<0.20	<0.20
	3/26/2002	<0.20	<0.20	0.21	0.44
	6/10/2002	<0.20	<0.20	<0.20	0.21
	9/10/2002	<0.20	<0.20	<0.20	0.46
	12/9/2002	<0.20	<0.20	<0.20	0.26
	3/13/2003	<0.20	<0.20	<0.20	<0.20
	6/18/2003	<0.20	<0.20	<0.20	<0.20
	9/9/2003	<0.20	<0.20	<0.20	<0.20
	12/9/2003	<0.20	<0.20	<0.20	<0.20
	3/10/2004	<0.20	<0.20	<0.20	<0.20
	6/9/2004	<0.20	<0.20	<0.20	<0.20
	9/22/2004	<0.20	<0.20	<0.20	<0.20
	12/13/2004	<0.20	<0.20	<0.20	<0.20
	3/23/2005	<0.20	<0.20	<0.20	<0.20
	6/20/2005	<0.20	<0.20	<0.20	<0.20
	9/8/2005	<0.20	<0.20	<0.20	<0.20
	3/6/2006	<0.20	<0.20	<0.20	<0.20
	9/21/2006	<0.20	<0.20	<0.20	<0.20
	3/16/2007	<0.20	<0.20	<0.20	<0.20
	9/13/2007	<0.20	<0.20	<0.20	<0.20
	2/28/2008	<0.20	<0.20	<0.20	<0.20
	9/8/2008	<0.20	<0.20	<0.20	<0.20
	3/24/2009	<0.20	<0.20	<0.20	<0.20
	9/18/2009	<0.20	<0.20	<0.20	<0.20
	5/18/2010	<0.20	<0.20	<0.20	<0.20
	10/7/2010	<0.20	<0.20	<0.20	<0.20
	3/23/2011	<0.20	<0.20	<0.20	<0.20
	9/8/2011	<0.20	<0.20	<0.20	<0.20
	3/23/2012	<0.20	<0.20	<0.20	<0.20
	9/14/2012	<0.20	<0.20	<0.20	<0.20
	3/28/2013	<0.20	<0.20	<0.20	<0.20
	9/4/2013	<0.20	<0.20	<0.20	<0.20
	4/4/2014	<0.20	<0.20	<0.20	<0.20
	9/23/2014	<0.20	<0.20	<0.20	<0.20
	3/17/2015	<0.20	<0.20	<0.20	<0.20
	9/28/2015	<0.20	<0.20	<0.20	<0.20
	6/15/2016	<0.20	<0.20	<0.20	<0.20
	9/27/2016	<0.20	<0.20	<0.20	<0.20
	3/29/2017	<0.20	<0.20	<0.20	<0.20
	9/14/2017	<0.20	<0.20	<0.20	<0.20
	3/27/2018	<0.20	<0.20	<0.20	<0.20
	11/28/2018	<0.20	<0.20	<0.20	<0.20
	3/21/2019	<0.20	<0.20	<0.20	<0.20
	9/25/2019	<0.20	<0.20	<0.20	<0.20

Table 2: Historical Groundwater Results

Monitoring Well ID	Sampling Date	Volatile Organic Compounds (µg/L)			
		PCE	TCE	VC	cis -1,2-DCE
MW-10	10/22/1997	<5.0	<5.0	1.39	2.53
	2/19/1999	67	14	<5.0	22
	6/29/1999	30	14	<5.0	11
	9/15/1999	7	8	<5.0	7
	12/14/1999	15	14	<5.0	21
	3/22/2000	17	9	<5.0	11
	9/28/2000	3	5	<2.0	5
	12/20/2000	4	<2.0	<2.0	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	<0.20	2.4
	12/9/2002	<0.20	2.5	0.61	4.9
	3/13/2003	<0.20	2.2	0.22	3.1
	6/18/2003	<0.20	1.6	0.38	5.7
	9/9/2003	<0.20	0.84	0.33	1.9
	12/9/2003	0.31	3.6	0.59	7.5
	3/11/2004	<0.20	2.8	0.53	5.7
	6/9/2004	<0.20	0.64	1.3	4.4
	9/22/2004	<0.20	0.94	1.1	3.2
	12/13/2004	<0.20	0.81	0.51	4.8
	3/23/2005	<0.20	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	<0.20	1.5	<0.20	9.1
	2/28/2008	<0.20	0.82	0.33	14
	9/8/2008	<0.20	0.21	0.34	8.7
	3/24/2009	<0.20	<0.20	0.24	6.5
	9/18/2009	<0.20	<0.20	0.27	5
	5/18/2010	<0.20	<0.20	0.52	5.2
	10/7/2010	<0.20	<0.20	0.26 (0.21)	6.4 (6.3)
	3/23/2011	<0.20	<0.20	<0.20 (<0.20)	6.8 (6.8)
	9/8/2011	<0.20	<0.20	0.43	4.1
	3/23/2012	<0.20	<0.20	0.21	4.5
	9/14/2012	<0.20	<0.20	<0.20	4.1
	3/28/2013	<0.20	<0.20	<0.20	4.7
	9/4/2013	<0.20	<0.20	0.54	5.9
	4/4/2014	<0.20	<0.20	<0.20	4.2
	9/23/2014	<0.20	<0.20	0.39	5.5
	3/17/2015	<0.20	<0.20	0.65	5.9
	9/28/2015	<0.20	<0.20	0.41	3.7
	6/15/2016	<0.20	<0.20	0.91	5.8
	9/27/2016	<0.20	<0.20	0.37	3.2
	3/29/2017	<0.20	<0.20	0.59	3.8
	9/14/2017	<0.20	<0.20	0.29	2.3
	3/27/2018	<0.20	<0.20	1.3	3.7
	11/28/2018	<0.20	<0.20	0.32	3.7
	3/21/2019	<0.20	<0.20	1.0	2.9
	9/25/2019	<0.20	<0.20	<0.20	3.1
	3/17/2020	<0.20	<0.20	0.7	3.1
	9/28/2020	<0.20	<0.20	<0.20	2.1
	3/9/2021	<0.20	<0.20	0.39	3.0

Table 2: Historical Groundwater 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	<5.0	45
	9/15/1999	38	35	<5.0	41
	12/14/1999	53	48	<5.0	67
	3/22/2000	58	40	<5.0	28
	9/27/2000	27	19	<2.0	16
	12/20/2000	24	13	<2.0	9
	3/28/2001	19	18	0.78	15
	6/14/2001	24	17	0.49	6
	9/12/2001	20	12	<0.20	4.5
	12/18/2001	26	27	0.44	14
	3/26/2002	24	21	<0.20	12
	6/11/2002	22	14	<0.20	6.5
	9/12/2002	14 (12)	11 (9.2)	<0.20 (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	<0.20	4.3
	9/9/2003	10	6.7	<0.20	1.9
	12/9/2003	12	7.2	<0.20	2.7
	3/10/2004	16 (15)	7.7 (7.4)	<0.20	2.2 (2.2)
	6/9/2004	7.9	5.9	<0.20	2.3
	9/22/2004	11(11)	7.7 (7.8)	<0.20 (<0.20)	2.7 (2.7)
	12/13/2004	9.7	5.9	<0.20	2.3
	3/23/2005	8.0	5.1	<0.20	1.7
	6/20/2005	4.9	3.1	<0.20	1.0
	9/8/2005	5.0	3.9	<0.20	1.5
	3/6/2006	8.2	3.5	<0.20	0.78
	9/21/2006	4.2	2.8	<0.20	0.67
	3/16/2007	6.8	3.1	<0.20	0.81
	9/13/2007	3.1	2.2	<0.20	0.59
	2/28/2008	5.7	1.4	<0.20	0.35
	9/8/2008	1.8	2.4	<0.20	0.57
	3/24/2009	4.3	1.4	<0.20	0.47
	9/18/2009	2	2.2	<0.20	0.66
	5/18/2010	4	1.4	<0.20	0.37
	10/7/2010	1.9	2.5	<0.20	0.66
	3/23/2011	4.8	1	<0.20	<0.20
	9/8/2011	1.5	2.2	<0.20	0.47
	3/23/2012	4.5	2.1	<0.20	0.55
	9/14/2012	1.5	2	<0.20	0.51
	3/28/2013	4.1	2.7	<0.20	0.87
	9/4/2013	3.1	3.4	<0.20	1.4
	4/4/2014	4.4	2.2	<0.20	0.54
	9/23/2014	3.7	3.8	<0.20	1.1
	3/17/2015	3.5	2.9	<0.20	1.2
	9/28/2015	4.3	3.6	<0.20	1.1
	6/15/2016	3	3.4	<0.20	0.74
	9/27/2016	3.2	3.9	<0.20	1.1
	3/29/2017	3.6	2.3	<0.20	0.49
	9/14/2017	1.2	5.1	<0.20	1.5
	3/27/2018	2.9	2	<0.20	0.46
	11/28/2018	4	2.5	<0.20	0.64
	3/21/2019	2.9	1.9	<0.20	0.46
	9/25/2019	3	1.9	<0.20	0.47
	3/17/2020	2.7 (2.7)	1.9 (1.9)	<0.20 (<0.20)	0.46 (0.45)
	9/28/2020	2.7 (2.8)	2.6 (2.6)	<0.20 (<0.20)	0.82 (0.82)
	3/9/2021	2.3 (2.2)	2.0 (2.1)	<0.20 (<0.20)	0.84 (0.77)

Table 2: Historical Groundwater Results

Monitoring Well ID	Sampling Date	Volatile Organic Compounds (µg/L)			
		PCE	TCE	VC	cis -1,2-DCE
MW-1	10/22/1997	<5.0	<5.0	7.7	25.2
	2/19/1999	<5.0	<5.0	<5.0	<5.0
	6/29/1999	<5.0	<5.0	<5.0	<5.0
	9/15/1999	<5.0	<5.0	<5.0	<5.0
	12/14/1999	<5.0	<5.0	<5.0	<5.0
	3/22/2000	<5.0	<5.0	<5.0	<5.0
MW-5	10/22/1997	1.58	2.55	<5.0	<5.0
	2/19/1999	<5.0	<5.0	<5.0	<5.0
	6/29/1999	<5.0	<5.0	<5.0	<5.0
	9/15/1999	<5.0	<5.0	<5.0	<5.0
	12/14/1999	<5.0	<5.0	<5.0	<5.0
	3/22/2000	<5.0	<5.0	<5.0	<5.0
MW-6	10/22/1997	<5.0	<5.0	<5.0	<5.0
	2/19/1999	<5.0	<5.0	<5.0	<5.0
MW-7	10/22/1997	<5.0	<5.0	<5.0	<5.0
	2/18/1999	<5.0	<5.0	<5.0	<5.0
MW-8	10/22/1997	<5.0	<5.0	<5.0	<5.0
	2/18/1999	<5.0	<5.0	<5.0	<5.0
MW-11	10/22/1997	<5.0	<5.0	<5.0	<5.0
	2/18/1999	<5.0	<5.0	<5.0	<5.0
MW-12	10/22/1997	<5.0	<5.0	<5.0	<5.0
	2/19/1999	<5.0	<5.0	<5.0	<5.0
MW-14	6/29/1999	<5.0	<5.0	<5.0	<5.0
	9/15/1999	<5.0	<5.0	<5.0	<5.0
	12/14/1999	<5.0	<5.0	<5.0	<5.0
	3/22/2000	<5.0	<5.0	<5.0	<5.0
	9/27/2000	<2.0	<2.0	<2.0	<2.0
	12/20/2000	<2.0	<2.0	<2.0	<2.0
	3/28/2001	<0.20	<0.20	<0.20	<0.20
	6/14/2001	<0.20	<0.20	<0.20	<0.20
MTCA Cleanup Levels		5.0 A	5.0 A	0.2 A	16 B¹

Notes:

Analytical results in parentheses represent duplicate samples.

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

<0.20 = 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

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: March 2021 Field Parameters

Monitor Well	pH	Conductivity ($\mu\text{S}/\text{cm}$)	Temperature °C	Turbidity NTU	Dissolved Oxygen mg/L	eH rel mV	Purge Rate ml/min	Groundwater Elevation ft amsl
MW-10A	5.97	125	13.6	6.6	0.41	87.2	300	35.0
MW-13	5.92	107	10.8	4.04	1.03	203	250	40.4

Notes:

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.

Table 4: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation	Comments
MW-1	10 - 20	43.70	10/22/1997	12.41	31.29	
			1/14/1998	10.06	33.64	
	43.69		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	
		43.69	2/28/2008	9.68	34.01	New Elevation***
			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	
	47.39	7/9/2012	---	---	New Elevation****	
		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		
		3/29/2017	8.65	38.74		
		9/14/2017	Dry	Dry		
		3/27/2018	12.47	34.92		
		9/13/2018	Dry	Dry		
		10/4/2018	Dry	Dry		
		11/28/2018	12.76	34.63		
		3/21/2019	11.30	36.09		
		9/25/2019	13.08	34.31		
		3/17/2020	10.02	37.37		
		9/28/2020	12.74	34.65		
		3/9/2021	9.25	38.14		

Table 4: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation	Comments
MW-2	10 - 20	44.95	10/22/1997	16.70	28.25	
			1/14/1998	11.51	33.44	
	45.01		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	
		45.01	2/28/2008	8.69	36.32	New Elevation***
			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	
		48.59	7/9/2012	---	---	New Elevation****
			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	
			3/29/2017	6.29	42.30	
			9/14/2017	16.93	31.66	
			3/27/2018	8.38	40.21	
			9/13/2018	Dry	Dry	
			10/4/2018	17.2	31.39	
			11/28/2018	9.44	39.15	
			3/21/2019	8.51	40.08	
			9/25/2019	12.31	36.28	
			3/17/2020	7.99	40.60	
			9/28/2020	13.76	34.83	
			3/9/2021	7.65	40.94	

Table 4: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation	Comments
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	
		48.91	7/9/2012	---	---	New Elevation****
		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		
		3/29/2017	8.80	40.11		
		9/14/2017	Dry	Dry		
		3/27/2018	13.54	35.37		
		9/13/2018	18.40	30.51		
		10/4/2018	17.66	31.25		
		11/28/2018	13.98	34.93		
		3/21/2019	11.26	37.65		
		9/25/2019	16.75	32.16		
		3/17/2020	10.11	38.80		
		9/28/2020	17.40	31.51		
		3/9/2021	9.80	39.11		

Table 4: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation	Comments
MW-4	10 - 20	44.44	10/22/1997	16.18	28.26	
			1/14/1998	13.13	31.31	silted up to 18-19'
			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	
	44.32		2/28/2008	10.74	33.58	New Elevation***
			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	
	47.96		7/9/2012	---	---	New Elevation****
			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	
			3/29/2017	13.33	34.63	
			9/14/2017	18.33	29.63	
			3/27/2018	16.08	31.88	
			9/13/2018	19.38	28.58	
			10/4/2018	19.15	28.81	
			11/28/2018	15.98	31.98	
			3/21/2019	13.88	34.08	
			9/25/2019	17.06	30.90	
			3/17/2020	11.82	36.14	
			9/28/2020	17.14	30.82	
			3/9/2021	12.03	35.93	

Table 4: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation	Comments
MW-5	10 - 20	44.87	10/22/1997	14.42	30.02	
			1/14/1998	NA	NA	Well not accessible
	44.92		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	
		44.92	2/28/2008	8.82	36.10	New Elevation***
			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	
		48.52	7/9/2012	---	---	New Elevation****
			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	
			3/29/2017	5.87	42.65	
			9/14/2017	11.28	37.24	
			3/27/2018	7.70	40.82	
			9/13/2018	10.47	38.05	
			10/4/2018	10.11	38.41	
			11/28/2018	8.79	39.73	
			3/21/2019	8.11	40.41	
			9/25/2019	10.11	38.41	
			3/17/2020	7.26	41.26	
			9/28/2020	10.62	37.90	
			3/9/2021	6.62	41.90	

Table 4: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation	Comments
MW-6	10 - 20	45.22	10/22/1997	11.01	33.43	
			1/14/1998	9.63	35.59	
	45.27		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	
	48.84	45.27	2/28/2008	9.13	36.14	New Elevation***
			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	
			7/9/2012	---	---	New Elevation****
			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	
			3/29/2017	7.32	41.52	
			9/14/2017	10.75	38.09	
			3/27/2018	8.31	40.53	
			9/13/2018	8.72	40.12	
			10/4/2018	8.49	40.35	
			11/28/2018	9.39	39.45	
			3/21/2019	8.72	40.12	
			9/25/2019	10.15	38.69	
			3/17/2020	7.56	41.28	
			9/28/2020	10.35	38.49	
			3/9/2021	7.75	41.09	

Table 4: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation	Comments
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 4: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation	Comments
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	
			3/23/2011	10.47	34.36	*Well box replaced.
			9/8/2011	16.63	31.81	These water levels were corrected using the 7/9/12 survey data.
			3/23/2012	10.10	38.3	
	48.44	7/9/2012	---	---	New Elevation****	
	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			
	3/29/2017	9.71	38.73			
	9/14/2017	17.57	30.87			
	3/27/2018	14.09	34.35			
	9/13/2018	18.67	29.77			
	10/4/2018	18.48	29.96			
	11/28/2018	16.25	32.19			
	3/21/2019	12.03	36.41			
	9/25/2019	16.05	32.39			
	3/17/2020	10.11	38.33			
	9/28/2020	16.17	32.27			
	3/9/2021	9.68	38.76			

Table 4: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation	Comments
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	
			48.37	7/9/2012	---	New Elevation****
				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	
			3/29/2017	13.93	34.44	
			9/14/2017	18.78	29.59	
			3/27/2018	17.25	31.12	
			9/13/2018	Dry	Dry	
			10/4/2018	Dry	Dry	
			11/28/2018	17.26	31.11	
			3/21/2019	15.56	32.81	
			9/25/2019	17.78	30.59	
			3/17/2020	13.84	34.53	
			9/28/2020	17.65	30.72	
			3/9/2021	13.37	35.00	

Table 4: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation	Comments
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 4: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation	Comments
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	
		43.89	2/28/2008	7.80	36.09	New Elevation***
			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	
		47.47	7/9/2012	---	---	New Elevation****
			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	
			3/29/2017	5.85	41.62	
			9/14/2017	11.97	35.5	
			3/27/2018	7.52	39.95	
			9/13/2018	11.2	36.27	
			10/4/2018	10.35	37.12	
			11/28/2018	8.10	39.37	
			3/21/2019	7.93	39.54	
			9/25/2019	9.52	37.95	
			3/17/2020	7.42	40.05	
			9/28/2020	9.58	37.89	
			3/9/2021	7.07	40.40	

Table 4: Historical Groundwater Elevations

Well No.	Screened Interval (feet bgs)	Reference Elevation*	Date	Depth to Water (feet below TOC)	Groundwater Elevation	Comments
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	33.57	
			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	
		45.89	2/28/2008	12.75	33.14	New Elevation***
			9/8/2008	16.19	29.70	
			3/24/2009	11.37	34.52	
			9/18/2009	Dry	Dry	
			5/18/2010	11.49	34.40	
			10/7/2010	Dry	Dry	
			3/23/2011	10.17	35.72	
			9/8/2011	Dry	Dry	
			3/23/2012	9.67	36.22	
		49.5	7/9/2012	---	---	New Elevation****
			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	
			3/29/2017	10.78	38.72	
			9/14/2017	Dry	Dry	
			3/27/2018	16.07	33.43	
			9/13/2018	Dry	Dry	
			10/4/2018	Dry	Dry	
			11/28/2018	12.19	37.31	
			3/21/2019	12.66	36.84	
			9/25/2019	15.67	33.83	
			3/17/2020	10.92	38.58	
			9/28/2020	12.66	36.84	
			3/9/2021	10.55	38.95	

Notes:

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

**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.

TOC = top of PVC well casing.

NC = Not Collected due to damaged well monument.

bgs = below ground surface.

Dry = water level at or below well casing

Figures



CLIENT
TMT BEAR CREEK SHOPPING CENTER, INC

CONSULTANT



YYYY-MM-DD 2021-03-19

DESIGNED

EA REDMOND

PREPARED

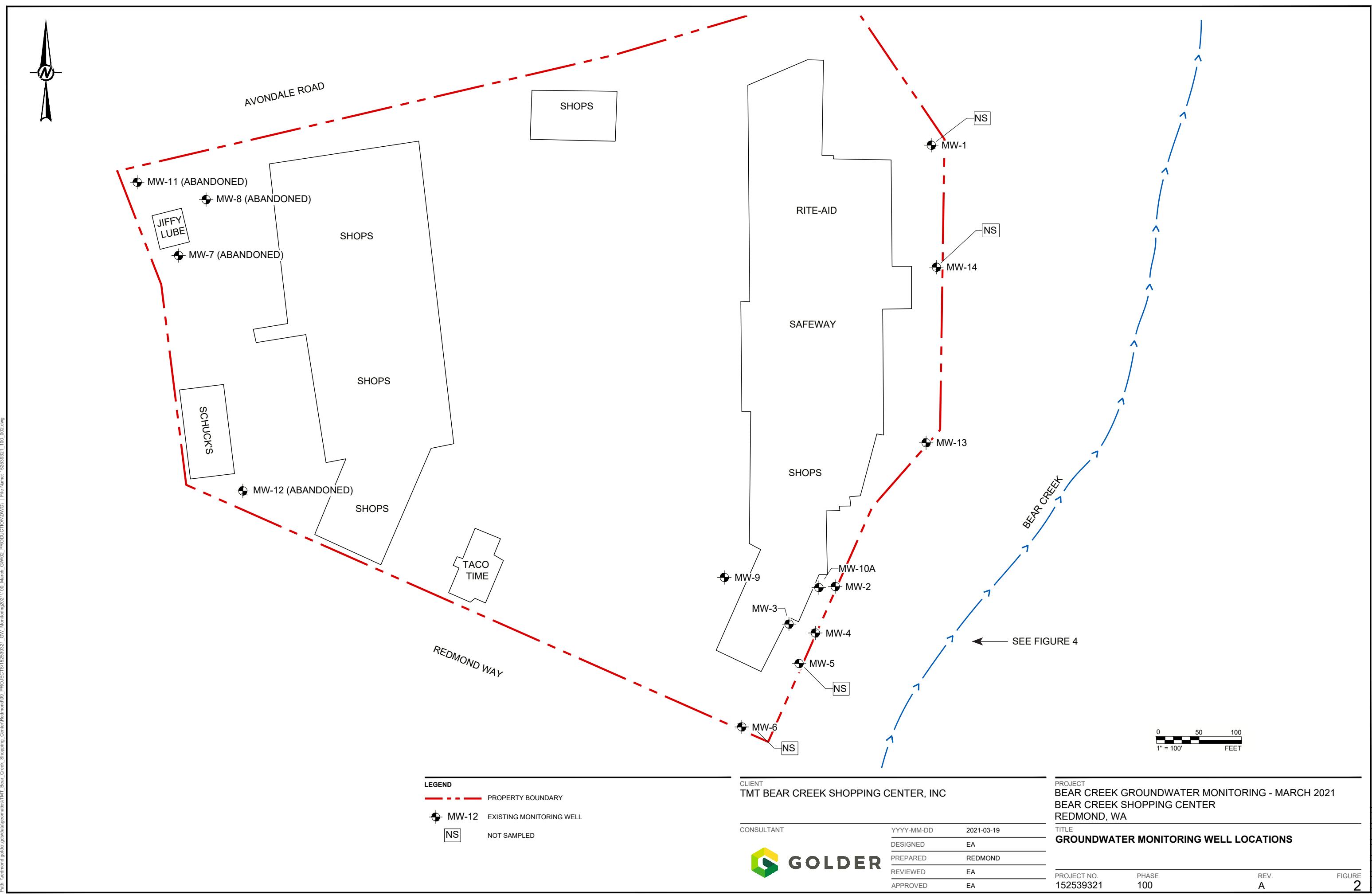
REVIEWED

APPROVED

PROJECT
BEAR CREEK GROUNDWATER MONITORING - MARCH 2021
BEAR CREEK SHOPPING CENTER
REDMOND, WA

TITLE
SITE LOCATION MAP

PROJECT NO.	PHASE	REV.	FIGURE
152539321	100	A	1





LEGEND

- MW-2
42.60
MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION, FEET ABOVE MSL.
- 38
APPROXIMATE GROUNDWATER CONTOUR WITH ELEVATION, FEET ABOVE MSL. DASHED WHERE APPROPRIATE.
- GROUNDWATER FLOW DIRECTION

Image courtesy of USGS Image courtesy of LAR-IAC © 2018 Microsoft Corporation bing

0 30 60
1" = 60' FEET

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

CLIENT
TMT BEAR CREEK SHOPPING CENTER

CONSULTANT

 **GOLDER**

YYYY-MM-DD 2021-03-19

DESIGNED EA

PREPARED REDMOND

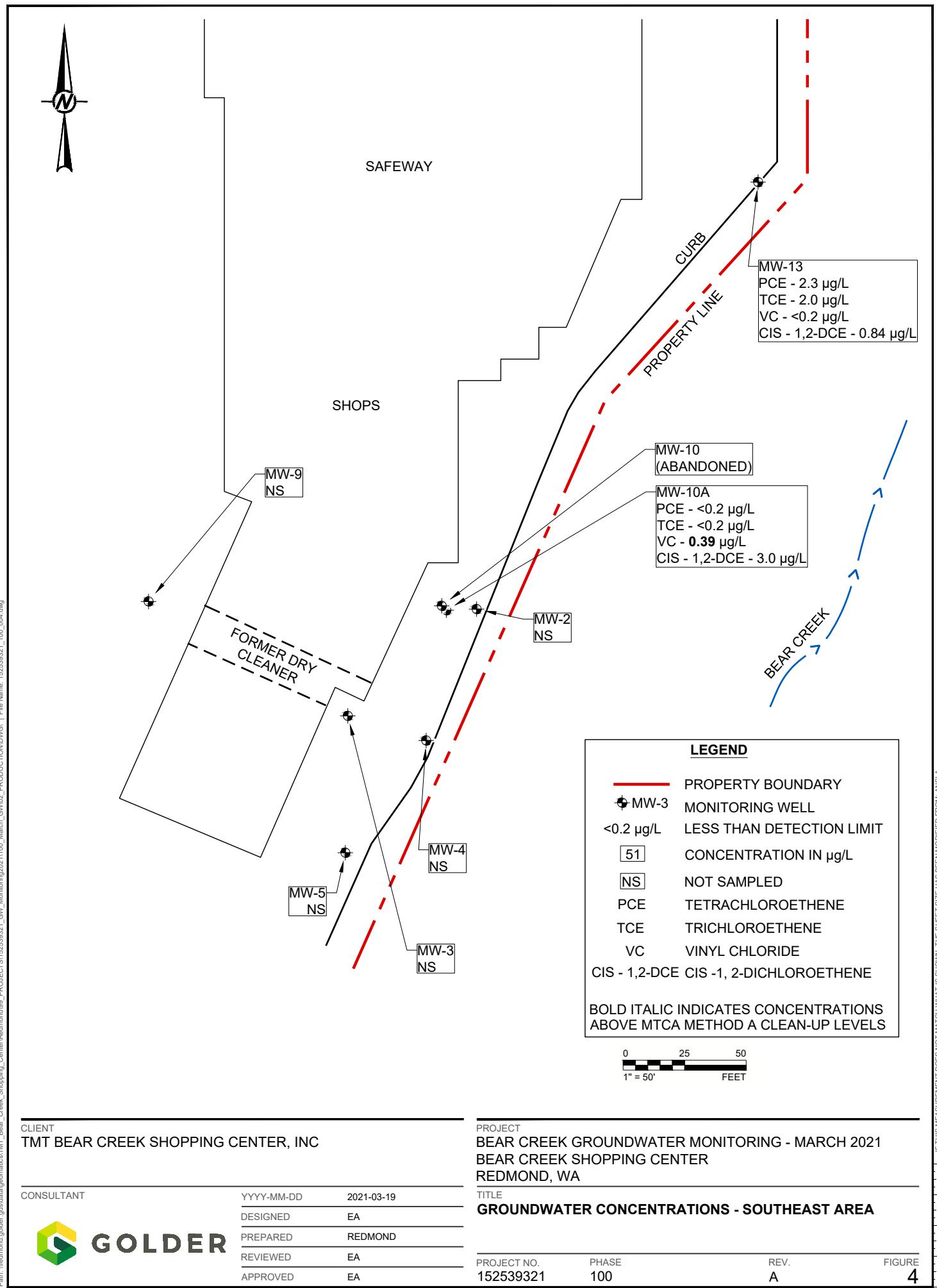
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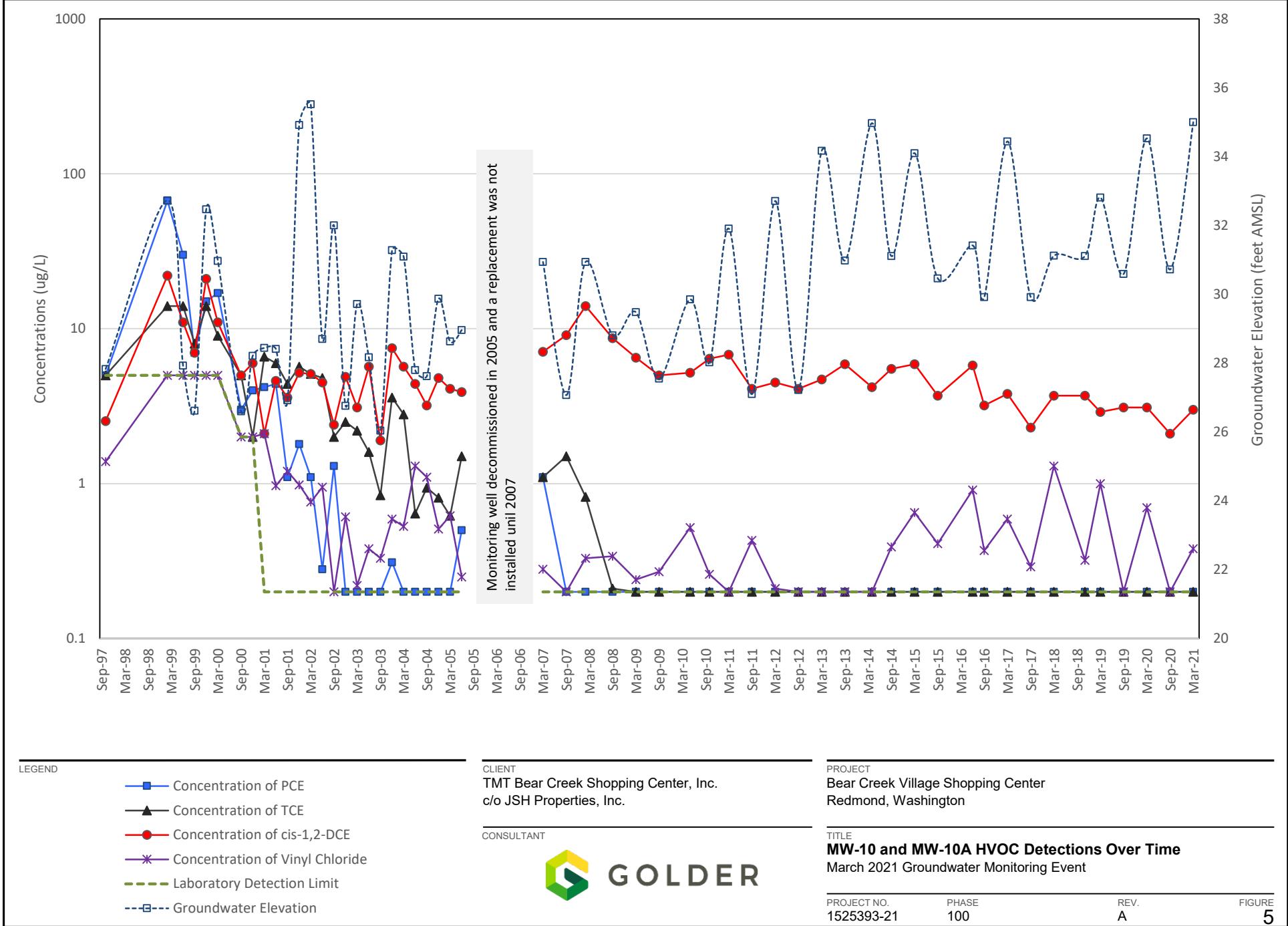
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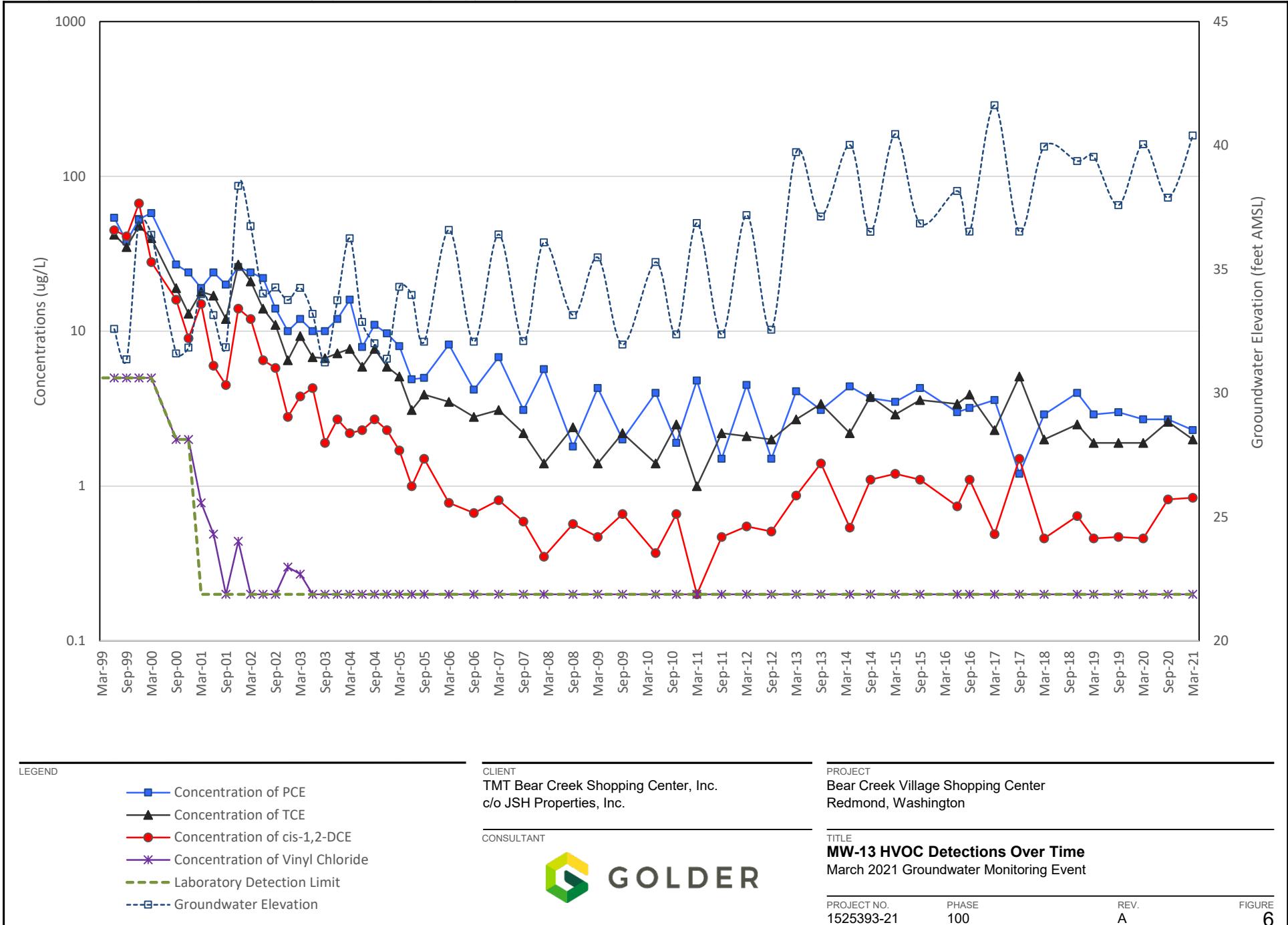
PROJECT
BEAR CREEK GROUNDWATER MONITORING - MARCH 2021
BEAR CREEK SHOPPING CENTER
REDMOND, WA

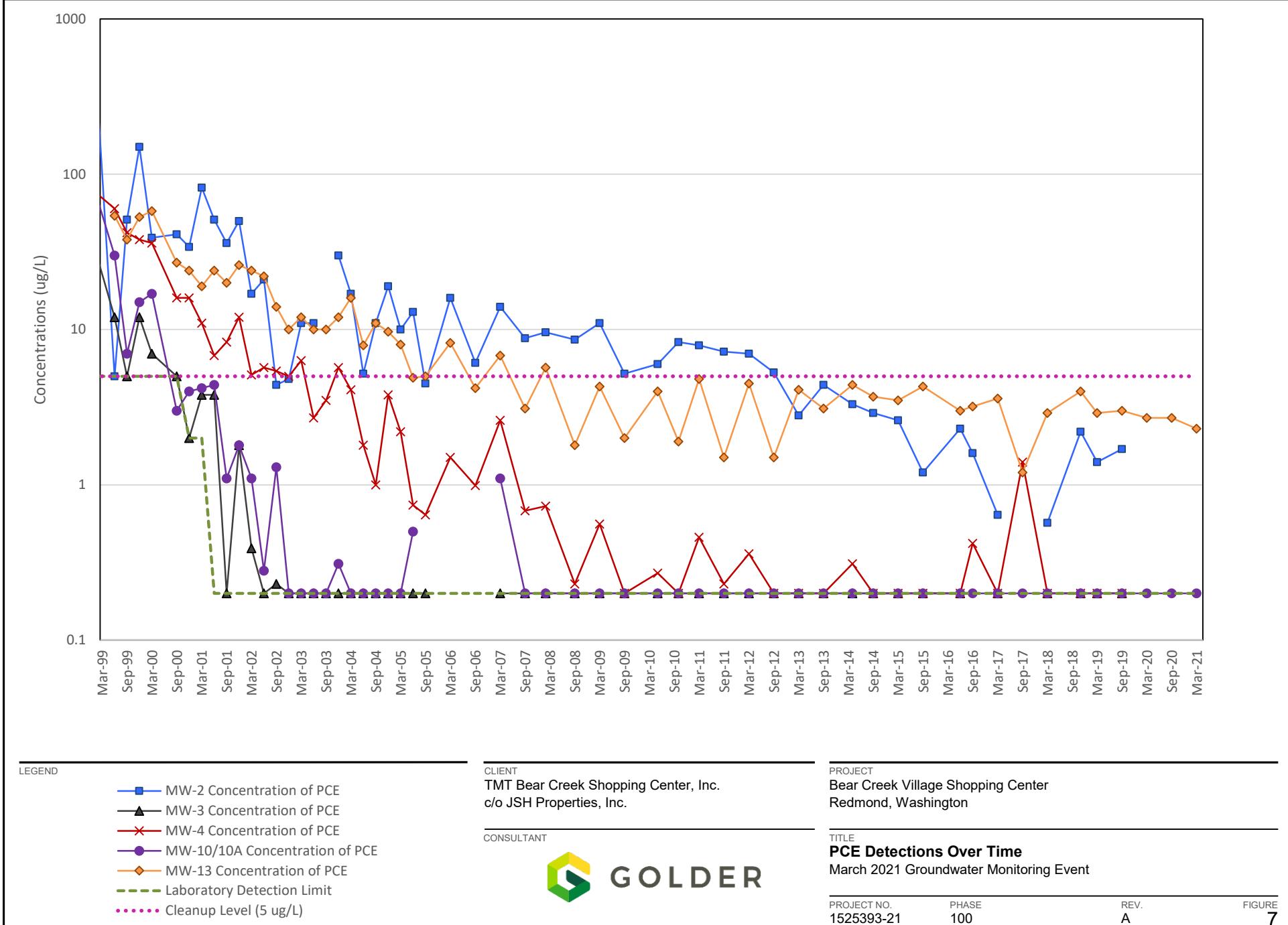
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GROUNDWATER ELEVATIONS

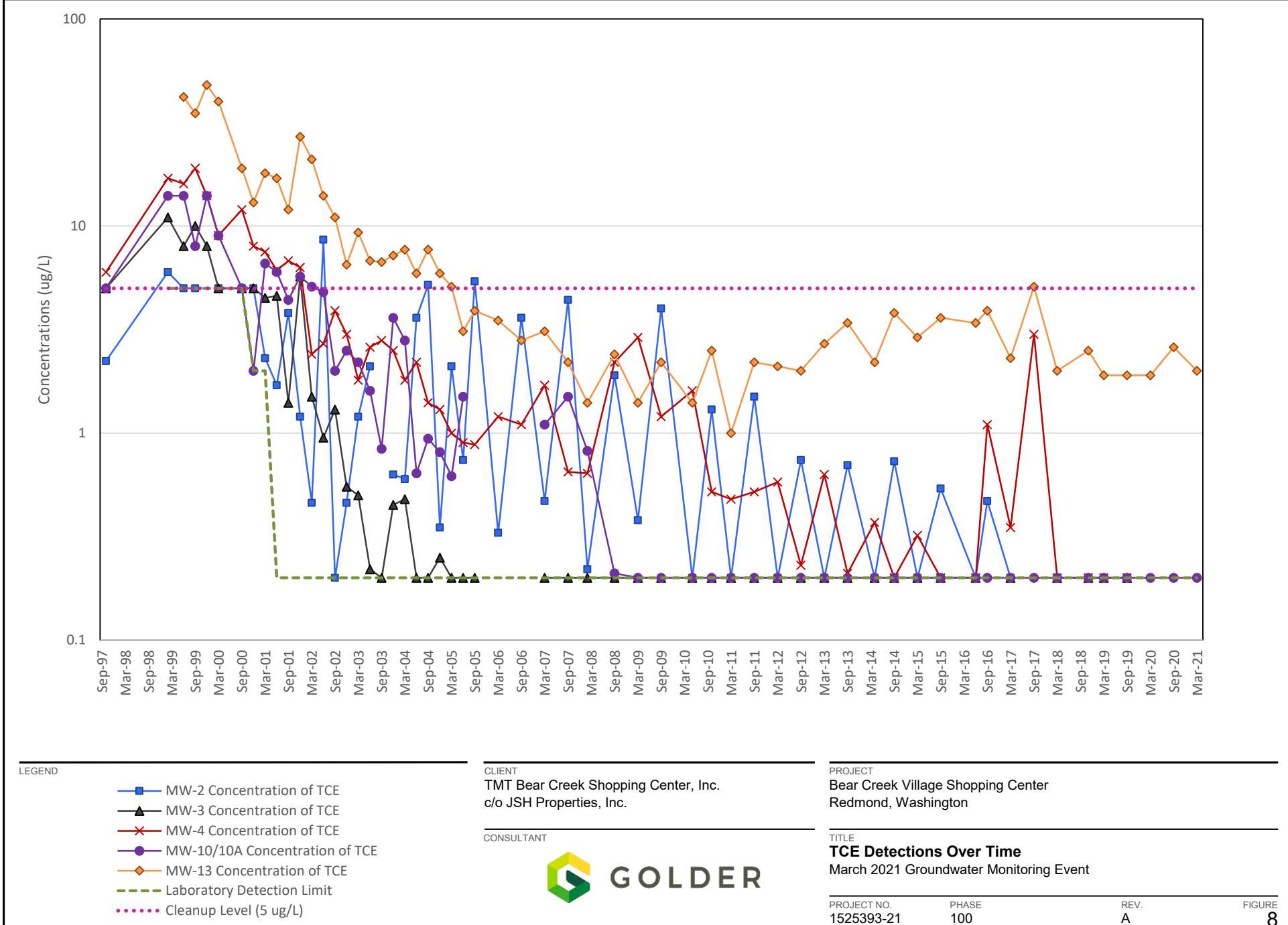
PROJECT NO. 152539321 PHASE 100 REV. A FIGURE 3

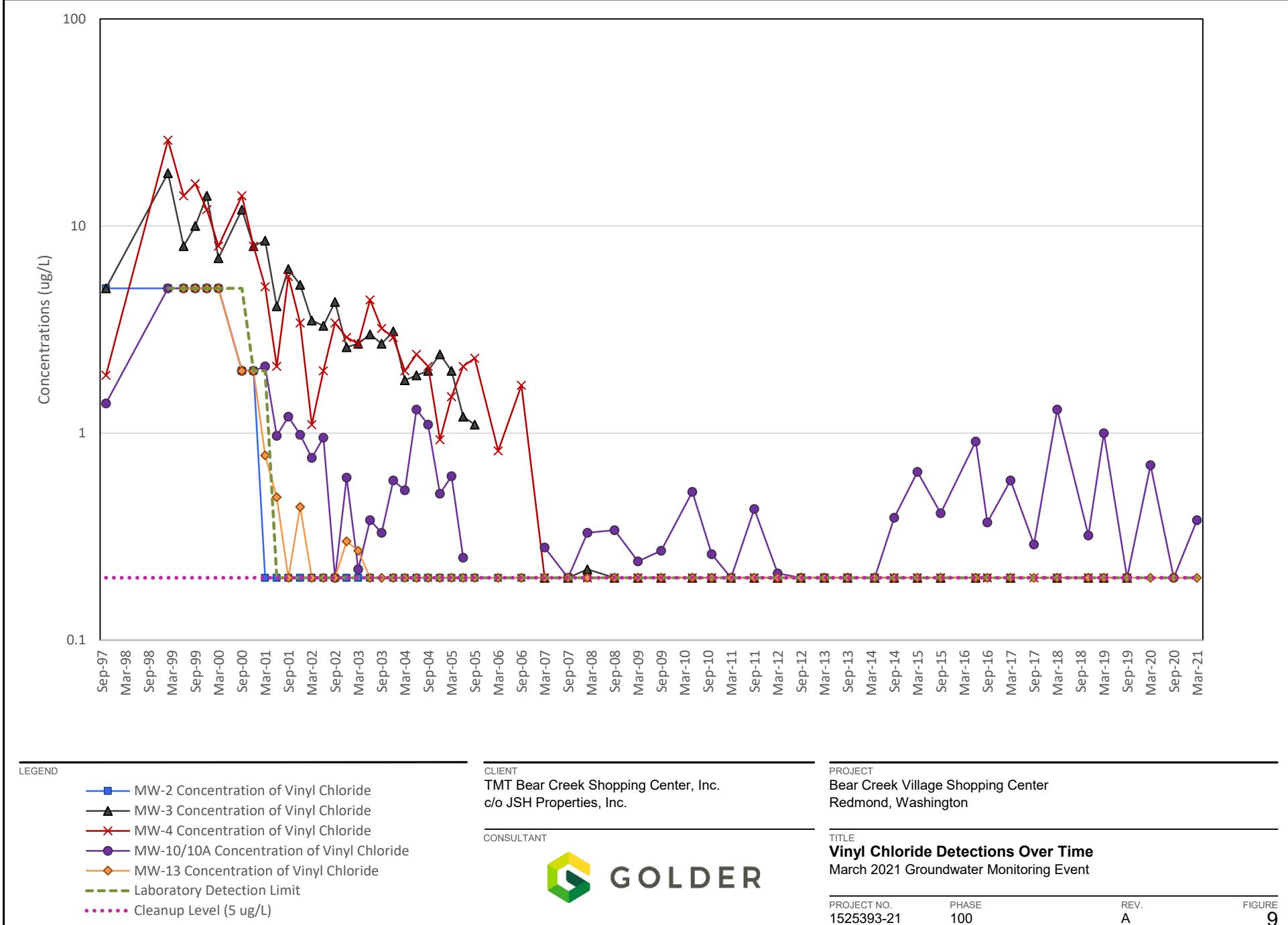












APPENDIX A

Sample Integrity Data Sheets

SAMPLE INTEGRITY DATA SHEET

Plant/Site Bear Creek Village Project No. 152-5393-21.100

Site Location Redmond, WA Sample ID MW-10 A-20210309

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 3/9/21 Time 0940

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: 13.37 BTOC @ 0829

Screened Interval:

Pump intake at: BTOC

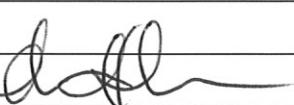
Sample Description CLEAR, NO ODOR, NO SHEEN

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

See Field Parameters Sheet

Aliquot Amount Container Preservation / Amount

3- 40 mL HVOCl VOA Vial HCl

Sampler (signature)  Date 3/9/21

Supervisor (signature)  Date 3/17/21

Well ID MW-10A
Date 3/9/21
Time Begin Purge 0905
Time Collect Sample 0940

Comments:

Purge Rate: 300

Sampler's Initials 7t

SAMPLE INTEGRITY DATA SHEET

Plant/Site Bear Creek Village Project No. 152-5393-21.100

Site Location Redmond, WA Sample ID EB-20210309

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 3/9/21 Time 1000

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: — BTOC

Screened Interval: —

Pump intake at: — BTOC

Sample Description LAB PROVIDED DI PUMPED THROUGH NEW
PERISTALTIC TUBING

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

See Field Parameters Sheet

Aliquot Amount	Container	Preservation / Amount
<u>3- 40 mL</u>	<u>HVOC</u>	<u>HCl</u>

Sampler (signature) [Signature] Date 3/9/21

Supervisor (signature) [Signature] Date 3/17/21

Well ID EB-20210309
Date 3/9/21
Time Begin Purge -
Time Collect Sample -

Comments: —

Purge Rate:

Sampler's Initials TH

SAMPLE INTEGRITY DATA SHEET

Plant/Site Bear Creek Village Project No. 152-5393-21.100
Site Location Redmond, WA Sample ID MW - 13-20210309
Sampling Location Groundwater Monitoring well – end of dedicated sampling tube MW-23-20210309

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

Type of Sampler Peristaltic Pump

Date 3/9/21 Time 1115 / 1120

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: 7.07 BTOC @ 0834

Screened Interval:

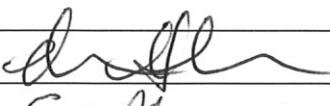
Pump intake at: BTOC

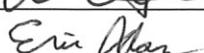
Sample Description CLEAR, NO ODOR / NO SIGHT

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

See Field Parameters Sheet

Aliquot Amount	Container	Preservation / Amount
<u>3- 40 mL</u>	<u>HVOCl</u>	<u>HCl</u>

Sampler (signature)  Date 3/9/21

Supervisor (signature)  Date 3/17/21

Well ID MW-13

Date 3/9/21

Time Begin Purge 1025

Time Collect Sample 1115/1120 PRIMARY/DUPPLICATE

Comments:

PURGE 10 MIN TO CLEAR IRON BACTERIA AT START

Purge Rate: 250 μ L/min

Sampler's Initials TH

APPENDIX B

Laboratory Analytical Reports

Table B-1: Sample Collection and Analysis Summary

SDG	Field Identification	Collection Date	Location	Identification	Matrix	QC Samples	Analyses
							Halogenated Volatiles (EPA 8260C)
2103-092	MW-10A-20210309	3/9/2021	MW-10A	03-092-01	GW	--	X
2103-092	EB-20210309	3/9/2021	--	03-092-02	DI	EB	X
2103-092	MW-13A-20210309	3/9/2021	MW-13	03-092-03	GW	--	X
2103-092	MW-23A-20210309	3/9/2021	MW-13	03-092-04	GW	FD	X

Notes:

All analyses performed by OnSite Environmental, Inc

Abbreviations:

DI - Deionized Water

EB - Equipment Blank

FD - Field Duplicate

GW - Groundwater

QC - Quality Control

SDG - Sample Delivery Group

Table B-2: Qualifier Summary Table

SDG	Sample Name	Constituent	New Result	New RL	Qualifier	Reason
n/a						

Notes:

No Qualifiers Applied

Abbreviations

RL - Reporting Limit

SDG - Sample Delivery Group

Qualifier Definitions

n/a

Table B-3: Field Duplicate Precision

Parameter	MW-13	MW-23*	RPD1 (%)	QC Goal RPD (%)
PCE	2.3	2.2	4.4	0 - 20
TCE	2.0	2.1	4.9	0 - 20
VC	0.2U	0.2U	NA	0 - 20
cis-1,2-DCE	0.84	0.77	8.7	0 - 20
1,3-DCB	0.2U	0.2U	NA	0 - 20

Notes:

1. MW-23 duplicate sample

2. RPD (relative percent difference) = $[(S-D) * 100] / [(S+D)/2]$
where, S = first / original sample value and, D = second (duplicate) sample value.

3. U - Analyte was analyzed for but was not detected



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

March 12, 2021

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

Re: Analytical Data for Project 152539321.100
Laboratory Reference No. 2103-092

Dear Eric:

Enclosed are the analytical results and associated quality control data for samples submitted on March 9, 2021.

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,

A handwritten signature in black ink, appearing to read "DBS".

David Baumeister
Project Manager

Enclosures



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

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: March 12, 2021
Samples Submitted: March 9, 2021
Laboratory Reference: 2103-092
Project: 152539321.100

Case Narrative

Samples were collected on March 9, 2021 and received by the laboratory on March 9, 2021. 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.



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

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: March 12, 2021
 Samples Submitted: March 9, 2021
 Laboratory Reference: 2103-092
 Project: 152539321.100

VOLATILE ORGANICS EPA 8260D
 page 1 of 2

Matrix: Water
 Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-10A-20210309					
Laboratory ID:	03-092-01					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	3-11-21	3-11-21	
Chloromethane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Vinyl Chloride	0.39	0.20	EPA 8260D	3-11-21	3-11-21	
Bromomethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chloroethane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Trichlorofluoromethane	ND	0.26	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Iodomethane	ND	1.7	EPA 8260D	3-11-21	3-11-21	
Methylene Chloride	ND	1.0	EPA 8260D	3-11-21	3-11-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
(cis) 1,2-Dichloroethene	3.0	0.20	EPA 8260D	3-11-21	3-11-21	
Bromochloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chloroform	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Trichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Dibromomethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromodichloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260D	3-11-21	3-11-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	



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Date of Report: March 12, 2021
 Samples Submitted: March 9, 2021
 Laboratory Reference: 2103-092
 Project: 152539321.100

VOLATILE ORGANICS EPA 8260D
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-10A-20210309					
Laboratory ID:	03-092-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Tetrachloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Dibromochloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dibromoethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromoform	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Bromobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	3-11-21	3-11-21	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
Dibromofluoromethane	93	75-127				
Toluene-d8	101	80-127				
4-Bromofluorobenzene	98	78-125				



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 Laboratory Reference: 2103-092
 Project: 152539321.100

VOLATILE ORGANICS EPA 8260D
 page 1 of 2

Matrix: Water

Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EB-20210309					
Laboratory ID:	03-092-02					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	3-11-21	3-11-21	
Chloromethane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Vinyl Chloride	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromomethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chloroethane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Trichlorofluoromethane	ND	0.26	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Iodomethane	ND	1.7	EPA 8260D	3-11-21	3-11-21	
Methylene Chloride	ND	1.0	EPA 8260D	3-11-21	3-11-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromochloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chloroform	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Trichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Dibromomethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromodichloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260D	3-11-21	3-11-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	



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 Laboratory Reference: 2103-092
 Project: 152539321.100

VOLATILE ORGANICS EPA 8260D
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	EB-20210309					
Laboratory ID:	03-092-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Tetrachloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Dibromochloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dibromoethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromoform	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Bromobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	3-11-21	3-11-21	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
<i>Surrogate:</i>	<i>Percent Recovery</i>		<i>Control Limits</i>			
Dibromofluoromethane	95		75-127			
Toluene-d8	93		80-127			
4-Bromofluorobenzene	96		78-125			



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 Project: 152539321.100

VOLATILE ORGANICS EPA 8260D
 page 1 of 2

Matrix: Water
 Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-13-20210309					
Laboratory ID:	03-092-03					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	3-11-21	3-11-21	
Chloromethane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Vinyl Chloride	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromomethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chloroethane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Trichlorofluoromethane	ND	0.26	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Iodomethane	ND	1.7	EPA 8260D	3-11-21	3-11-21	
Methylene Chloride	ND	1.0	EPA 8260D	3-11-21	3-11-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
(cis) 1,2-Dichloroethene	0.84	0.20	EPA 8260D	3-11-21	3-11-21	
Bromochloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chloroform	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Trichloroethene	2.0	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Dibromomethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromodichloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260D	3-11-21	3-11-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	



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 Project: 152539321.100

VOLATILE ORGANICS EPA 8260D
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-13-20210309					
Laboratory ID:	03-092-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Tetrachloroethene	2.3	0.20	EPA 8260D	3-11-21	3-11-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Dibromochloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dibromoethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromoform	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Bromobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	3-11-21	3-11-21	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
Dibromofluoromethane	94	75-127				
Toluene-d8	97	80-127				
4-Bromofluorobenzene	102	78-125				



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 Project: 152539321.100

VOLATILE ORGANICS EPA 8260D
 page 1 of 2

Matrix: Water
 Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-23-20210309					
Laboratory ID:	03-092-04					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	3-11-21	3-11-21	
Chloromethane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Vinyl Chloride	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromomethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chloroethane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Trichlorofluoromethane	ND	0.26	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Iodomethane	ND	1.7	EPA 8260D	3-11-21	3-11-21	
Methylene Chloride	ND	1.0	EPA 8260D	3-11-21	3-11-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
(cis) 1,2-Dichloroethene	0.77	0.20	EPA 8260D	3-11-21	3-11-21	
Bromochloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chloroform	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Trichloroethene	2.1	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Dibromomethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromodichloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260D	3-11-21	3-11-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	



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 Project: 152539321.100

VOLATILE ORGANICS EPA 8260D
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-23-20210309					
Laboratory ID:	03-092-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Tetrachloroethene	2.2	0.20	EPA 8260D	3-11-21	3-11-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Dibromochloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dibromoethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromoform	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Bromobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	3-11-21	3-11-21	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
<hr/>						
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	97	75-127				
Toluene-d8	94	80-127				
4-Bromofluorobenzene	99	78-125				



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 Project: 152539321.100

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL
 page 1 of 2

Matrix: Water
 Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0311W1					
Dichlorodifluoromethane	ND	0.26	EPA 8260D	3-11-21	3-11-21	
Chloromethane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Vinyl Chloride	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromomethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chloroethane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Trichlorofluoromethane	ND	0.26	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Iodomethane	ND	1.7	EPA 8260D	3-11-21	3-11-21	
Methylene Chloride	ND	1.0	EPA 8260D	3-11-21	3-11-21	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2,2-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromochloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chloroform	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,1-Trichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Carbon Tetrachloride	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Trichloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Dibromomethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromodichloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260D	3-11-21	3-11-21	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260D	3-11-21	3-11-21	



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

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Date of Report: March 12, 2021
 Samples Submitted: March 9, 2021
 Laboratory Reference: 2103-092
 Project: 152539321.100

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0311W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Tetrachloroethene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,3-Dichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Dibromochloromethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dibromoethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Chlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Bromoform	ND	1.0	EPA 8260D	3-11-21	3-11-21	
Bromobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2,3-Trichloropropane	ND	0.20	EPA 8260D	3-11-21	3-11-21	
2-Chlorotoluene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
4-Chlorotoluene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,3-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,4-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260D	3-11-21	3-11-21	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Hexachlorobutadiene	ND	1.0	EPA 8260D	3-11-21	3-11-21	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260D	3-11-21	3-11-21	
Surrogate:	Percent Recovery	Control Limits				
Dibromofluoromethane	98	75-127				
Toluene-d8	97	80-127				
4-Bromofluorobenzene	98	78-125				



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VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water

Units: ug/L

Analyte	Result	Spike Level		Percent Recovery		Recovery Limits	RPD RPD	RPD Limit	Flags							
		Recovery	Limits													
SPIKE BLANKS																
Laboratory ID: SB0311W1																
		SB	SBD	SB	SBD	SB	SBD									
1,1-Dichloroethene	8.99	9.42	10.0	10.0	90	94	65-126	5	19							
Benzene	9.20	9.13	10.0	10.0	92	91	71-119	1	16							
Trichloroethene	9.80	10.2	10.0	10.0	98	102	82-123	4	18							
Toluene	8.93	9.86	10.0	10.0	89	99	77-119	10	18							
Chlorobenzene	9.82	9.96	10.0	10.0	98	100	80-120	1	17							
<i>Surrogate:</i>																
<i>Dibromofluoromethane</i>					95	92	75-127									
<i>Toluene-d8</i>					95	102	80-127									
<i>4-Bromofluorobenzene</i>					104	99	78-125									



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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-naphthalene) 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 methods 8260 & 8270, 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

 Page 1 of 1

 Company: **GOLDE**
 Project Number: **152539322.100**

 Project Name: **BEAR CREEK VILLAGE**

 Project Manager: **ERIC ADAMS**
 Sampled by: **TOM HASKINS**

 Turnaround Request
 (in working days)

 Laboratory Number: **03-092**

 Page 1 of 1

- (Check One)
- Same Day 1 Day
 2 Days 3 Days
 Standard (7 Days)
 _____ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
1	MW-10A-20210309	3/9/21	0940	GW	3
2	EB-20210309		1000	DI	3
3	MW-13-20210309		1215	GW	3
4	MW-23-20210309	✓	1220	GW	3

NWTPH-HCID	
NWTPH-Gx/BTEX	
NWTPH-Gx	
NWTPH-Dx (<input type="checkbox"/> 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	

Signature	Company	Date	Time	Comments/Special Instructions
<i>Tom T. Haskins</i>	GOLDE	3/9/21	11:55	ANALYZE IN ACCORDANCE WITH MSCA BETWEEN GOLDE AND ONSITE, DATED 2/24/21

Relinquished	<i>Tom T. Haskins</i>	3/9/21	11:55
Received	<i>Eric Adams</i>	3/9/21	11:55
Relinquished			
Received			
Reviewed			
Reviewed/Dates			

 Data Package: Standard Level III Level IV

 Chromatograms with final report Electronic Data Deliverables (EDDs)



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