

February and March 2023 Groundwater Monitoring Report

**Cascade Village – Former Cascade
Cleaners**

16912 116th Avenue Southeast

Renton, Washington 98058

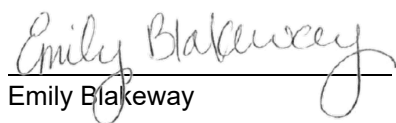
Cleanup Site ID 16659

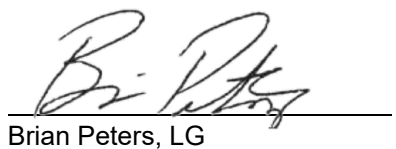
Facility/Site ID 59939615

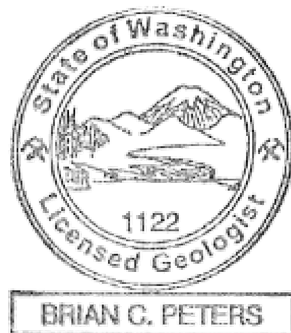
VCP No. NW3348

MBA Cascade Plaza, LLC

April 18, 2023


Emily Blakeway


Brian Peters, LG



The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD

9725 3rd Avenue NE, Suite 204

Seattle, Washington 98115, United States

T +1 425 563 6500 | F +1 425 563 6599 | E info-northamerica@ghd.com | ghd.com

Printed date	4/17/2023 3:39:00 PM
Last saved date	April 17, 2023
File name	\\ghdnet\ghd\US\Lynnwood\Projects\663\11214033\Tech\11214033-REPORTS\11214033-RPT3-2021 Annual Groundwater Monitoring Report\11214033-RPT3-2021 Annual Groundwater Monitoring Report.docx
Author	Mike Noll
Project manager	Emily Blakeway
Client name	MBA Cascade Plaza, LLC
Project name	Former Cascade Cleaners
Document title	February and March 2023 Groundwater Monitoring Report Cascade Village – Former Cascade Cleaners
Revision version	Rev [00]
Project number	12561532

Document status

Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S0	00	Mike Noll	Emily Blakeway		Brian Peters		4/18/23
[Status code]							

© GHD 2023

This document is and shall remain the property of GHD. The document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorized use of this document in any form whatsoever is prohibited.

Contents

1.	Introduction	1
1.1	Current Site Conditions	1
2.	February 2023 Field Activities	1
2.1	Hydraulic Monitoring	1
2.2	Groundwater Sampling and Analysis	2
2.3	Decontamination	2
2.4	Investigation Derived Waste	2
2.5	Hydraulic Monitoring and Groundwater Sampling Results	2
3.	March 2023 Field Activities	3
3.1	Hydraulic Monitoring	3
3.2	Groundwater Sampling and Analysis	3
3.3	Decontamination	3
3.4	Investigation Derived Waste	3
3.5	March 2023 Hydraulic Monitoring and Groundwater Sampling Results	4
4.	Summary	4

Table Index

Table 1	Summary of Groundwater Analytical Results
----------------	--

Figure Index

Figure 1	Vicinity Map
Figure 2	Area Map
Figure 3	Shallow Zone Groundwater Contour Map – February 8, 2023
Figure 4	Intermediate Zone Groundwater Contour Map – February 8, 2023
Figure 5	Shallow Zone Groundwater Chemical Concentration Map – 2018 to 2023
Figure 6	Intermediate Zone Groundwater Chemical Concentration Map – 2018 to 2023
Figure 7	Deep Zone Groundwater Chemical Concentration Map – 2018 to 2023

Appendices

Appendix A	Groundwater Monitoring Field Data Sheets
Appendix B	Laboratory Analytical Reports

1. Introduction

GHD Services, Inc. (GHD) prepared this *February and March 2023 Groundwater Monitoring Report* on behalf of MBA Cascade Plaza, LLC, (MBA) for the former Cascade Cleaners located at 16912 116th Avenue SE, Renton, King County, Washington (Property). The Property is located southeast of the intersection of Southeast 168th Street and 116th Avenue Southeast (Figure 1).

The purpose of this report is to present the results of the February and March 2023 groundwater monitoring events conducted at the Property. The Property is currently in the Washington State Department of Ecology's Voluntary Cleanup Program (VCP), under VCP Number NW3348, and Facility Site ID number 59939615.

1.1 Current Site Conditions

The Property is a shopping center with four existing buildings (Buildings A, B, D, and E). Building C was demolished in 2017. Cascade Cleaners operated in Building C from at least 1977 until approximately 2010. The former dry cleaner equipment room was located on the west side of the tenant space near the alleyway (Figure 2).

The Cascade Village shopping center historically included a Quality Foods Center (QFC) supermarket in Building A, a Bartell Drugs store in Building B, various tenant spaces in Building C, a bowling alley in Building D, and a Texaco service station at Building E. A lease agreement for Building A with Impact Public Schools was completed in 2021. Building B is currently occupied by various tenants. Building D was converted to a Hooter's sports bar and restaurant in 2009, but has been vacant since 2011. Building E has been remodeled and is currently a barber shop and salon. The Property is mostly paved or covered with buildings.

There are 10 groundwater monitoring wells at the Property. Well MW-5 was installed in 2003 as part of a leaking underground storage tank (LUST) investigation at the Building E former service station. Wells MW-1 through MW-3 were installed in 2015, wells MW-6A & B and MW-7A & B were installed in 2018, and wells MW-8A & B were installed in 2020. Wells MW-5, MW-6A, MW-7A, and MW-8A are screened in a shallow groundwater zone (5 to 15 feet below ground surface [bgs]). Wells MW-2, MW-3, MW-6B, MW-7B, and MW-8B are screened in an intermediate groundwater zone (20 to 40 feet bgs). Well MW-1 is screened in a deep groundwater zone (60 to 80 feet bgs) and is likely connected to the regional groundwater aquifer. The locations of all monitoring wells installed at the Property are presented on Figure 3.

2. February 2023 Field Activities

Field activities completed on February 8, 2023, included gauging and sampling the 10 groundwater monitoring wells at the Property. Monitoring well locations and Property features are illustrated on Figures 3 through 7.

2.1 Hydraulic Monitoring

Depth-to-groundwater was measured in the monitoring wells. Groundwater levels were measured from the monitoring well top of casing (TOC) using an electronic water level meter, and were recorded on the groundwater monitoring field data sheets included in Appendix A.

Groundwater elevations for each monitoring well were calculated from the surveyed TOC elevations and a contour map was developed for each monitoring event using the calculated groundwater elevations for the shallow and intermediate zone monitoring wells (Figures 3 and 4). Available data indicate that the groundwater flow direction within

the shallow and intermediate zones was generally toward the south and southeast. Groundwater elevation data for hydraulic monitoring conducted in 2023 is presented in Table 1.

2.2 Groundwater Sampling and Analysis

GHD contracted with Blaine Tech Services, Inc. (BTS) of Auburn, Washington to complete the February 2023 groundwater monitoring activities. BTS collected groundwater samples using standard low-flow sampling techniques. Low-flow sampling was accomplished using a bladder pump and disposable tubing. The wells were purged at a rate of approximately 200 milliliters per minute (mL/min). Water quality measurements, including temperature, conductivity, turbidity, dissolved oxygen, pH, and oxidation/reduction potential were collected during the purging process using a YSI water quality meter and a turbidity meter. Water quality parameters were taken every 3 to 5 minutes to ensure stabilization had been achieved within at least three consecutive measurements and a representative groundwater sample was collected. Samples were collected from the discharge tube in sample containers, sealed, labeled, and immediately placed in a cooler on ice.

Samples collected during the February 2023 sampling event were transported to ALS Environmental in Everett, Washington under standard chain-of-custody procedures. Groundwater samples were analyzed for halogenated volatile organic compounds (HVOCs) by US Environmental Protection Agency (EPA) Method 8260B. Specific HVOCs analyzed for included tetrachloroethene (also known as perchloroethylene or PCE), trichloroethylene (TCE), cis-1,2-dichloroethylene (cis-DCE), trans-1,2-dichloroethylene (trans-DCE), 1,1-dichloroethylene (DCE), and vinyl chloride (VC).

Copies of groundwater monitoring field data sheets are included in Appendix A. Laboratory analytical reports are provided in Appendix B.

2.3 Decontamination

Groundwater samples were collected using dedicated and single-use equipment. Dedicated equipment included polyethylene and silicone tubing. Single-use sampling equipment included nitrile gloves and laboratory-provided sample containers. Sampling equipment included a water level indicator, bladder pump, and water quality parameter meters, all of which were decontaminated prior to and after use at each well.

2.4 Investigation Derived Waste

All investigation derived waste, including approximately 21 gallons of purge water and equipment decontamination water, was temporarily stored onsite in a labeled Department of Transportation (DOT) approved steel drum for future disposal at a licensed offsite facility.

2.5 Hydraulic Monitoring and Groundwater Sampling Results

Data collected during February 2023 indicate that depth-to-groundwater in the shallow zone ranged from 3.83 feet below TOC in MW-6A to 6.59 feet below TOC in MW-8A. Depth-to-groundwater in the intermediate groundwater zone ranged from 7.77 feet below TOC in MW-6B to 15.46 feet below TOC in MW-7B. Depth-to-groundwater in the deep groundwater zone measured 63.29 feet below TOC in MW-1. Groundwater flow direction within the shallow zone was observed to be toward the south and southeast with a gradient of 0.05 feet per foot (Figure 3), and toward the south and southeast with a gradient ranging from 0.056 to 0.08 feet per foot (Figure 4) in the intermediate zone.

Concentrations of PCE (40 to 240 micrograms per liter [µg/L]), TCE (39 to 82 µg/L), cis-DCE (37 to 340 µg/L), and VC (0.68 to 47 µg/L) were detected above their Model Toxics Control Act (MTCA) Method A or MTCA Method B cleanup levels of 5 µg/L, 5 µg/L, 16 µg/L, and 0.2 µg/L, respectively, in groundwater samples collected from shallow wells MW-5, MW-7A, and MW-8A. Concentrations of PCE (100 to 7,100 µg/L), TCE (47 to 3,300 µg/L), cis-DCE (17 to 530 µg/L), and/or VC (0.47 to 22 µg/L) were detected above their respective MTCA Method A or MTCA Method B cleanup

levels in groundwater samples collected from intermediate wells MW-2, MW-3, MW-7B, and MW-8B. PCE (48 µg/L), TCE (18 µg/L), and VC (0.83 µg/L) were detected above their respective MTCA Method A cleanup levels in the groundwater sample collected from deep well MW-1. The remaining groundwater sample results were below the laboratory MRLs or below the MTCA Method A or MTCA Method B screening levels. Groundwater sample results are summarized in Table 1 and shown on Figure 5 through Figure 7.

3. March 2023 Field Activities

Based on historical groundwater data collected from the Property between December 2018 and February 2023, HVOCs had not been detected in the groundwater samples collected from shallow well MW-5, intermediate well MW-3, or deep well MW-1 at concentrations exceeding MTCA Method A or MTCA Method B screening levels. Wells MW-1, MW-3, and MW-5 were gauged and resampled on March 17, 2023, to confirm the February 2023 results.

3.1 Hydraulic Monitoring

Depth-to-groundwater was measured in the select monitoring wells. Groundwater levels were measured from the monitoring well TOC using an electronic water level meter, and were recorded on the groundwater monitoring field data sheets included in Appendix A. Since only one well per groundwater bearing zone was gauged, contour maps for this event were not generated. Groundwater elevation data for hydraulic monitoring conducted in 2023 is presented in Table 1.

3.2 Groundwater Sampling and Analysis

GHD completed the March 2023 groundwater monitoring activities, which included collecting groundwater samples using standard low-flow sampling techniques. Low-flow sampling was accomplished using a bladder pump or peristaltic pump, and disposable tubing. The wells were purged at a rate of approximately 150 mL/min. Water quality measurements, including temperature, conductivity, turbidity, dissolved oxygen, pH, and oxidation/reduction potential were collected during the purging process using a YSI water quality meter and a turbidity meter. Water quality parameters were taken every 5 minutes to ensure stabilization had been achieved within at least three consecutive measurements and a representative groundwater sample was collected. Samples were collected from the discharge tube in sample containers, sealed, labeled, and immediately placed in a cooler on ice.

Samples collected during the March 2023 sampling event were transported to Friedman & Bruya, Inc. in Seattle, Washington under standard chain-of-custody procedures. Groundwater samples were analyzed for HVOCs by US EPA Method 8260B. Copies of groundwater monitoring field data sheets are included in Appendix A. Laboratory analytical reports are provided in Appendix B.

3.3 Decontamination

Groundwater samples were collected using dedicated and single-use equipment. Dedicated equipment included polyethylene and silicone tubing. Single-use sampling equipment included nitrile gloves and laboratory-provided sample containers. Sampling equipment included a water level indicator, bladder and peristaltic pumps, and water quality parameter meters, all of which were decontaminated prior to and after use at each well.

3.4 Investigation Derived Waste

All investigation derived waste, including approximately three gallons of purge water and equipment decontamination water, was added to the on-site DOT approved steel drum, left from the February 2023 activities, for future disposal at a licensed offsite facility.

3.5 March 2023 Hydraulic Monitoring and Groundwater Sampling Results

Data collected during March 2023 indicate that depth-to-groundwater in shallow well MW-5 was 4.40 feet below TOC, depth-to-groundwater in intermediate well MW-3 was 12.18 feet below TOC, and depth-to-groundwater in deep well MW-1 was 62.96 feet below TOC.

PCE (620 µg/L), TCE (110 µg/L), cis-DCE (84 µg/L) and VC (0.95 µg/L) were detected above their respective MTCA Method A or MTCA Method B cleanup levels in the groundwater sample collected from shallow well MW-5. PCE (5.4 µg/L) was detected above the MTCA Method A cleanup level in the groundwater sample collected from intermediate well MW-3. The remaining groundwater sample results were below the laboratory MRLs or below the MTCA Method A or MTCA Method B screening levels. Groundwater sample results are summarized in Table 1 and shown on Figure 5 through Figure 7.

4. Summary

Groundwater flow direction and gradient in the shallow and intermediate zones in February 2023 were toward the south and southeast at 0.05 to 0.08 feet per foot, consistent with historical data. Concentrations of the contaminants of concern (COCs) in groundwater samples collected from intermediate zone wells MW-2 and MW-7B have decreased since monitoring and remedial treatment were initiated. Concentrations of COCs exceeding MTCA Method A or MTCA Method B cleanup levels were detected in shallow zone well MW-5 and intermediate zone well MW-3 in February 2023 for the first time. These exceedances were confirmed during additional groundwater sampling conducted at the wells in March 2023. Both wells are located upgradient and distant from the former dry cleaner location.

Concentrations of COCs exceeding MTCA Method A cleanup levels were also detected in deep zone well MW-1 for the first time. No detections above laboratory reporting limits were observed during additional groundwater sampling conducted at the well in March 2023. The hydraulic gradient in the deep zone has not been established. The groundwater elevation at MW-1 appears to correspond to the reported elevation of the regional groundwater aquifer, which has a reported gradient toward the west and northwest. Additional groundwater monitoring will be conducted to further establish the persistence of these observed groundwater impacts.

On July 1, 2022, GHD submitted a *Remedial Investigation Work Plan* to Ecology. As referenced in the work plan, additional well installations, soil sampling, and groundwater sampling are planned for the Property in order to further establish the lateral and vertical extents of impacts for the former dry cleaner operations.

Table

TABLE 1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Cascade Village - Former Cascade Cleaners
16912 116th Ave SE
Renton, King County, Washington
GHD Project No. 12561532

all concentrations are in micrograms per liter (µg/L)

Boring/ Well ID	Sample ID	Sample Date	Depth to Water (feet below TOC)	TOC Elev (feet)	Ground Water Elev (feet)	VOCs ¹					
						Tetrachloroethylene (PCE)	Trichloroethylene (TCE)	cis-1,2-Dichloroethylene (cis-DCE)	trans-1,2- Dichloroethylene (trans-DCE)	1,1-Dichloroethylene (DCE)	Vinyl Chloride (VC)
MTCA Method A Cleanup Level						5	5	16*	160*	400*	0.2
Shallow Screened Wells											
MW-5	MW-5	3/17/2023	4.40	444.86	440.46	620	110	84	<10	<10	0.95
	MW-5	2/8/2023	3.85	444.86	441.01	140	59	37	<2.0	<2.0	0.68
	MW-5	8/31/2020	6.13	444.86	438.73	--	--	--	--	--	--
	MW-5	5/2/2019	3.73	444.86	441.13	--	--	--	--	--	--
	MW-5	12/3/2018	4.20	444.86	440.46	3.7	<2.0	<2.0	<2.0	<2.0	<0.2
	MW-5	11/12/2015	--	444.86	--	<1.0	<1.0	<1.0	--	<1.0	<0.2
MW-6A	MW-6A	2/8/2023	3.83	444.60	440.77	3.7	<2.0	<2.0	<2.0	<2.0	<0.20
	MW-6A	8/31/2020	4.72	444.60	439.88	--	--	--	--	--	--
	MW-6A	5/2/2019	4.08	444.60	440.52	--	--	--	--	--	--
	MW-6A	12/3/2018	2.20	444.60	442.40	<2.0	<2.0	<2.0	<2.0	<2.0	<0.2
MW-7A	MW-7A	2/8/2023	5.87	443.65	437.78	240	82	340	<24	9.7	47
	437.78)	8/31/2020	14.38	443.65	429.27	1,900	110	110	<2.0	<2.0	0.59
	MW-7A	5/2/2019	4.80	443.65	438.85	1,400	68	69	<2.0	<2.0	<0.2
	MW-7A	12/3/2018	4.86	443.65	438.79	2,300	110	190	2.2	<2.0	14
MW-8A	MW-8A	2/8/2023	6.59	441.35	434.76	40	39	47	<2.0	<2.0	1.6
	MW-8A	8/31/2020	8.17	441.35	433.18	29	19	79	<2.0	<2.0	2.2

TABLE 1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Cascade Village - Former Cascade Cleaners
16912 116th Ave SE
Renton, King County, Washington
GHD Project No. 12561532

all concentrations are in micrograms per liter (µg/L)

Boring/ Well ID	Sample ID	Sample Date	Depth to Water (feet below TOC)	TOC Elev (feet)	Ground Water Elev (feet)	VOCs ¹					
						Tetrachloroethylene (PCE)	Trichloroethylene (TCE)	cis-1,2-Dichloroethylene (cis-DCE)	trans-1,2- Dichloroethylene (trans-DCE)	1,1-Dichloroethylene (DCE)	Vinyl Chloride (VC)
MTCA Method A Cleanup Level						5	5	16*	160*	400*	0.2
Intermediate Screened Wells											
MW-2	MW-2	2/8/2023	11.94	443.60	431.66	7,100	3,300	530	4.2	9.8	22
	MW-2	8/31/2020	12.62	443.60	430.98	15,000	380	360	<2.0	8.7	25
	MW-2	5/2/2019	12.78	443.60	430.82	16,000	350	330	<2.0	9.0	29
	MW-2	12/3/2018	12.74	443.60	430.86	12,000	240	280	<2.0	7.8	27
	MW-2	4/5/2018	12.95	443.60	430.65	11,000	340	430	<2.0	<2.0	38
	MW-2	1/8/2018	12.76	443.60	430.84	12,000	310	240	<2.0	12	30
	MW-2*	11/12/2015	13.91	443.60	429.69	6,700	77	22	<1.0	6	12
MW-3	MW-3	3/17/2023	12.18	443.07	430.89	5.4	0.68	<1	<1	<1	<0.02
	MW-3	2/8/2023	11.72	443.07	431.35	290	47	8.3	<2.0	<2.0	0.47
	MW-3	8/31/2020	12.50	443.07	430.57	--	--	--	--	--	--
	MW-3	5/2/2019	11.81	443.07	431.26	--	--	--	--	--	--
	MW-3	12/3/2018	12.02	443.07	431.05	4.1	<2.0	<2.0	<2.0	<2.0	<0.2
	MW-3*	11/12/2015	12.01	443.07	431.06	1.7	<1.0	<1.0	<1.0	<1.0	<0.2
MW-6B	MW-6B	2/8/2023	7.77	444.78	437.01	3.8	<2.0	<2.0	<2.0	<2.0	<0.20
	MW-6B	8/31/2020	8.51	444.78	436.27	--	--	--	--	--	--
	MW-6B	5/2/2019	10.21	444.78	434.57	--	--	--	--	--	--
	MW-6B	12/3/2018	9.98	444.78	434.80	2.5	<2.0	<2.0	<2.0	<2.0	<0.2
MW-7B	MW-7B	2/8/2023	15.45	443.36	427.91	620	53	110	7.4	18	5.2
	MW-7B	8/31/2020	16.07	443.36	427.29	16,000	540	1,000	5.2	19	150
	MW-7B	5/2/2019	15.08	443.36	428.28	18,000	610	1,000	4.6	24	210
	MW-7B	12/3/2018	19.40	443.36	423.96	13,000	400	860	3.4	24	180
MW-8B	MW-8B	2/8/2023	14.41	441.18	426.77	100	3.0	17	<2.0	<2.0	2.3
	MW-8B	8/31/2020	16.03	441.18	425.15	4.7	<2.0	3.3	<2.0	<2.0	2.6

TABLE 1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
 Cascade Village - Former Cascade Cleaners
 16912 116th Ave SE
 Renton, King County, Washington
 GHD Project No. 12561532

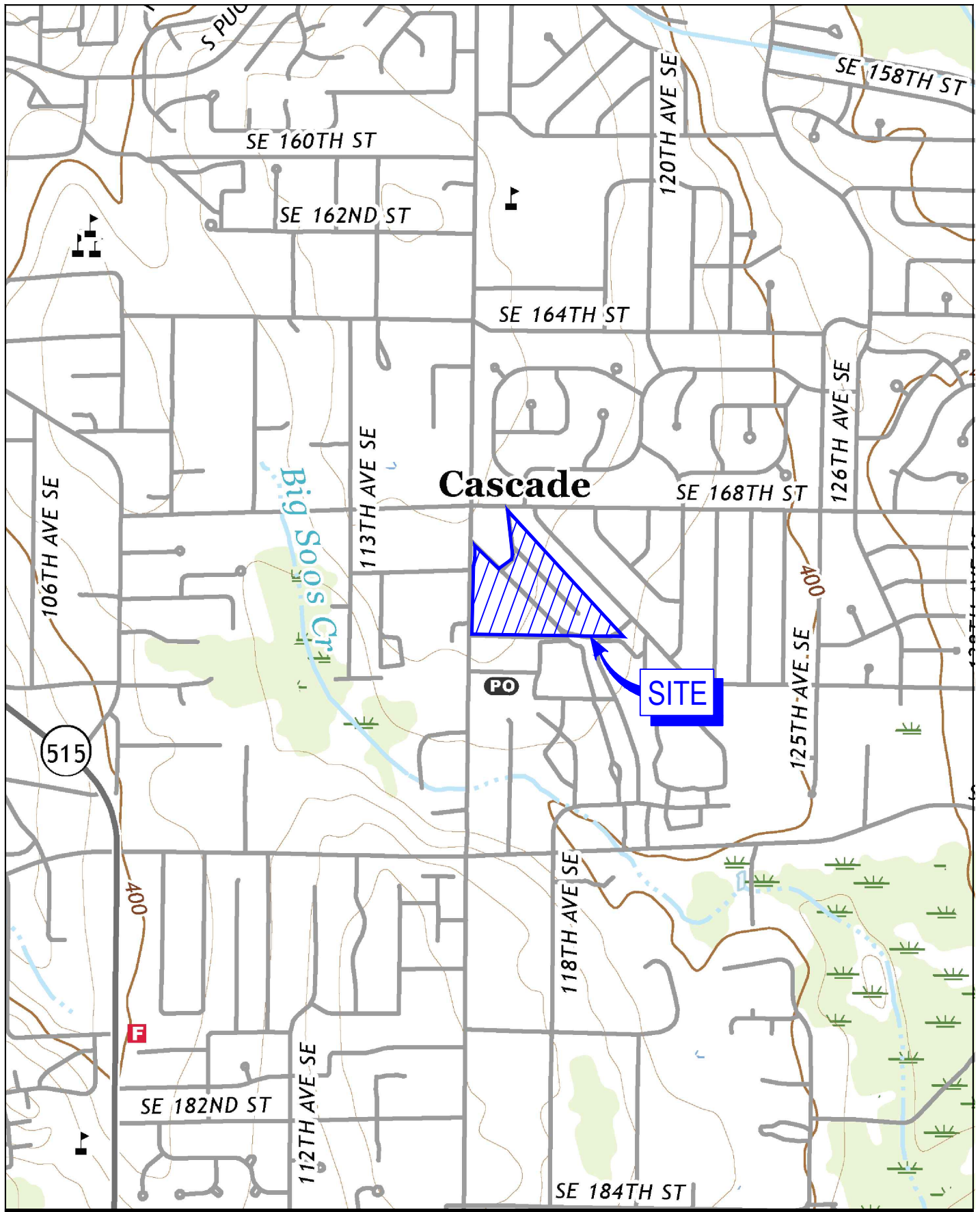
all concentrations are in micrograms per liter (µg/L)

Boring/ Well ID	Sample ID	Sample Date	Depth to Water (feet below TOC)	TOC Elev (feet)	Ground Water Elev (feet)	VOCs ¹					
						Tetrachloroethylene (PCE)	Trichloroethylene (TCE)	cis-1,2-Dichloroethylene (cis-DCE)	trans-1,2- Dichloroethylene (trans-DCE)	1,1-Dichloroethylene (DCE)	Vinyl Chloride (VC)
MTCA Method A Cleanup Level						5	5	16*	160*	400*	0.2
Deep Screened Wells											
MW-1	MW-1	3/17/2023	62.96	443.96	381.00	<1	<0.5	<1	<1	<1	<0.02
	MW-1	2/8/2023	63.29	443.96	380.67	48	18	15	<2.0	<2.0	0.83
	MW-1	8/31/2020	63.79	443.96	380.17	--	--	--	--	--	--
	MW-1	5/2/2019	NM	--	--	--	--	--	--	--	--
	MW-1	12/3/2018	64.46	443.96	379.50	<2.0	<2.0	<2.0	<2.0	<2.0	<0.2
	MW-1*	11/12/2015	64.67	443.96	379.29	2.5	<1.0	<1.0	<1.0	<1.0	<0.2
Excavation Pipe Stick-Up											
Excav Pipe	PIPE	8/31/2020	7.10	--	--	7,300	14,000	330	31	<2.0	0.88
	PIPE	5/2/2019	5.08	--	--	23,000	3,700	240	6.2	<2.0	0.46

Notes:

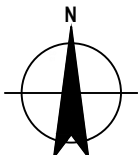
- Concentrations detected above MTCA cleanup levels are in **BOLD** type.
- VOCs - Volatile organic compounds
- MTCA - Model Toxics Control Act
- <x - Not detected above laboratory method reporting limit (MRL) x.
- 1 - See laboratory report for full list of analytes.
- * - MTCA Method B Cleanup Level

Figures



0 500 1000ft

Coordinate System:
Washington North
State Plane
WA83-NF



CASCADE VILLAGE - FORMER CASCADE CLEANERS
16912 116th AVENUE SE
RENTON, WASHINGTON

Project No. 12561532
Date April 2023

VICINITY MAP

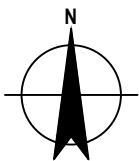
FIGURE 1



LEGEND

--- PROPERTY BOUNDARY LINE

0 60 120 ft
1" = 120 ft
Coordinate System:
Washington North
State Plane
WA83-NF

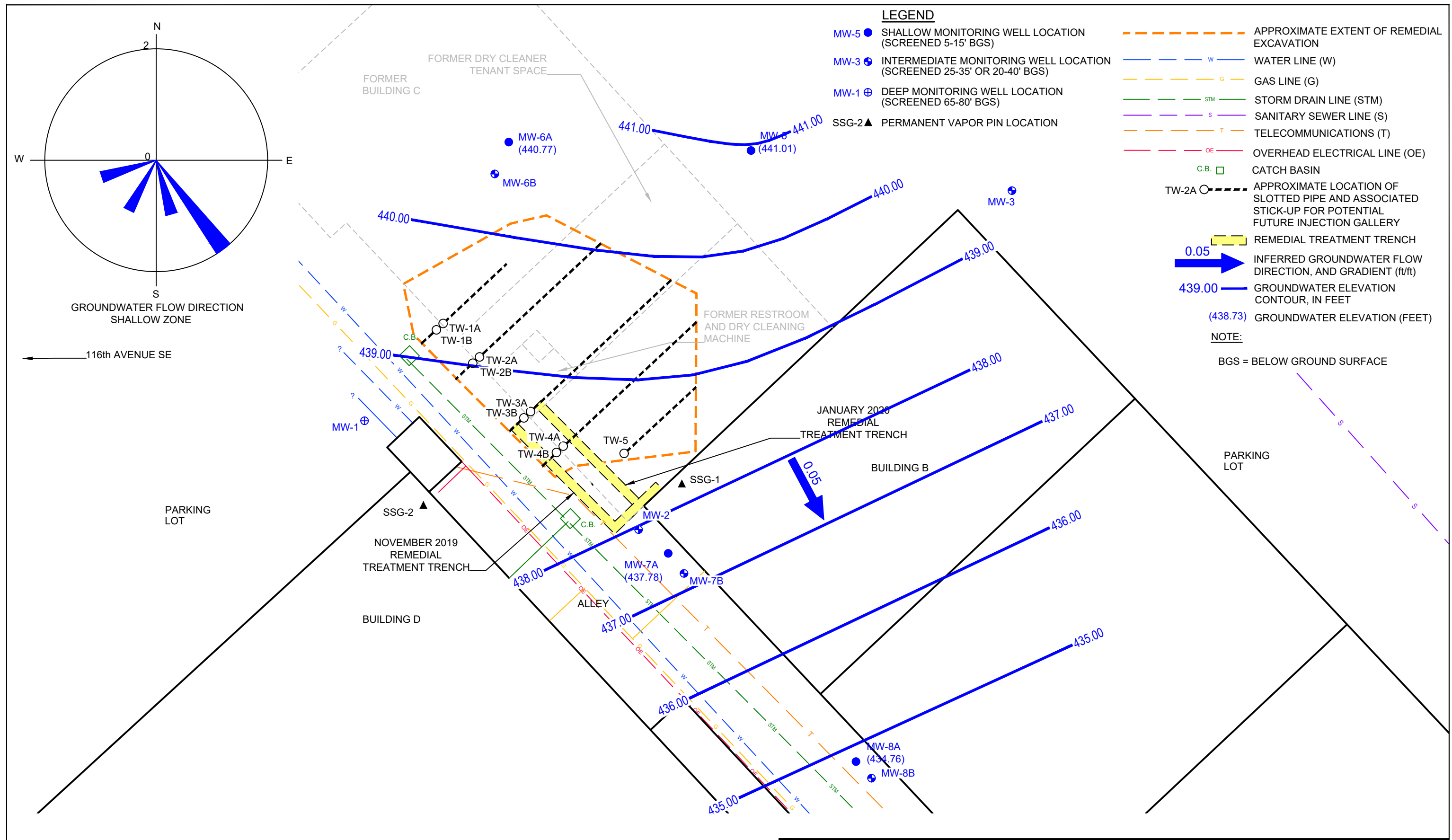


CASCADE VILLAGE - FORMER CASCADE CLEANERS
16912 116th AVENUE SE
RENTON, WASHINGTON

Project No. 12561532
Date April 2023

AREA MAP

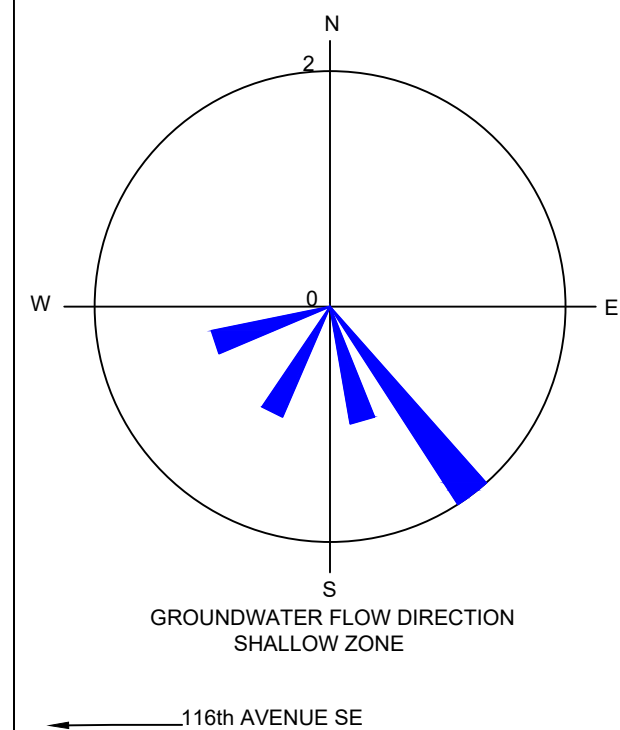
FIGURE 2



LEGEND

- MW-5 ● SHALLOW MONITORING WELL LOCATION (SCREENED 5-15' BGS)
- MW-3 ⊕ INTERMEDIATE MONITORING WELL LOCATION (SCREENED 25-35' OR 20-40' BGS)
- MW-1 ⊕ DEEP MONITORING WELL LOCATION (SCREENED 65-80' BGS)
- SSG-2 ▲ PERMANENT VAPOR PIN LOCATION
- APPROXIMATE EXTENT OF REMEDIAL EXCAVATION
- W --- WATER LINE (W)
- G --- GAS LINE (G)
- STM --- STORM DRAIN LINE (STM)
- S --- SANITARY SEWER LINE (S)
- T --- TELECOMMUNICATIONS (T)
- OE --- OVERHEAD ELECTRICAL LINE (OE)
- C.B. □ CATCH BASIN
- TW-2A ○ --- APPROXIMATE LOCATION OF SLOTTED PIPE AND ASSOCIATED STICK-UP FOR POTENTIAL FUTURE INJECTION GALLERY
- REMEDIAL TREATMENT TRENCH
- 0.05 INFERRED GROUNDWATER FLOW DIRECTION, AND GRADIENT (ft/ft)
- 439.00 GROUNDWATER ELEVATION CONTOUR, IN FEET
- (438.73) GROUNDWATER ELEVATION (FEET)

NOTE:
BGS = BELOW GROUND SURFACE



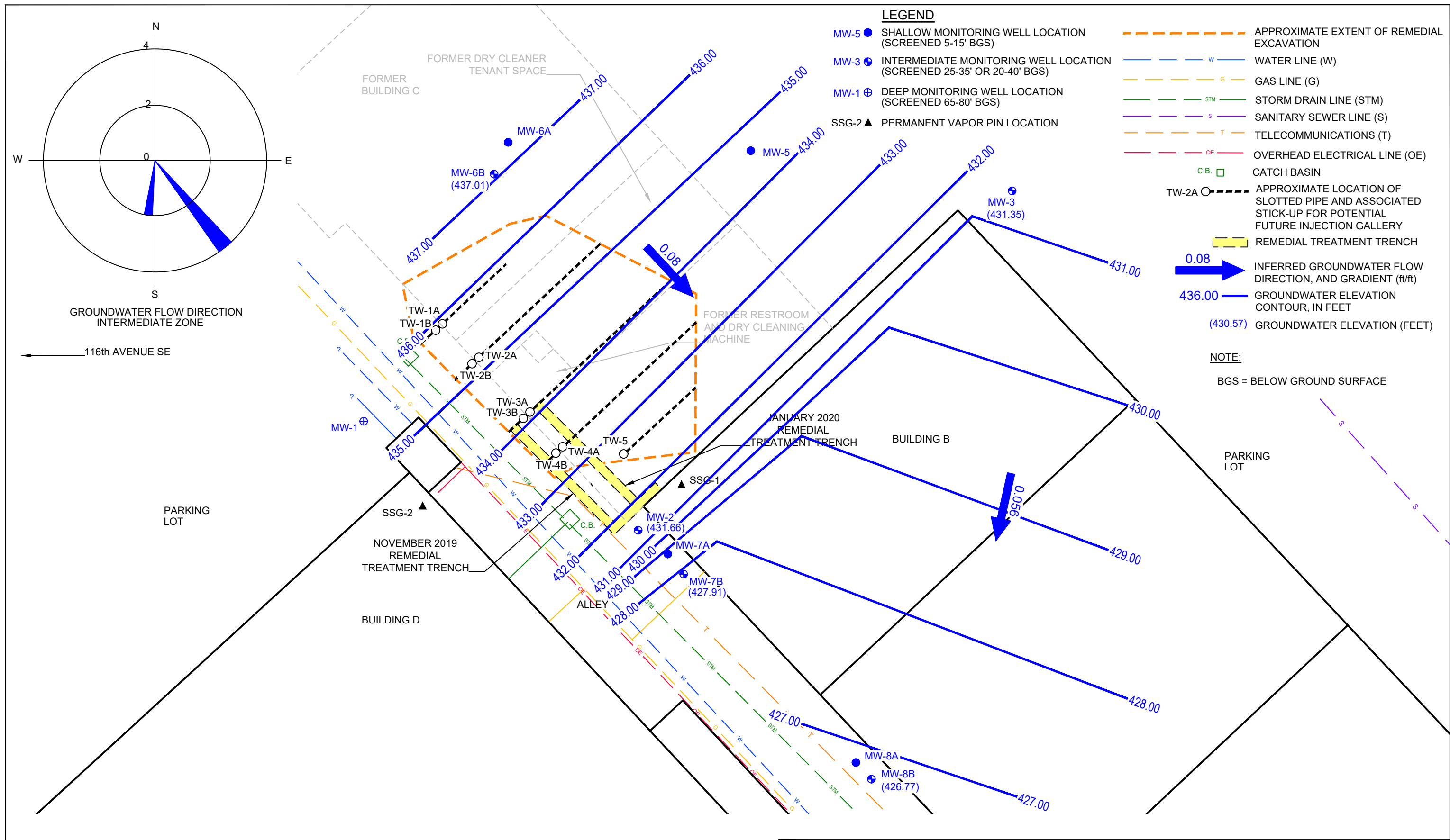
Coordinate System:
Washington North State Plane
WA83-NF

CASCADE VILLAGE - FORMER CASCADE CLEANERS
16912 116th AVENUE SE
RENTON, WASHINGTON

**SHALLOW ZONE GROUNDWATER
CONTOUR MAP - FEBRUARY 8, 2023**

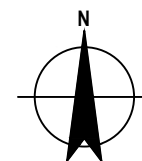
Project No. 12561532
Date March 2023

FIGURE 3



0 10 20ft

Coordinate System:
Washington North State Plane
WA83-NF

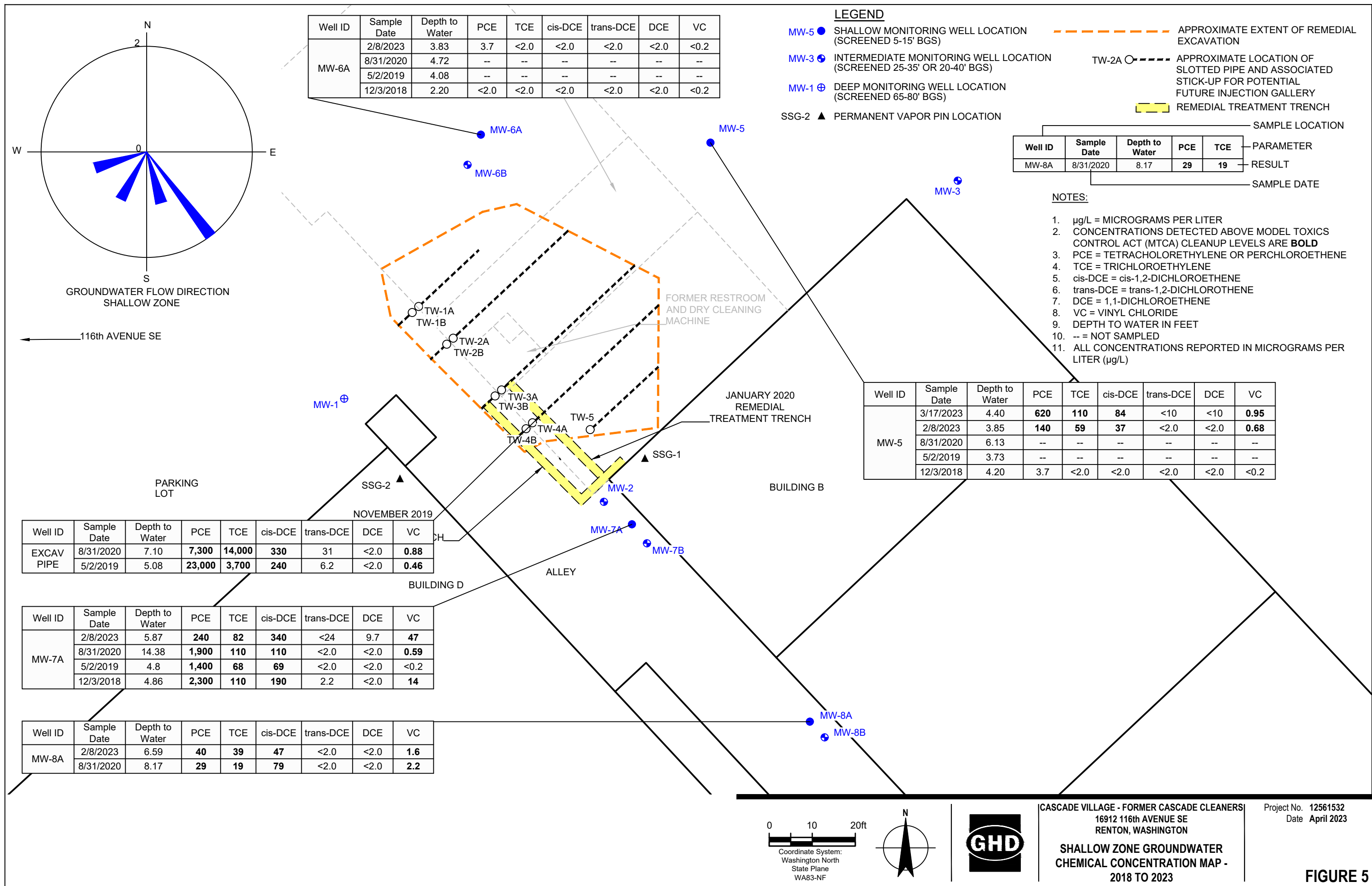


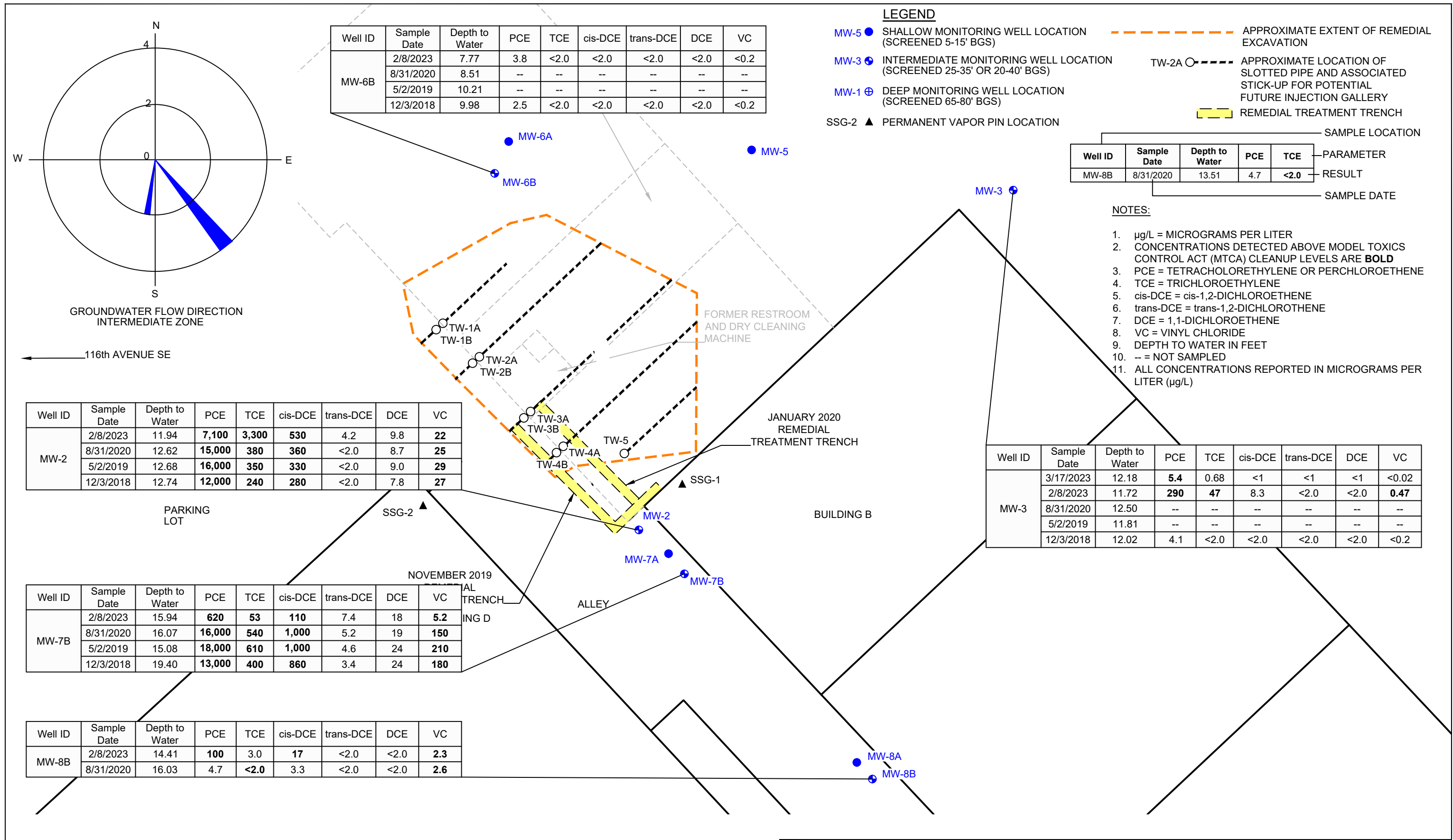
CASCADE VILLAGE - FORMER CASCADE CLEANERS
16912 116th AVENUE SE
RENTON, WASHINGTON

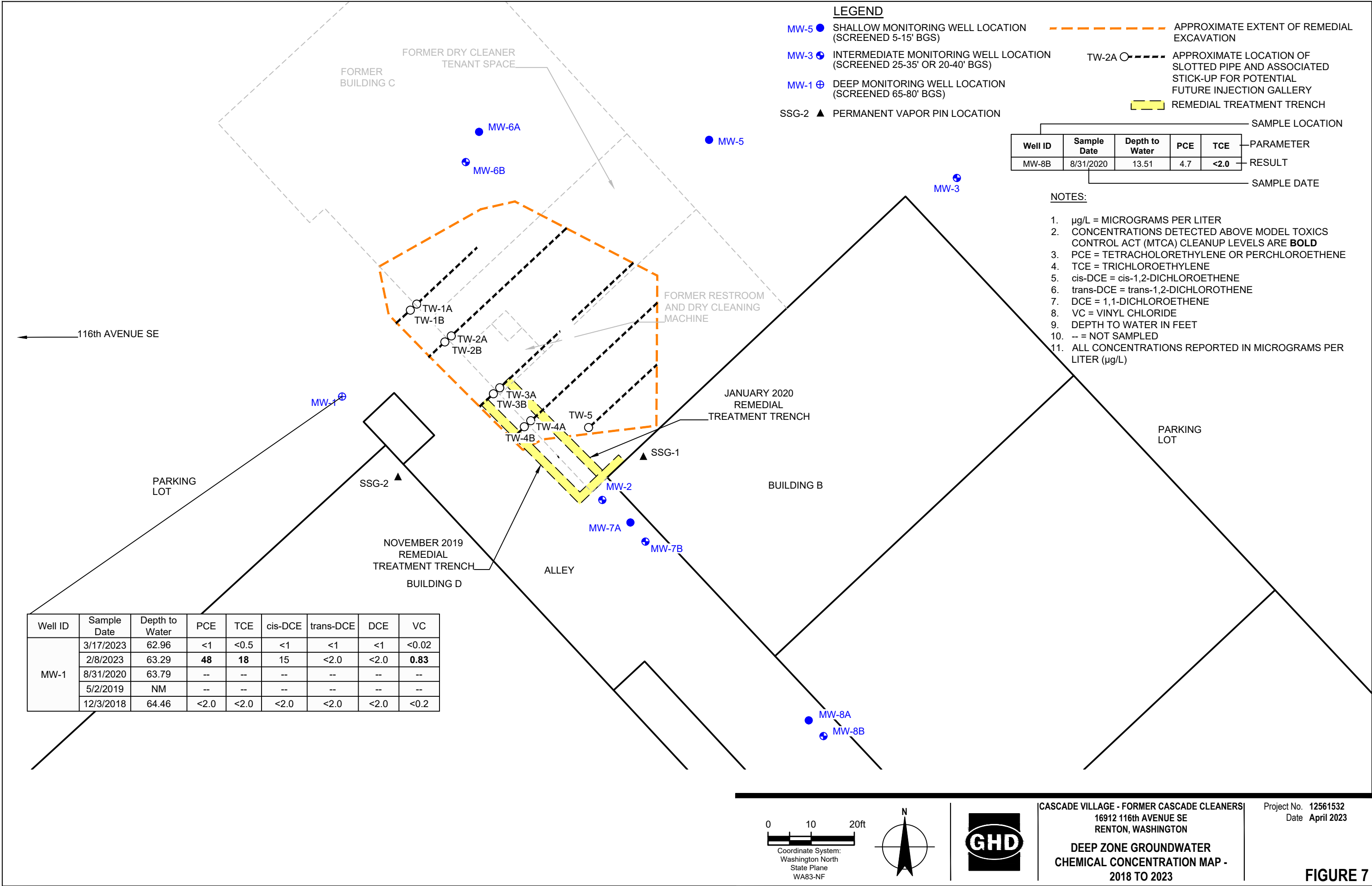
**INTERMEDIATE ZONE GROUNDWATER
CONTOUR MAP - FEBRUARY 8, 2023**

Project No. 12561532
Date March 2023

FIGURE 4







Appendices

Appendix A

Groundwater Monitoring Field Data Sheets

WELL GAUGING DATA

Project # 230208-RP1 Date 2/8/23 Client GHD

Site Cascade Village 16912 116th Ave SE Renton WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOR or TOC	Notes
MW-1	0905	2	—	—	—	—	63.29	81.45		
MW-2	0900	2	—	—	—	—	11.94	38.35		
MW-3	0910	2	—	—	—	—	11.72	34.77		
MW-5	0915	2	—	—	—	—	3.85	12.63		
MW-6A	0920	2	—	—	—	—	3.83	14.48		
MW-6B	0925	2	—	—	—	—	7.77	34.32		
MW-7A	0850	2	—	—	—	—	5.87	14.48		
MW-7B	0855	2	—	—	—	—	15.45	34.61		
MW-8A	0845	2	—	—	—	—	6.59	14.85		
MW-8B	0840	2	—	—	—	—	14.41	35.51	↓	

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>230208-RP1</u>	Client: <u>GHD</u>
Sampler: <u>Rich P</u>	Gauging Date: <u>2/8/23</u>
Well I.D.: <u>MW-1</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8
Total Well Depth (ft.): <u>81.45</u>	Depth to Water (ft.): <u>63.29</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>(PVC)</u> Grade	Flow Cell Type: <u>ysi 556</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump (Bladder Pump)
 Sampling Method: Dedicated Tubing (New Tubing) Other
 Start Purge Time: 1209 Flow Rate: 200 mL/min Pump Depth: 72'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1212	12.97	7.71	0.337	64	14.23	-45.1	600	63.29
1215	12.97	7.71	0.304	52	10.37	-39.3	1200	63.29
1218	12.06	7.68	0.271	45	8.80	-25.7	1800	63.29
1221	11.96	7.68	0.270	45	8.84	-25.5	2400	63.29
1224	11.90	7.68	0.270	45	8.84	-25.5	3000	63.29

Did well dewater? Yes <u>(No)</u>	Amount actually evacuated: <u>3000 mL</u>
Sampling Time: <u>1225</u>	Sampling Date: <u>2/8/23</u>
Sample I.D.: <u>MW-1</u>	Laboratory: <u>ALS</u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: <u>See CAC</u>
Equipment Blank I.D.: <u>@</u>	Duplicate I.D.: <u>—</u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>Z30209-RP1</u>	Client: <u>GHD</u>
Sampler: <u>R.oh Palmer</u>	Gauging Date: <u>2/8/23</u>
Well I.D.: <u>MW-2</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8
Total Well Depth (ft.): <u>38.35</u>	Depth to Water (ft.): <u>11.94</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>(PVC)</u> Grade	Flow Cell Type: <u>YSI 556</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump (Bladder Pump)
 Sampling Method: Dedicated Tubing New Tubing Other
 Start Purge Time: 1129 Flow Rate: 200 mL/min Pump Depth: 25'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1132	12.77	6.85	2.680	19	5.23	-82.9	600	11.94
1135	12.84	6.90	2.891	19	1.07	-98.8	1200	11.94
1138	12.83	6.90	2.894	18	1.03	-99.3	1800	11.94
1141	12.82	6.91	2.899	18	1.00	-100	2400	11.94
1144	12.79	6.91	2.899	18	1.01	-99.7	3000	11.94

Did well dewater? Yes <u>(No)</u>	Amount actually evacuated: <u>3000 mL</u>
Sampling Time: <u>1145</u>	Sampling Date: <u>2/8/23</u>
Sample I.D.: <u>MW-2</u>	Laboratory: <u>ALS</u>
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u>	Other: <u>See COC</u>
Equipment Blank I.D.: <u>@</u> <u>Time</u>	Duplicate I.D.: <u>—</u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: 230208-RP2	Client: GHD
Sampler: Rich Palmer	Gauging Date: 2/8/23
Well I.D.: MW-3	Well Diameter (in.): (2) 3 4 6 8
Total Well Depth (ft.): 34.77	Depth to Water (ft.): 11.72
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: yes: 556

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other
 Start Purge Time: 1244 Flow Rate: 200 mL/min Pump Depth: 23'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1247	13.30	6.89	0.591	41	2.26	-69.0	600	11.72
1250	13.46	6.85	0.511	40	1.26	-70.1	1200	11.72
1253	13.50	6.84	0.507	40	1.19	-70.0	1800	11.72
1256	13.58	6.83	0.501	38	1.18	-69.9	2400	11.72
1259	13.62	6.83	0.500	38	1.19	-70.0	3000	11.72

Did well dewater? Yes (No)	Amount actually evacuated: 3000 mL
Sampling Time: 1300	Sampling Date: 2/8/23
Sample I.D.: MW-3	Laboratory: ALS
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see COC
Equipment Blank I.D.: @ Time	Duplicate I.D.: —

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>Z30208-RP1</u>	Client: <u>GHD</u>
Sampler: <u>Rich P</u>	Gauging Date: <u>2/8/23</u>
Well I.D.: <u>MW-S</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8
Total Well Depth (ft.): <u>12.63</u>	Depth to Water (ft.): <u>3.85</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>(PVC)</u> Grade	Flow Cell Type: <u>YSi 556</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump (Bladder Pump)
 Sampling Method: Dedicated Tubing (New Tubing) Other —
 Start Purge Time: 1311 Flow Rate: 200 mL/min Pump Depth: 9'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1314	10.80	6.73	0.465	532	17.56	-2.1	600	3.85
1317	10.89	6.70	0.468	315	10.95	4.2	1200	3.85
1320	11.43	6.67	0.484	260	7.69	18.7	1800	3.95
1323	11.57	6.66	0.488	255	7.62	18.9	2400	3.85
1326	11.62	6.65	0.490	250	7.62	18.9	3000	3.85

Did well dewater? Yes <u>(No)</u>	Amount actually evacuated: <u>3000 mL</u>
Sampling Time: <u>1327</u>	Sampling Date: <u>2/8/23</u>
Sample I.D.: <u>MW-S</u>	Laboratory: <u>ALS</u>
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u>	Other: <u>see COC</u>
Equipment Blank I.D.: <u>@</u>	Duplicate I.D.: <u>—</u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>230208-RP1</u>	Client: <u>GHD</u>
Sampler: <u>RP</u>	Gauging Date: <u>2/8/23</u>
Well I.D.: <u>MW-6A</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8
Total Well Depth (ft.): <u>14.48</u>	Depth to Water (ft.): <u>3.83</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>(PVC)</u> Grade	Flow Cell Type: <u>YSI 556</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1414 Flow Rate: 200 mL/min Pump Depth: 9'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1417	10.89	7.83	0.332	66	7.90	-26.8	600	3.83
1420	10.26	6.99	0.286	60	3.77	3.7	1200	3.83
1423	10.01	6.79	0.273	58	3.89	17.1	1800	3.83
1426	10.00	6.78	0.272	56	3.86	17.6	2400	3.83
1429	9.99	6.77	0.272	55	3.88	17.4	3000	3.83

Did well dewater? Yes <u>(No)</u>	Amount actually evacuated: <u>3000 mL</u>
Sampling Time: <u>1430</u>	Sampling Date: <u>2/8/23</u>
Sample I.D.: <u>MW-6A</u>	Laboratory: <u>ALS</u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: <u>see COC</u>
Equipment Blank I.D.: <u>@</u>	Duplicate I.D.: <u>—</u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>Z30208-RP1</u>	Client: <u>GHD</u>
Sampler: <u>RP</u>	Gauging Date: <u>2/8/23</u>
Well I.D.: <u>MW-6B</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8
Total Well Depth (ft.): <u>34.32</u>	Depth to Water (ft.): <u>7.77</u>
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 556</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1351 Flow Rate: 200 mL/min Pump Depth: 21'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1354	11.53	7.75	0.350	63	1.13	7.3	600	7.77
1357	11.60	7.77	0.349	45	0.91	3.4	1200	7.77
RP 1359	12.05	7.87	0.350	30	0.60	-27.7	1800	7.77
1403	12.06	7.88	0.350	28	0.62	-28.4	2400	7.77
1406	12.05	7.88	0.350	26	0.61	-28.0	3000	7.77

Did well dewater? Yes <u>(No)</u>	Amount actually evacuated: <u>3000 mL</u>
Sampling Time: <u>1407</u>	Sampling Date: <u>2/8/23</u>
Sample I.D.: <u>MW-6B</u>	Laboratory: <u>ALS</u>
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u>	Other: <u>Sec coc</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u> </u>

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

LOW FLOW WELL MONITORING DATA SHEET

Project #: 230208-RP1	Client: GHD
Sampler: Rich P	Gauging Date: 2/8/23
Well I.D.: MW-7A	Well Diameter (in.): (2) 3 4 6 8
Total Well Depth (ft.): 14.98	Depth to Water (ft.): 5.87
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump Peristaltic Pump (Bladder Pump)
 Sampling Method: Dedicated Tubing (New Tubing) Other
 Start Purge Time: 1101 Flow Rate: 200 mL/min Pump Depth: 11'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1104	11.24	6.53	1.802	40	4.89	39.3	600	5.87
1107	11.09	6.48	1.578	30	4.14	48.8	1200	5.87
1110	11.06	6.47	1.555	20	4.11	49.5	1800	5.87
1113	11.05	6.45	1.550	20	4.11	49.5	2400	5.87
1116	11.07	6.44	1.550	20	4.10	49.4	3000	5.87

Did well dewater? Yes (No)	Amount actually evacuated: 3000 mL
Sampling Time: 1117	Sampling Date: 2/8/23
Sample I.D.: MW-7A	Laboratory: ALS
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see COC
Equipment Blank I.D.: @	Duplicate I.D.: —

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>230208-RP1</u>	Client: <u>GHD</u>
Sampler: <u>R.ch P</u>	Gauging Date: <u>2/8/23</u>
Well I.D.: <u>MW-7B</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8
Total Well Depth (ft.): <u>34.61</u>	Depth to Water (ft.): <u>15.45</u>
Depth to Free Product: <u>—</u>	Thickness of Free Product (feet): <u>—</u>
Referenced to: <u>(PVC)</u> Grade	Flow Cell Type: <u>YSI 556</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump (Bladder Pump)
 Sampling Method: Dedicated Tubing (New Tubing) Other —
 Start Purge Time: 1035 Flow Rate: 200 mL/MIN Pump Depth: 25'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm) or µS/cm	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1038	11.40	6.89	0.516	11	4.58	54.9	600	15.45
1041	11.44	6.89	0.517	11	4.53	53.7	1200	15.45
1044	12.21	7.06	0.519	10	5.89	38.7	1800	15.45
1047	12.19	7.06	0.518	10	5.90	38.7	2400	15.45
1050	12.18	7.05	0.517	9	5.91	38.8	3000	15.45

Did well dewater? Yes <u>(No)</u>	Amount actually evacuated: <u>3000 mL</u>
Sampling Time: <u>1051</u>	Sampling Date: <u>2/8/23</u>
Sample I.D.: <u>MW-7B</u>	Laboratory: <u>ALS</u>
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u>	Other: <u>see coc</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u>—</u>

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>230208-RP1</u>	Client: <u>GHD</u>
Sampler: <u>RHP</u>	Gauging Date: <u>2/8/23</u>
Well I.D.: <u>MW-8A</u>	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): <u>14.85</u>	Depth to Water (ft.): <u>6.59</u>
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>(PVC)</u> Grade	Flow Cell Type: <u>YS-556</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other
 Start Purge Time: 10:06 Flow Rate: 200 mL/min Pump Depth: 11'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1009	12.23	6.62	0.344	23	6.02	81.6	600	6.59
1012	12.24	6.60	0.346	21	5.86	82.8	1200	6.59
1015	12.12	6.50	0.348	19	6.18	100	1800	6.59
1018	12.12	6.50	0.347	18	6.20	100.1	2400	6.59
1021	12.13	6.51	0.347	18	6.23	100.2	3000	6.59

Did well dewater? Yes <u>(No)</u>	Amount actually evacuated: <u>3000 mL</u>
Sampling Time: <u>1022</u>	Sampling Date: <u>2/8/23</u>
Sample I.D.: <u>MW-8A</u>	Laboratory: <u>ALS</u>
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u>	Other: <u>Sec COC</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u> </u>

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>Z30208-RP1</u>	Client: <u>GHD</u>
Sampler: <u>Rich Palmer</u>	Gauging Date: <u>2/8/23</u>
Well I.D.: <u>MW-8B</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8
Total Well Depth (ft.): <u>35.51</u>	Depth to Water (ft.): <u>14.41</u>
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>(PVC)</u> Grade	Flow Cell Type: <u>ysi 556</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump (Bladder Pump)
 Sampling Method: Dedicated Tubing (New Tubing) Other
 Start Purge Time: 0945 Flow Rate: 200 mL/min Pump Depth: 25'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0948	12.50	7.36	0.307	47	11.29	111.9	600	14.41
0951	12.09	7.34	0.303	45	9.29	106.8	1200	14.41
0954	12.94	7.21	0.308	43	4.98	78.4	1800	14.41
0957	12.89	7.21	0.308	40	4.97	77.9	2400	14.41
1000	12.97	7.21	0.309	39	4.93	77.8	3000	14.41

Did well dewater? Yes <u>(No)</u>	Amount actually evacuated: <u>3000 mL</u>
Sampling Time: <u>1001</u>	Sampling Date: <u>2/8/23</u>
Sample I.D.: <u>MW-8B</u>	Laboratory: <u>ALS</u>
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u>	Other: <u>see COC</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.: <u> </u>



Laboratory

8620 Holly Drive, Everett, WA 98208 USA | +1 425 356 2600

Chain of Custody

(If viewing electronically, this is a drop down list - click on the address above - a drop down arrow will appear to the right of the address)

Work Order No.:

Project Manager: Emily Blakeway					Bill to: Emily Blakeway														
Client Name: GHD					Company: GHD														
Address: 9725 3rd Ave NE, Ste 204					Address:														
City, State ZIP: Seattle, WA 98115					City, State ZIP:														
Email: emily.blakeway@ghd.com			Phone: (425) 327-4585		Email: emily.blakeway@ghd.com			PO#											
Project Site: 16912 116th Ave SE, Renton			State: WA																
Project Name: Cascade Village - former Cascade Cleaners					REQUESTED ANALYSIS										TAT				
Project Number: 12561532															☒ Routine 10 Day				
SSOW #: 12561532-2023-01															☐ 24 hours * 100%				
Sampler's Name: Rich Palmer															☐ 48 hours* 80%				
															☐ 3 Day* 60%				
SAMPLE RECEIPT															☐ 5 day* 50%				
Temperature (°C):		Temp Blank Present														* Please call for availability			
Received Intact:		Yes	No	N/A	Wet Ice / Blue Ice														
Cooler Custody Seals:		Yes	No	N/A	Total Containers:														
Sample Custody Seals:		Yes	No	N/A															
Sample Identification		Matrix	Date Sampled	Time Sampled	Lab ID	No. of Containers	HVOCs (8260)											Due Date:	
																		Comments	
MW-1		GW	2/8/23	1225		3	X												
MW-2			2/8/23	1145		3	X												
MW-3			2/8/23	1300		3	X												
MW-5			2/8/23	1327		3	X												
MW-6A			2/8/23	1430		3	X												
MW-6B			2/8/23	1467		3	X												
MW-7A			2/8/23	1117		3	X												
MW-7B			2/8/23	1051		3	X												
MW-8A			2/8/23	1622		3	X												
MW-8B			2/8/23	1001		3	X												
Dissolved		Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sn, Sr, Ti, V, Zn, Zr										Additional Methods Available Upon Request							
Total		Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sn, Sr, Ti, V, Zn, Zr																	
RELINQUISHED BY							RECEIVED BY												
Print Name		Signature		Date/Time		Print Name		Signature		Date/Time									
Rich Palmer		Rich Palmer		2/8/23 11600															

WELLHEAD INSPECTION FORM

Client: GHD Site: Cascade Village 16912 116th Ave SE Date: 2/8/23
 Job #: 230208-RP1 Technician: Rich P Page 1 of 1

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency											Well Not Inspected (explain in notes)	Notes (list if cap or lick replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)
		Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty)	Tabs stripped (list qty)	Tabs broken (list qty)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard	Below Grade		
MW-1	X													
MW-2	X													
MW-3	X													
MW-5	X													
MW-6A	X													
MW-6B	X													
MW-7A	X													
MW-7B	X													
MW-8A	X													
MW-8B	X													

NOTES: _____

TEST EQUIPMENT CALIBRATION LOG

[illegible]

SPH or Purge Water Drum Log

Client: GHD
 Site Address: 16912 116th Ave SE Renton

STATUS OF DRUM(S) UPON ARRIVAL							
Date	12/3/18	2/8/23					
Number of drum(s) empty:	0	0					
Number of drum(s) 1/4 full:	0	0					
Number of drum(s) 1/2 full:	0	0					
Number of drum(s) 3/4 full:	1	0					
Number of drum(s) full:	9	5					
Total drum(s) on site:	10	5					
Are the drum(s) properly labeled?	Y	Y					
Drum ID & Contents:	Purge H ₂ O, 52011	Purge H ₂ O					
If any drum(s) are partially or totally filled, what is the first use date:							

- If you add any SPH to an empty or partially filled drum, drum must have at least 20 gals. of Purgewater or DI Water.

-If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.

-All BTS drums MUST be labeled appropriately.

STATUS OF DRUM(S) UPON DEPARTURE							
Date	12/3/18	2/8/23					
Number of drums empty:	0	0					
Number of drum(s) 1/4 full:	0	1					
Number of drum(s) 1/2 full:	0	0					
Number of drum(s) 3/4 full:	0	0					
Number of drum(s) full:	10	5					
Total drum(s) on site:	10	6					
Are the drum(s) properly labeled?	Y	Yes					
Drum ID & Contents:	Purge H ₂ O, 52011	Purge H ₂ O					

LOCATION OF DRUM(S)							
Describe location of drum(s): <u>Adjacent to Karate studio</u> <u>2/8/23 Northwest end of alley in fence enclosure</u>							

FINAL STATUS							
Number of new drum(s) left on site this event	0	1					
Date of inspection:	12/3/18	2/8/23					
Drum(s) labelled properly:	Y	Yes					
Logged by BTS Field Tech:	MC	RP					
Office reviewed by:							

Project Data:

Project Name:

Ref. No.:

Proj: # 12561532

Monitoring Well Data:

Well No.:

Vapour PID (ppm):

Measurement Point:

Constructed Well Depth (m/ft):

Measured Well Depth (m/ft):

Depth of Sediment (m/ft):

Date:

Personnel:

Saturated Screen Length (m/ft):

Depth to Pump Intake (m/ft)⁽¹⁾:

Well Diameter, D (cm/in):

Well Screen Volume, V_s (L)⁽²⁾:

Initial Depth to Water (m/ft):

[illegible]

Sample ID:

Sample Time:

Notes:

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s = n \cdot (r^2) \cdot L$ in mL, where $r = (D/2)$ and L are in cm. For Imperial units, $V_s = n \cdot (r^2) \cdot L \cdot (2.54)^3$, where r and L are in inches
- (3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 500 mL/min.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged = V_p/V_s .
- (5) For conductivity, the average value of three readings < 1 mS/cm ± 0.005 mS/cm or where conductivity > 1 mS/cm ± 0.01 mS/cm.

Monitoring Well Record for Low-Flow Purging
(Form SP-09)

Project Data:

Project Name: Cascade Cleaners

Ref. No.: _____

Proj. # 12561532

Date: 03.17.23

Personnel: Nick Adamowski

Amber Mesiar

Monitoring Well Data:

Well No.: MW-5

Vapour PID (ppm): _____

Measurement Point: _____

Constructed Well Depth (m/ft): 12.5 ft

Measured Well Depth (m/ft): _____

Depth of Sediment (m/ft): _____

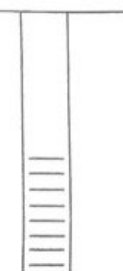
Saturated Screen Length (m/ft): 5.5 ft

Depth to Pump Intake (m/ft)⁽¹⁾: _____

Well Diameter, D (cm/in): 2 in.

Well Screen Volume, V_s (L)⁽²⁾: _____

Initial Depth to Water (m/ft): 3.32 ft



Time	Pumping Rate (mL/min)	Depth to Water (m/ft)	Drawdown from Initial Water Level ⁽³⁾ (m/ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V _p (L)	No. of Well Screen Volumes Purged ⁽⁴⁾
Precision Required ⁽⁵⁾ :				±3 %	±0.005 or 0.01 ⁽⁶⁾	±10 %	±10 %	±0.1 Units	±10 mV		
1105		3.82									
1114	150										
1224	150	7.00		12.5	877	46.9	1.36	5.95	16.5		
1229	150	7.05		12.8	876	42.5	1.33	5.95	17.0		
1234	150	7.08		12.8	921	39.2	1.33	5.94	17.1		

begin purging

Sample ID: GW-12561532-031723-NA-MW5

Sample Time: 12:35

Notes: GW-12561532-031723-NA-MW5-DUP1

12:40

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s = \pi \cdot (r^2) \cdot L$ in mL, where $r = (D/2)$ and L are in cm. For Imperial units, $V_s = \pi \cdot (r^2) \cdot L \cdot (2.54)^3$, where r and L are in inches
- (3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 500 mL/min.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged = V_p/V_s .
- (5) For conductivity, the average value of three readings <1 mS/cm ±0.005 mS/cm or where conductivity >1 mS/cm ±0.01 mS/cm.

SAMPLE CHAIN OF CUSTODY

Report To Emily Blakeway
 Company GHD
 Address 9725 3rd Ave NE Ste 204
 City, State, ZIP Seattle, WA, 98115
 Phone 206-563-6503 Email Emily.Blakeway@ghd.com

SAMPLERS (signature) 	
PROJECT NAME <u>Cascade Village</u>	PO #
REMARKS <u>SSOW# 12561532-2023-02</u>	INVOICE TO <u>GHD</u>
Project specific RLs? - Yes / No	

Page # 1 of 1

TURNAROUND TIME	
☒ Standard turnaround	
RUSH _____	
Rush charges authorized by: _____	
SAMPLE DISPOSAL	
Archive samples _____	
Other _____	
Default: Dispose after 30 days	

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	THOCs 8260			
GW-12561532-031723-NA-MW		3-17-23	1044	G	3								X			
			1235										X			
			1340										X			
			1240										X			HOLD

Friedman & Bruya, Inc.
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	<u>Nicholas Adamowski</u>	<u>GHD</u>	<u>3-17-23</u>	
Received by: _____				
Relinquished by: _____				
Received by: _____				

Appendix B

Laboratory Analytical Reports



March 2, 2023

Ms. Emily Blakeway
GHD Services
9725 - 3rd Ave NE, Suite 204
Seattle, WA 98115

Dear Ms. Blakeway,

On February 9th, 10 samples were received by our laboratory and assigned our laboratory project number EV23020065. The project was identified as your Cascade Village - former Cascade Cleaners / 12561532. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rob Greer
Laboratory Director



CERTIFICATE OF ANALYSIS

CLIENT: GHD Services
9725 - 3rd Ave NE, Suite 204
Seattle, WA 98115
DATE: 3/2/2023
ALS JOB#: EV23020065
ALS SAMPLE#: EV23020065-01
CLIENT CONTACT: Emily Blakeway
DATE RECEIVED: 02/09/2023
CLIENT PROJECT: Cascade Village - former Cascade
Cleaners / 12561532
COLLECTION DATE: 2/8/2023 12:25:00 PM
CLIENT SAMPLE ID MW-1
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Vinyl Chloride	EPA-8260	0.83	0.20	1	UG/L	02/13/2023	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	02/13/2023	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Cis-1,2-Dichloroethene	EPA-8260	15	2.0	1	UG/L	02/13/2023	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Trichloroethene	EPA-8260	18	2.0	1	UG/L	02/13/2023	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	02/13/2023	GAP
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-01
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 12:25:00 PM
CLIENT SAMPLE ID	MW-1	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	02/13/2023	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	96.9	02/13/2023	GAP
4-Bromofluorobenzene	EPA-8260	106	02/13/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-01
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 12:25:00 PM
CLIENT SAMPLE ID	MW-1D1	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Tetrachloroethylene	EPA-8260	48	8.0	4	UG/L	02/15/2023	GAP

SURROGATE	METHOD	%REC				ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 4X Dilution	EPA-8260	97.4				02/15/2023	GAP
4-Bromofluorobenzene 4X Dilution	EPA-8260	107				02/15/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: GHD Services
9725 - 3rd Ave NE, Suite 204
Seattle, WA 98115
CLIENT CONTACT: Emily Blakeway
CLIENT PROJECT: Cascade Village - former Cascade
Cleaners / 12561532
CLIENT SAMPLE ID MW-2

DATE: 3/2/2023
ALS JOB#: EV23020065
ALS SAMPLE#: EV23020065-02
DATE RECEIVED: 02/09/2023
COLLECTION DATE: 2/8/2023 11:45:00 AM
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Vinyl Chloride	EPA-8260	22	0.20	1	UG/L	02/13/2023	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1-Dichloroethene	EPA-8260	9.8	2.0	1	UG/L	02/13/2023	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	02/13/2023	GAP
Trans-1,2-Dichloroethene	EPA-8260	4.2	2.0	1	UG/L	02/13/2023	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,2-Trichloroethane	EPA-8260	13	2.0	1	UG/L	02/13/2023	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	02/13/2023	GAP
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	02/13/2023	GAP

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-02
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 11:45:00 AM
CLIENT SAMPLE ID	MW-2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	95.1	02/13/2023	GAP
4-Bromofluorobenzene	EPA-8260	103	02/13/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-02
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 11:45:00 AM
CLIENT SAMPLE ID	MW-2D1	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Tetrachloroethylene	EPA-8260	7100	2000	1000	UG/L	02/15/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 1000X Dilution	EPA-8260	97.8	02/15/2023	GAP
4-Bromofluorobenzene 1000X Dilution	EPA-8260	108	02/15/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-02
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 11:45:00 AM
CLIENT SAMPLE ID	MW-2D2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Cis-1,2-Dichloroethene	EPA-8260	530	200	100	UG/L	02/15/2023	GAP
Trichloroethene	EPA-8260	3300	200	100	UG/L	02/15/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 100X Dilution	EPA-8260	98.7	02/15/2023	GAP
4-Bromofluorobenzene 100X Dilution	EPA-8260	107	02/15/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: GHD Services
9725 - 3rd Ave NE, Suite 204
Seattle, WA 98115
CLIENT CONTACT: Emily Blakeway
CLIENT PROJECT: Cascade Village - former Cascade
Cleaners / 12561532
CLIENT SAMPLE ID MW-3

DATE: 3/2/2023
ALS JOB#: EV23020065
ALS SAMPLE#: EV23020065-03
DATE RECEIVED: 02/09/2023
COLLECTION DATE: 2/8/2023 1:00:00 PM
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Vinyl Chloride	EPA-8260	0.47	0.20	1	UG/L	02/13/2023	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	02/13/2023	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Cis-1,2-Dichloroethene	EPA-8260	8.3	2.0	1	UG/L	02/13/2023	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	02/13/2023	GAP
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-03
CLIENT SAMPLE ID	MW-3	DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 1:00:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	02/13/2023	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	97.4	02/13/2023	GAP
4-Bromofluorobenzene	EPA-8260	105	02/13/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-03
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 1:00:00 PM
CLIENT SAMPLE ID	MW-3D1	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Trichloroethene	EPA-8260	47	20	10	UG/L	02/15/2023	GAP
Tetrachloroethylene	EPA-8260	290	20	10	UG/L	02/15/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 10X Dilution	EPA-8260	98.5	02/15/2023	GAP
4-Bromofluorobenzene 10X Dilution	EPA-8260	107	02/15/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: GHD Services
9725 - 3rd Ave NE, Suite 204
Seattle, WA 98115
CLIENT CONTACT: Emily Blakeway
CLIENT PROJECT: Cascade Village - former Cascade
Cleaners / 12561532
CLIENT SAMPLE ID MW-5

DATE: 3/2/2023
ALS JOB#: EV23020065
ALS SAMPLE#: EV23020065-04
DATE RECEIVED: 02/09/2023
COLLECTION DATE: 2/8/2023 1:27:00 PM

WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Vinyl Chloride	EPA-8260	0.68	0.20	1	UG/L	02/13/2023	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	02/13/2023	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Cis-1,2-Dichloroethene	EPA-8260	37	2.0	1	UG/L	02/13/2023	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	02/13/2023	GAP
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-04
CLIENT SAMPLE ID	MW-5	DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 1:27:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	02/13/2023	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/13/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	97.1	02/13/2023	GAP
4-Bromofluorobenzene	EPA-8260	105	02/13/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-04
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 1:27:00 PM
CLIENT SAMPLE ID	MW-5D1	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Trichloroethene	EPA-8260	59	20	10	UG/L	02/15/2023	GAP
Tetrachloroethylene	EPA-8260	140	20	10	UG/L	02/15/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 10X Dilution	EPA-8260	92.2	02/15/2023	GAP
4-Bromofluorobenzene 10X Dilution	EPA-8260	95.9	02/15/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: GHD Services
9725 - 3rd Ave NE, Suite 204
Seattle, WA 98115
CLIENT CONTACT: Emily Blakeway
CLIENT PROJECT: Cascade Village - former Cascade
Cleaners / 12561532
CLIENT SAMPLE ID MW-6A

DATE: 3/2/2023
ALS JOB#: EV23020065
ALS SAMPLE#: EV23020065-05
DATE RECEIVED: 02/09/2023
COLLECTION DATE: 2/8/2023 2:30:00 PM
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	02/15/2023	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	02/15/2023	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Trichloroethene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Tetrachloroethylene	EPA-8260	3.7	2.0	1	UG/L	02/15/2023	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	02/15/2023	GAP
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-05
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 2:30:00 PM
CLIENT SAMPLE ID	MW-6A	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	02/15/2023	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	98.8	02/15/2023	GAP
4-Bromofluorobenzene	EPA-8260	107	02/15/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: GHD Services
9725 - 3rd Ave NE, Suite 204
Seattle, WA 98115
CLIENT CONTACT: Emily Blakeway
CLIENT PROJECT: Cascade Village - former Cascade
Cleaners / 12561532
CLIENT SAMPLE ID MW-6B

DATE: 3/2/2023
ALS JOB#: EV23020065
ALS SAMPLE#: EV23020065-06
DATE RECEIVED: 02/09/2023
COLLECTION DATE: 2/8/2023 2:07:00 PM

WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	02/15/2023	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	02/15/2023	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Trichloroethene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Tetrachloroethylene	EPA-8260	3.8	2.0	1	UG/L	02/15/2023	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	02/15/2023	GAP
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-06
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 2:07:00 PM
CLIENT SAMPLE ID	MW-6B	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	02/15/2023	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	98.4	02/15/2023	GAP
4-Bromofluorobenzene	EPA-8260	107	02/15/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: GHD Services DATE: 3/2/2023
9725 - 3rd Ave NE, Suite 204 ALS JOB#: EV23020065
Seattle, WA 98115 ALS SAMPLE#: EV23020065-07
CLIENT CONTACT: Emily Blakeway DATE RECEIVED: 02/09/2023
CLIENT PROJECT: Cascade Village - former Cascade Cleaners / 12561532 COLLECTION DATE: 2/8/2023 11:17:00 AM
CLIENT SAMPLE ID MW-7A WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1-Dichloroethene	EPA-8260	9.7	2.0	1	UG/L	02/14/2023	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	02/14/2023	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	02/14/2023	GAP
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	02/14/2023	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-07
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 11:17:00 AM
CLIENT SAMPLE ID	MW-7A	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP

SURROGATE	METHOD	%REC				ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	95.3				02/14/2023	GAP
4-Bromofluorobenzene	EPA-8260	102				02/14/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-07
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 11:17:00 AM
CLIENT SAMPLE ID	MW-7AD1	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	47	20	100	UG/L	02/15/2023	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	24	100	UG/L	02/15/2023	GAP
Cis-1,2-Dichloroethene	EPA-8260	340	200	100	UG/L	02/15/2023	GAP
Trichloroethene	EPA-8260	82	2.6	100	UG/L	02/15/2023	GAP
Tetrachloroethylene	EPA-8260	240	200	100	UG/L	02/15/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 100X Dilution	EPA-8260	92.3	02/15/2023	GAP
4-Bromofluorobenzene 100X Dilution	EPA-8260	96.9	02/15/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: GHD Services
9725 - 3rd Ave NE, Suite 204
Seattle, WA 98115
DATE: 3/2/2023
ALS JOB#: EV23020065
ALS SAMPLE#: EV23020065-08
CLIENT CONTACT: Emily Blakeway
DATE RECEIVED: 02/09/2023
CLIENT PROJECT: Cascade Village - former Cascade
Cleaners / 12561532
COLLECTION DATE: 2/8/2023 10:51:00 AM
CLIENT SAMPLE ID MW-7B
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1-Dichloroethene	EPA-8260	18	2.0	1	UG/L	02/14/2023	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	02/14/2023	GAP
Trans-1,2-Dichloroethene	EPA-8260	7.4	2.0	1	UG/L	02/14/2023	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	02/14/2023	GAP
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	02/14/2023	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-08
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 10:51:00 AM
CLIENT SAMPLE ID	MW-7B	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	96.0	02/14/2023	GAP
4-Bromofluorobenzene	EPA-8260	104	02/14/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-08
CLIENT SAMPLE ID	MW-7BD1	DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 10:51:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Vinyl Chloride	EPA-8260	5.2	1.1	100	UG/L	02/15/2023	GAP
Cis-1,2-Dichloroethene	EPA-8260	110	23	100	UG/L	02/15/2023	GAP
Trichloroethene	EPA-8260	53	2.6	100	UG/L	02/15/2023	GAP
Tetrachloroethylene	EPA-8260	620	200	100	UG/L	02/15/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 100X Dilution	EPA-8260	99.9	02/15/2023	GAP
4-Bromofluorobenzene 100X Dilution	EPA-8260	106	02/15/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: GHD Services DATE: 3/2/2023
9725 - 3rd Ave NE, Suite 204 ALS JOB#: EV23020065
Seattle, WA 98115 ALS SAMPLE#: EV23020065-09
CLIENT CONTACT: Emily Blakeway DATE RECEIVED: 02/09/2023
CLIENT PROJECT: Cascade Village - former Cascade Cleaners / 12561532 COLLECTION DATE: 2/8/2023 10:22:00 AM
CLIENT SAMPLE ID MW-8A WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Vinyl Chloride	EPA-8260	1.6	0.20	1	UG/L	02/14/2023	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	02/14/2023	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Trichloroethene	EPA-8260	39	2.0	1	UG/L	02/14/2023	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	02/14/2023	GAP
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-09
CLIENT SAMPLE ID	MW-8A	DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 10:22:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	02/14/2023	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/14/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	97.9	02/14/2023	GAP
4-Bromofluorobenzene	EPA-8260	106	02/14/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-09
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 10:22:00 AM
CLIENT SAMPLE ID	MW-8AD1	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Cis-1,2-Dichloroethene	EPA-8260	47	8.0	4	UG/L	02/15/2023	GAP
Tetrachloroethylene	EPA-8260	40	8.0	4	UG/L	02/15/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4 4X Dilution	EPA-8260	99.0	02/15/2023	GAP
4-Bromofluorobenzene 4X Dilution	EPA-8260	108	02/15/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-10
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 10:01:00 AM
CLIENT SAMPLE ID	MW-8B	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Chloromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Vinyl Chloride	EPA-8260	2.3	0.20	1	UG/L	02/15/2023	GAP
Bromomethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Chloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	02/15/2023	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Cis-1,2-Dichloroethene	EPA-8260	17	2.0	1	UG/L	02/15/2023	GAP
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Chloroform	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Trichloroethene	EPA-8260	3.0	2.0	1	UG/L	02/15/2023	GAP
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Dibromomethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1,2-Trichloroethane	EPA-8260	2.4	2.0	1	UG/L	02/15/2023	GAP
1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Tetrachloroethylene	EPA-8260	100	2.0	1	UG/L	02/15/2023	GAP
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	02/15/2023	GAP
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Bromoform	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Bromobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
CLIENT CONTACT:	Emily Blakeway	ALS JOB#:	EV23020065
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532	ALS SAMPLE#:	EV23020065-10
		DATE RECEIVED:	02/09/2023
		COLLECTION DATE:	2/8/2023 10:01:00 AM
CLIENT SAMPLE ID	MW-8B	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	02/15/2023	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	02/15/2023	GAP

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	99.3	02/15/2023	GAP
4-Bromofluorobenzene	EPA-8260	109	02/15/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: GHD Services
9725 - 3rd Ave NE, Suite 204
Seattle, WA 98115

CLIENT CONTACT: Emily Blakeway
CLIENT PROJECT: Cascade Village - former Cascade
Cleaners / 12561532

DATE: 3/2/2023
ALS SDG#: EV23020065
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-021323W - Batch 189881 - Water by EPA-8260

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Chloromethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Vinyl Chloride	EPA-8260	U	UG/L	0.20	02/13/2023	GAP
Bromomethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Chloroethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Carbon Tetrachloride	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Trichlorofluoromethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,1-Dichloroethene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Methylene Chloride	EPA-8260	U	UG/L	5.0	02/13/2023	GAP
Trans-1,2-Dichloroethene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,1-Dichloroethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Cis-1,2-Dichloroethene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
2,2-Dichloropropane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Bromochloromethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Chloroform	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,1,1-Trichloroethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,1-Dichloropropene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,2-Dichloroethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Trichloroethene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,2-Dichloropropane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Dibromomethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Bromodichloromethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Trans-1,3-Dichloropropene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Cis-1,3-Dichloropropene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,1,2-Trichloroethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,3-Dichloropropane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Tetrachloroethylene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Dibromochloromethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,2-Dibromoethane	EPA-8260	U	UG/L	0.010	02/13/2023	GAP
Chlorobenzene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,1,1,2-Tetrachloroethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Bromoform	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,1,2,2-Tetrachloroethane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,2,3-Trichloropropane	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Bromobenzene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
2-Chlorotoluene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
4-Chlorotoluene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,3-Dichlorobenzene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
		ALS SDG#:	EV23020065
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Emily Blakeway		
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532		

LABORATORY BLANK RESULTS

MB-021323W - Batch 189881 - Water by EPA-8260

1,4-Dichlorobenzene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,2-Dichlorobenzene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,2-Dibromo 3-Chloropropane	EPA-8260	U	UG/L	10	02/13/2023	GAP
1,2,4-Trichlorobenzene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
Hexachlorobutadiene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP
1,2,3-Trichlorobenzene	EPA-8260	U	UG/L	2.0	02/13/2023	GAP

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: GHD Services
9725 - 3rd Ave NE, Suite 204
Seattle, WA 98115

CLIENT CONTACT: Emily Blakeway
CLIENT PROJECT: Cascade Village - former Cascade
Cleaners / 12561532

DATE: 3/2/2023
ALS SDG#: EV23020065
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 189881 - Water by EPA-8260

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Dichlorodifluoromethane - BS	EPA-8260	61.7			50	150	02/13/2023	GAP
Dichlorodifluoromethane - BSD	EPA-8260	74.3	19		50	150	02/13/2023	GAP
Chloromethane - BS	EPA-8260	58.1			50	150	02/13/2023	GAP
Chloromethane - BSD	EPA-8260	64.3	10		50	150	02/13/2023	GAP
Vinyl Chloride - BS	EPA-8260	91.2			50	150	02/13/2023	GAP
Vinyl Chloride - BSD	EPA-8260	99.3	9		50	150	02/13/2023	GAP
Bromomethane - BS	EPA-8260	76.4			50	150	02/13/2023	GAP
Bromomethane - BSD	EPA-8260	85.4	11		50	150	02/13/2023	GAP
Chloroethane - BS	EPA-8260	101			50	150	02/13/2023	GAP
Chloroethane - BSD	EPA-8260	108	7		50	150	02/13/2023	GAP
Carbon Tetrachloride - BS	EPA-8260	121			50	150	02/13/2023	GAP
Carbon Tetrachloride - BSD	EPA-8260	132	9		50	150	02/13/2023	GAP
Trichlorofluoromethane - BS	EPA-8260	128			50	150	02/13/2023	GAP
Trichlorofluoromethane - BSD	EPA-8260	145	13		50	150	02/13/2023	GAP
1,1-Dichloroethene - BS	EPA-8260	111			72.5	136	02/13/2023	GAP
1,1-Dichloroethene - BSD	EPA-8260	121	9		72.5	136	02/13/2023	GAP
Methylene Chloride - BS	EPA-8260	114			50	150	02/13/2023	GAP
Methylene Chloride - BSD	EPA-8260	118	4		50	150	02/13/2023	GAP
Trans-1,2-Dichloroethene - BS	EPA-8260	110			50	150	02/13/2023	GAP
Trans-1,2-Dichloroethene - BSD	EPA-8260	118	7		50	150	02/13/2023	GAP
1,1-Dichloroethane - BS	EPA-8260	106			50	150	02/13/2023	GAP
1,1-Dichloroethane - BSD	EPA-8260	115	8		50	150	02/13/2023	GAP
Cis-1,2-Dichloroethene - BS	EPA-8260	107			50	150	02/13/2023	GAP
Cis-1,2-Dichloroethene - BSD	EPA-8260	113	5		50	150	02/13/2023	GAP
2,2-Dichloropropane - BS	EPA-8260	135			50	150	02/13/2023	GAP
2,2-Dichloropropane - BSD	EPA-8260	143	6		50	150	02/13/2023	GAP
Bromochloromethane - BS	EPA-8260	116			50	150	02/13/2023	GAP
Bromochloromethane - BSD	EPA-8260	120	3		50	150	02/13/2023	GAP
Chloroform - BS	EPA-8260	110			50	150	02/13/2023	GAP
Chloroform - BSD	EPA-8260	117	6		50	150	02/13/2023	GAP
1,1,1-Trichloroethane - BS	EPA-8260	113			50	150	02/13/2023	GAP
1,1,1-Trichloroethane - BSD	EPA-8260	122	8		50	150	02/13/2023	GAP
1,1-Dichloropropene - BS	EPA-8260	120			50	150	02/13/2023	GAP
1,1-Dichloropropene - BSD	EPA-8260	130	8		50	150	02/13/2023	GAP
1,2-Dichloroethane - BS	EPA-8260	104			50	150	02/13/2023	GAP
1,2-Dichloroethane - BSD	EPA-8260	106	3		50	150	02/13/2023	GAP
Trichloroethene - BS	EPA-8260	107			74.4	141	02/13/2023	GAP
Trichloroethene - BSD	EPA-8260	114	6		74.4	141	02/13/2023	GAP



CERTIFICATE OF ANALYSIS

CLIENT: GHD Services
9725 - 3rd Ave NE, Suite 204
Seattle, WA 98115

CLIENT CONTACT: Emily Blakeway
CLIENT PROJECT: Cascade Village - former Cascade
Cleaners / 12561532

DATE: 3/2/2023
ALS SDG#: EV23020065
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
1,2-Dichloropropane - BS	EPA-8260	112			50	150	02/13/2023	GAP
1,2-Dichloropropane - BSD	EPA-8260	116	4		50	150	02/13/2023	GAP
Dibromomethane - BS	EPA-8260	113			50	150	02/13/2023	GAP
Dibromomethane - BSD	EPA-8260	116	3		50	150	02/13/2023	GAP
Bromodichloromethane - BS	EPA-8260	112			50	150	02/13/2023	GAP
Bromodichloromethane - BSD	EPA-8260	116	4		50	150	02/13/2023	GAP
Trans-1,3-Dichloropropene - BS	EPA-8260	119			50	150	02/13/2023	GAP
Trans-1,3-Dichloropropene - BSD	EPA-8260	122	2		50	150	02/13/2023	GAP
Cis-1,3-Dichloropropene - BS	EPA-8260	121			50	150	02/13/2023	GAP
Cis-1,3-Dichloropropene - BSD	EPA-8260	124	3		50	150	02/13/2023	GAP
1,1,2-Trichloroethane - BS	EPA-8260	112			50	150	02/13/2023	GAP
1,1,2-Trichloroethane - BSD	EPA-8260	114	2		50	150	02/13/2023	GAP
1,3-Dichloropropane - BS	EPA-8260	109			50	150	02/13/2023	GAP
1,3-Dichloropropane - BSD	EPA-8260	111	2		50	150	02/13/2023	GAP
Tetrachloroethylene - BS	EPA-8260	69.8			50	150	02/13/2023	GAP
Tetrachloroethylene - BSD	EPA-8260	76.2	9		50	150	02/13/2023	GAP
Dibromochloromethane - BS	EPA-8260	108			50	150	02/13/2023	GAP
Dibromochloromethane - BSD	EPA-8260	110	2		50	150	02/13/2023	GAP
1,2-Dibromoethane - BS	EPA-8260	113			50	150	02/13/2023	GAP
1,2-Dibromoethane - BSD	EPA-8260	115	2		50	150	02/13/2023	GAP
Chlorobenzene - BS	EPA-8260	106			73	131	02/13/2023	GAP
Chlorobenzene - BSD	EPA-8260	110	4		73	131	02/13/2023	GAP
1,1,1,2-Tetrachloroethane - BS	EPA-8260	106			50	150	02/13/2023	GAP
1,1,1,2-Tetrachloroethane - BSD	EPA-8260	109	3		50	150	02/13/2023	GAP
Bromoform - BS	EPA-8260	112			50	150	02/13/2023	GAP
Bromoform - BSD	EPA-8260	115	2		50	150	02/13/2023	GAP
1,1,2,2-Tetrachloroethane - BS	EPA-8260	130			50	150	02/13/2023	GAP
1,1,2,2-Tetrachloroethane - BSD	EPA-8260	132	2		50	150	02/13/2023	GAP
1,2,3-Trichloropropane - BS	EPA-8260	113			50	150	02/13/2023	GAP
1,2,3-Trichloropropane - BSD	EPA-8260	116	3		50	150	02/13/2023	GAP
Bromobenzene - BS	EPA-8260	106			50	150	02/13/2023	GAP
Bromobenzene - BSD	EPA-8260	110	4		50	150	02/13/2023	GAP
2-Chlorotoluene - BS	EPA-8260	109			50	150	02/13/2023	GAP
2-Chlorotoluene - BSD	EPA-8260	114	4		50	150	02/13/2023	GAP
4-Chlorotoluene - BS	EPA-8260	111			50	150	02/13/2023	GAP
4-Chlorotoluene - BSD	EPA-8260	116	4		50	150	02/13/2023	GAP
1,3-Dichlorobenzene - BS	EPA-8260	109			50	150	02/13/2023	GAP
1,3-Dichlorobenzene - BSD	EPA-8260	113	4		50	150	02/13/2023	GAP
1,4-Dichlorobenzene - BS	EPA-8260	109			50	150	02/13/2023	GAP

CERTIFICATE OF ANALYSIS

CLIENT:	GHD Services 9725 - 3rd Ave NE, Suite 204 Seattle, WA 98115	DATE:	3/2/2023
		ALS SDG#:	EV23020065
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Emily Blakeway		
CLIENT PROJECT:	Cascade Village - former Cascade Cleaners / 12561532		

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
1,4-Dichlorobenzene - BSD	EPA-8260	113	4		50	150	02/13/2023	GAP
1,2-Dichlorobenzene - BS	EPA-8260	107			50	150	02/13/2023	GAP
1,2-Dichlorobenzene - BSD	EPA-8260	110	3		50	150	02/13/2023	GAP
1,2-Dibromo 3-Chloropropane - BS	EPA-8260	118			50	150	02/13/2023	GAP
1,2-Dibromo 3-Chloropropane - BSD	EPA-8260	122	3		50	150	02/13/2023	GAP
1,2,4-Trichlorobenzene - BS	EPA-8260	115			50	150	02/13/2023	GAP
1,2,4-Trichlorobenzene - BSD	EPA-8260	120	4		50	150	02/13/2023	GAP
Hexachlorobutadiene - BS	EPA-8260	126			50	150	02/13/2023	GAP
Hexachlorobutadiene - BSD	EPA-8260	138	8		50	150	02/13/2023	GAP
1,2,3-Trichlorobenzene - BS	EPA-8260	111			50	150	02/13/2023	GAP
1,2,3-Trichlorobenzene - BSD	EPA-8260	115	3		50	150	02/13/2023	GAP

APPROVED BY



Rob Greer
Laboratory Director



Laboratory

Chain of Custody
8620 Holly Drive, Everett, WA 98208 USA | +1 425 356 2600

(If viewing electronically, this is a drop down list - click on the address above - a drop down arrow will appear to the right of the address)

Work Order No.:

Project Manager: Emily Blakeway		Bill to: Emily Blakeway	
Client Name: GHD		Company: GHD	
Address: 9725 3rd Ave NE, Ste 204		Address:	
City, State ZIP: Seattle, WA 98115		City, State ZIP:	
Email: emily.blakeway@ghd.com		Email: emily.blakeway@ghd.com	
Project Site: 16912 116th Ave SE, Renton		Phone: (425) 327-4585	
Project Name: Cascade Village - former Cascade Cleaners		State: WA	
Project Number: 12561532			
SSOW #: 12561532-2023-01			
Sampler's Name: Rick Palmer			
SAMPLE RECEIPT			
Temperature (°C):	Temp Blank Present		
Received Intact:	Yes No N/A	Wet Ice / Blue Ice	
Cooler Custody Seals:	Yes No N/A	Total Containers:	
Sample Custody Seals:	Yes No N/A		
Sample Identification	Matrix	Date Sampled	Time Sampled
MW-1	GW	2/8/23	1225
MW-2		2/8/23	1145
MW-3		2/8/23	1300
MW-5		2/8/23	1327
MW-6A		2/8/23	1430
MW-6B		2/8/23	1407
MW-7A		2/8/23	1117
MW-7B		2/8/23	1051
MW-8A		2/8/23	1022
MW-8B		2/8/23	1001
Dissolved		Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sn, Sr, Ti, V, Zn, Zr	
Total		Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sn, Sr, Ti, V, Zn, Zr	
RECEIVED BY			
Print Name	Signature	Date/Time	Signature
Rick Palmer		2/8/23 1600	LEE BUREZ
LEE BUREZ		2/9/23 1310	Carl NVM
RECEIVED BY			
Additional Methods Available Upon Request		Date/Time	
		2/9/23 1000	
		2/9/23 1310	

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

March 27, 2023

Emily Blakeway, Project Manager
GHD
9725 3rd Avenue NE Ste 204
Seattle, WA 98115

Dear Ms Blakeway:

Included are the results from the testing of material submitted on March 17, 2023 from the Cascade Village SSOW 12561532-2023-02, F&BI 303303 project. There are 7 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Jeffrey Cloud
GHD0327R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 17, 2023 by Friedman & Bruya, Inc. from the GHD Cascade Village SSOW 12561532-2023-02, F&BI 303303 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>GHD</u>
303303 -01	GW-12561532-031723-NA-MW1
303303 -02	GW-12561532-031723-NA-MW5
303303 -03	GW-12561532-031723-NA-MW3
303303 -04	GW-12561532-031723-NA-DUP1

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	GW-12561532-031723-NA-MW1	Client:	GHD
Date Received:	03/17/23	Project:	Cascade Village, F&BI 303303
Date Extracted:	03/20/23	Lab ID:	303303-01
Date Analyzed:	03/22/23	Data File:	032216.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	lm

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	71	132
Toluene-d8	91	68	139
4-Bromofluorobenzene	100	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	GW-12561532-031723-NA-MW5	Client:	GHD
Date Received:	03/17/23	Project:	Cascade Village, F&BI 303303
Date Extracted:	03/20/23	Lab ID:	303303-02 1/10
Date Analyzed:	03/23/23	Data File:	032314.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	md

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	71	132
Toluene-d8	87	68	139
4-Bromofluorobenzene	109	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.95
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	<50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	84
1,2-Dichloroethane (EDC)	<2
1,1,1-Trichloroethane	<10
Trichloroethene	110
Tetrachloroethene	620

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	GW-12561532-031723-NA-MW3	Client:	GHD
Date Received:	03/17/23	Project:	Cascade Village, F&BI 303303
Date Extracted:	03/20/23	Lab ID:	303303-03
Date Analyzed:	03/22/23	Data File:	032217.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	lm

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	98	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	0.68
Tetrachloroethene	5.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	GHD
Date Received:	Not Applicable	Project:	Cascade Village, F&BI 303303
Date Extracted:	03/20/23	Lab ID:	03-0623 mb
Date Analyzed:	03/20/23	Data File:	032007.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	lm

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	101	62	136

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.02
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<0.2
1,1,1-Trichloroethane	<1
Trichloroethene	<0.5
Tetrachloroethene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/27/23

Date Received: 03/17/23

Project: Cascade Village SSOW 12561532-2023-02, F&BI 303303

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 303265-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance Criteria
				Recovery MS	
Vinyl chloride	ug/L (ppb)	10	0.021	103	16-176
Chloroethane	ug/L (ppb)	10	<1	115	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	101	50-150
Methylene chloride	ug/L (ppb)	10	<5	100	40-143
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	100	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	103	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	13	117 b	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	106	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	103	50-150
Trichloroethene	ug/L (ppb)	10	16	118 b	43-133
Tetrachloroethene	ug/L (ppb)	10	460	0 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Percent	Acceptance Criteria	RPD (Limit 20)
			Recovery LCS	Recovery LCSD		
Vinyl chloride	ug/L (ppb)	10	114	116	70-130	2
Chloroethane	ug/L (ppb)	10	122	126	70-130	3
1,1-Dichloroethene	ug/L (ppb)	10	109	112	70-130	3
Methylene chloride	ug/L (ppb)	10	103	103	29-192	0
trans-1,2-Dichloroethene	ug/L (ppb)	10	107	109	70-130	2
1,1-Dichloroethane	ug/L (ppb)	10	109	111	70-130	2
cis-1,2-Dichloroethene	ug/L (ppb)	10	108	111	70-130	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	109	110	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	108	111	70-130	3
Trichloroethene	ug/L (ppb)	10	101	105	70-130	4
Tetrachloroethene	ug/L (ppb)	10	109	108	70-130	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria, biased high; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

303303
Report To Emily Blakeway

Company.

Address

City, State, ZIP

Phone

Email

SAMPLE CHAIN OF CUSTODY

03/17/23

vw2

SAMPLERS (*signature*)

PROJECT NAME

PO #

REMARKS

INVOICE TO

Project specific RLs? - Yes / No

Page # 1 of 1

TURNAROUND TIME

☒ Standard turnaround

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

- Archive samples

☐ Other

Default: Dispose after 30 days

[illegible]

Friedman & Bruya, Inc.
Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	Nicholas Adamowski	GHD	3-17-23	
Received by: 	ANH PHAN	FBO	03/17/23	15:12
Relinquished by:				
Received by:				

