



August 3, 2017  
G-Logics Project Number 01-0868-J

Mr. Dan Shieder  
LMC Gilman Square, LLC  
1325 Fourth Ave, Suite 1700  
Seattle, WA 98101

**Subject: Summary Memo  
July 2017, Fourth Quarter Groundwater Sampling Results  
Remediation Support and Cleanup Action Report  
Gilman Square  
615 NW Gilman Blvd  
Issaquah, WA**

Dear Mr. Shieder:

This memo presents the results from the fourth quarter of groundwater sampling conducted in July 2017 at the Gilman Square Site (Figure 1). For this project, samples were collected from three groundwater-monitoring wells (GL-MW-11, GL-MW-12, and GL-MW-13). Sampling locations are shown on attached Figure 2.

The purpose of this sampling was to assess the current subsurface conditions and the presence of chlorinated solvents in groundwater at the Site. Each sample was analyzed for tetrachloroethylene (PCE) and PCE-degradation compounds (trichloroethene, cis- and trans-1,2-dichloroethene, 1,1-dichloroethene, and vinyl chloride).

**G-Logics, Inc.**  
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T: 425-391-6874  
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01-0868-J-GWQ4-Memo

## **BACKGROUND**

In the fall of 2014, chlorinated-solvent contaminated soil was removed from the Site in the vicinity of a former dry cleaner. After the excavation was completed, three monitoring wells (GL-MW-11, GL-MW-12, and GL-MW-13) were installed in the area where groundwater previously had contained residual concentrations of vinyl chloride (well locations shown on Figure 2). These wells were installed to document groundwater conditions and to monitor the attenuation of the low concentrations of chlorinated solvents.

Groundwater samples collected from these wells in 2015 and 2016 contained detectable concentrations of PCE, cis-1,2-dichloroethene, and/or vinyl chloride. Vinyl chloride historically has been the only analyte detected at concentrations exceeding MTCA Method A cleanup levels from wells GL-MW-11 and GL-MW-12 (groundwater results summarized in Table 1). However, samples collected during the previous three groundwater sampling events did not contain detectable concentrations of vinyl chloride.

### **Enhanced Anaerobic Bioremediation**

As discussed in G-Logics memo dated November 10, 2016, in-situ, enhanced-anaerobic bioremediation (EAB) technology was used at the Site with the intent to reduce vinyl-chloride concentrations in the groundwater to below MTCA Method A cleanup levels. In the spring of 2016, an EAB “amendment” solution (mix of nutrients and a carbon source) was injected into wells GL-MW-11, GL-MW-12, and GL-MW-13 in order to increase the microbial activity that is naturally present in this area.

Preliminary groundwater sampling was conducted in June and October 2016 to document the aquifer conditions and assess the need for additional injections of the EAB amendment. Geochemical and water-quality parameter results collected during these sampling events displayed that anaerobic conditions had been successfully enhanced by the amendment. No additional injections have been completed.

## **GROUNDWATER SAMPLING**

G-Logics conducted the fourth round of groundwater sampling in July 2017. During this sampling event, low-flow sampling techniques were utilized, with water-quality parameters measured using a YSI ProDSS multiparameter meter and a flow-through cell. Once parameter readings stabilized, groundwater samples were collected from the three onsite monitoring wells. Collected samples were submitted to Fremont Analytical of Seattle, Washington for volatile organic analysis by EPA Method 8260. Results are further discussed below.

### **Geochemical and Water-Quality Parameters**

Water-quality parameters (dissolved oxygen, pH, oxidation-reduction potential, and conductivity) were measured in the wells during well purging. Water-quality parameters were recorded on the groundwater-sampling logs. The water-quality results indicate that the conditions remain in a reducing/anaerobic state and are favorable for the continued biodegradation of the residual chlorinated-solvent contaminants that may remain in the subsurface. Water-quality and geochemical parameter results are presented in Table 1.

### **Groundwater Levels**

Groundwater depths were measured in all of the sampled wells using a water-level probe that is accurate to one one-hundredth of a foot (Solinst Model 101). The measured groundwater depth was converted to groundwater elevation by subtracting the measured depth from the surveyed elevation for the top of the well casing. Information regarding groundwater depths, elevations, and well construction is summarized in Table 2. Groundwater elevations, contours, and inferred flow directions for shallow groundwater are depicted on Figure 3. This mapping indicates a groundwater-flow direction to the north.

### **Groundwater Sample Results**

The July 2017 samples did not contain any detectable concentrations of chlorinated solvents above laboratory reporting limits or MTCA Method A cleanup levels. With these most recent results, the last four groundwater-sampling events yielded favorable results with no detections of vinyl chloride, or other chlorinate-solvent compounds, above MTCA Method A cleanup levels.

A summary of the analytical results is presented in Table 1. The analytical laboratory reports and chain-of custody documentation for the analyzed samples are attached as Appendix A.

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

The laboratory validated the analytical procedures by processing laboratory-control samples and method-blank samples. Furthermore, one blind-duplicate sample was collected from well GL-MW-13 as GL-MW-DupA. All results were within acceptable limits for QA/QC standards. Laboratory QA/QC information also is included with the laboratory reports in Appendix A.

## **CONCLUSIONS**

As stated above, vinyl chloride and other chlorinated-solvent contaminants were not detected above MTCA Method A cleanup levels during the last four groundwater-sampling events. In addition, none of the analyzed compounds were detected above the laboratory-reporting limits during the last two quarters of sampling. These results indicate that vinyl chloride has been successfully degraded to concentrations below cleanup levels across the Site.

G-Logics recommends that the final Cleanup Action Report for the Gilman Square Site be completed and submitted to Ecology. With the submittal of this memo and the Cleanup Action Report, G-Logics will request a formal Site-wide No Further Action (NFA) determination from Ecology for the Gilman Square Site.

## **LIMITATIONS**

The provided scope of services was intended to provide a quarterly assessment of groundwater conditions at the Site. This work was not designed to identify all potential concerns or to eliminate all risk. This work only included services specifically described above.

Land use, site conditions (both on-site and off-site), and other factors will change over time. Since site activities and regulations beyond our control could change at any time after the completion of this report, our observations, findings, and opinions can be considered valid only as of the date of the site sampling.

This report is prepared for the sole use of our client. The scope of services performed during this assessment may not be appropriate for the needs of other users. Re-use of this document or the findings, conclusions, or recommendations presented herein, are at the sole risk of said user(s). Non-compliance with any of these requirements will release G-Logics from any liability resulting from the use of this report by any unauthorized party.

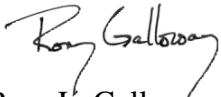
The potentially responsible party is solely responsible for notifying all governmental agencies, and the public at large, of the existence, release, treatment, or disposal of any hazardous materials identified at the project site. G-Logics assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury which results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials.

No warranty, either express or implied, is made.

## CLOSING

We appreciate this opportunity to provide our services on this project. Please contact us if you have questions regarding the conducted services or findings of this work.

Sincerely,  
**G-Logics, Inc.**



Rory L. Galloway, LG, LHG  
Principal



Stuart Hyde  
Project Geologist

cc Brad Machat, Lennar

### Figures:

Figure 1: Site Location Maps  
Figure 2: Current Well Locations, Vinyl Chloride Concentration Data  
Figure 3: Interpreted Groundwater Elevation Contours, July 2017

### Tables:

Table 1: Post Remedial Excavation, Groundwater Sample Analyses  
Table 2: Groundwater Elevation Measurements

### Appendices:

Appendix A: Laboratory Analytical Reports and Chain-of-Custody Documentation

# FIGURES



Mapping Reference: Delorme and Google Maps






Project File: 01-0868-J-GWQ4-F1.vsd

**Site Location Maps**  
**Gilman Square**  
**615 Northwest Gilman Blvd**  
**Issaquah, Washington**


**Figure**  
**1**



### Legend

-  Approximate Footprint of Former Drycleaner
-  Dewatering- System Excavation Boundary
-  Former Drycleaner Excavation Boundary

### Data Legend

 **Monitoring Well ID, Sample Date, and Vinyl Chloride Concentrations (units ug/L)**

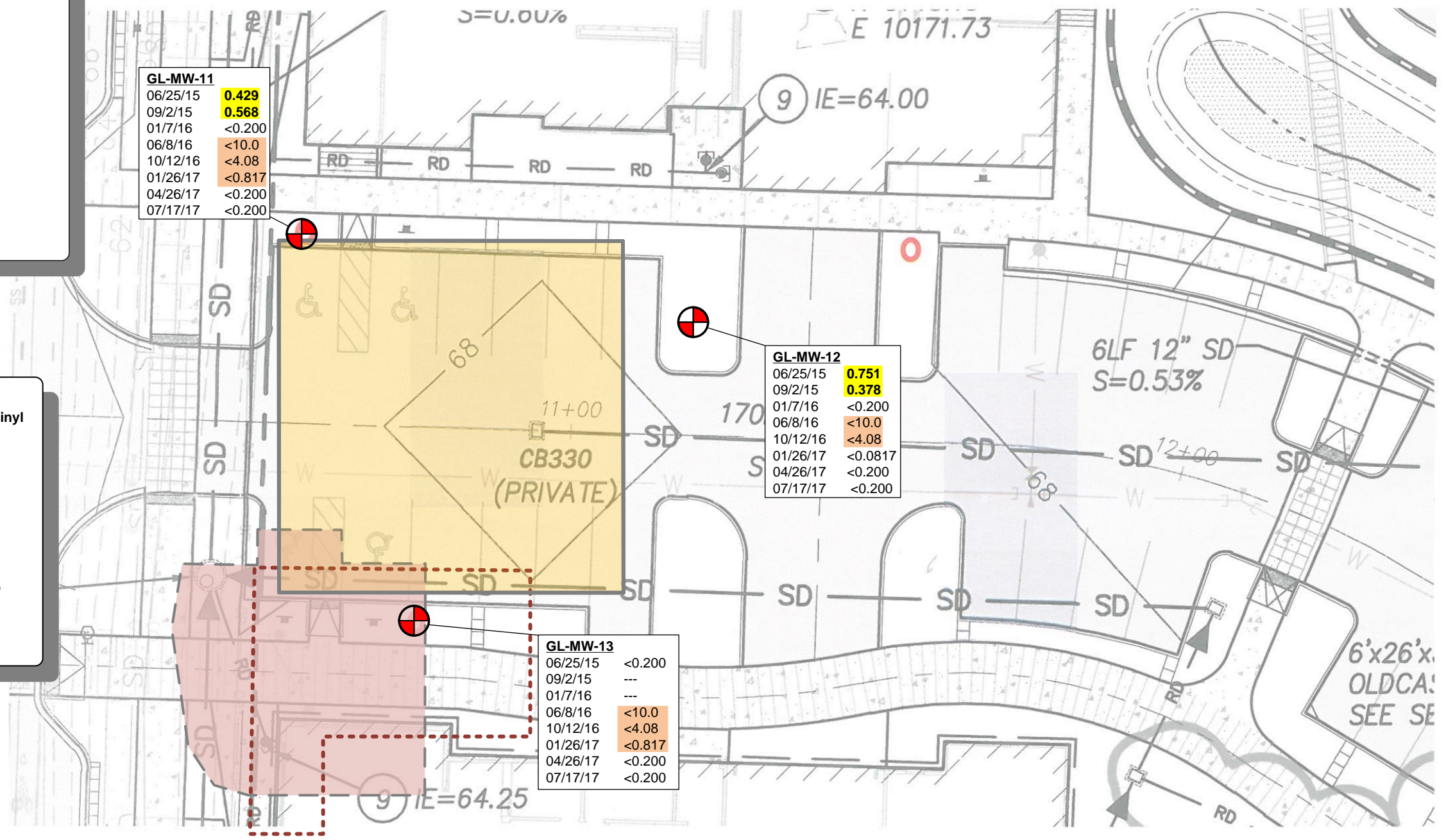
GL-MW-11	Concentration (ug/L)
06/25/15	<b>0.429</b>
09/2/15	<b>0.568</b>
12/8/16	---
01/7/16	<0.200
06/8/16	<10.0
10/12/16	<4.08
01/26/17	<0.817
04/26/17	<0.200

Bold Numbers and Yellow Shading Indicated Vinyl Chloride Detected Above MTCA Cleanup Level of 0.2 ug/L.

Dashes Indicate That Sample Was Not Collected

Peach Shading Indicates Laboratory Detection Limit Exceeds the Applicable MTCA Cleanup Level.

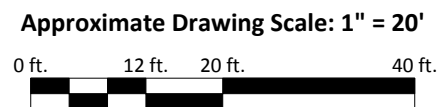
Vinyl Chloride Not Detected Above Specified Reporting Limit



Project File: 01-0868-J-GWQ4-F2.vsd



Note: This figure contains information in color. Black & white photocopies may not be suitable for review.









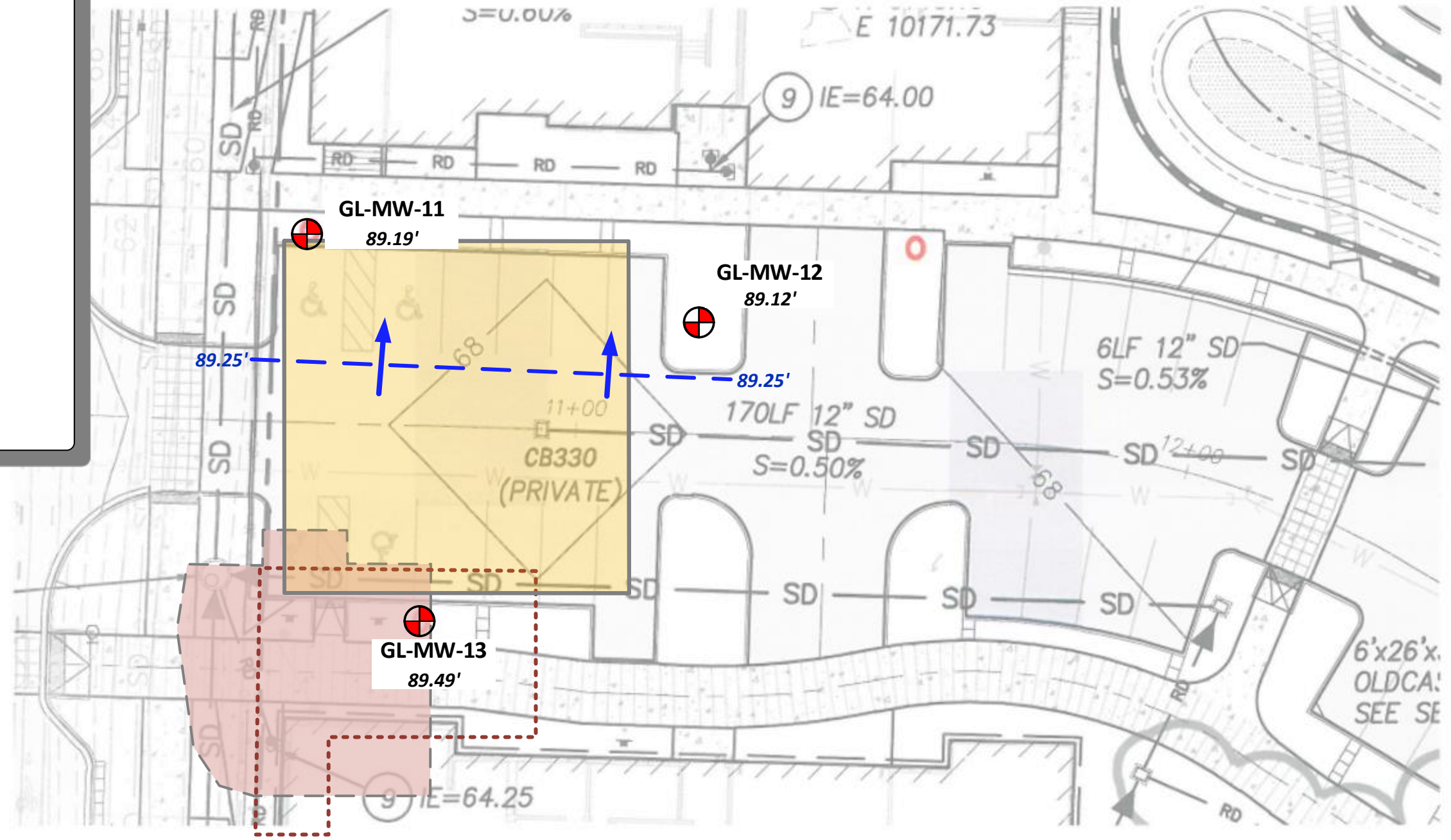
**Current Well Locations, Vinyl Chloride Concentration Data**  
**Gilman Square**  
 615 Northwest Gilman Blvd  
 Issaquah, Washington

Figure  
 2

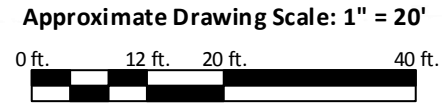


### Legend

-  Approximate Footprint of Former Drycleaner
-  Dewatering- System Excavation Boundary
-  Former Drycleaner Excavation Boundary
-  G-Logics Well Location and Groundwater Elevation (ft)
-  Inferred Groundwater Elevation Contour
-  Inferred Groundwater Flow Direction



- Notes:**
1. The contours represent an interpretation of available data for the indicated date. Site groundwater contours may change with additional measurements and/or data points, weather changes, construction activities, and/or other influences.
  2. This figure contains information in color. Black & white photocopies may not be suitable for review.



**Interpreted Groundwater Elevation Contours, July 2017**  
**Gilman Square**  
 615 Northwest Gilman Blvd  
 Issaquah, Washington

Figure  
 3

Project File: 01-0868-J-GWQ4-F3.vsd

# TABLES

**TABLE 1**  
**Post Remedial Excavation, Groundwater Sample Analyses**  
**Gilman Square**  
**615 NW Gilman Blvd, Issaquah, WA**

Exploration Location	Sample Date	Sample Number	Vinyl Chloride	1,1-Dichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Trichloroethene (TCE)	Tetrachloroethene (PCE)	Sulfate	Dissolved Iron	Ferrous Iron (test kit)	Total Iron	Nitrate	Nitrite	Nitrate + Nitrite	Ethene	Ethane	Methane	Total Organic Carbon	pH	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Conductivity (mS/cm)	
			EPA 8260, µg/L																					Geochemical Parameters, mg/L
GL-MW-11	6/25/2015	GL-MW-11	<b>0.429</b>	<1.00	<1.00	<1.00	<0.500	<1.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	9/2/2015	GL-MW-11	<b>0.568</b>	<1.00	<1.00	<b>1.07</b>	<0.500	<1.00	<b>40.9 D</b>	<b>5,600</b>	---	<b>7,730</b>	<b>4.79 D</b>	<0.500 D	---	---	---	---	<b>7.68</b>	6.62	-51.4	1.48	0.326	
	1/7/2016	GL-MW-11	<0.200	<1.00	<1.00	<1.00	<0.500	<1.00	---	---	0.0	---	---	---	---	---	---	---	---	---	5.68	166.0	3.03	0.226
	6/8/2016	GL-MW-11	<10.0 D	<50.0 D	<50.0 D	<50.0 D	<25.0 D	<50.0 D	<b>4.39 D</b>	---	<b>1.8</b>	---	<0.500 D	<0.500 D	---	<0.00500	<0.00500	<b>0.255 D</b>	<b>636 D</b>	7.40	-150.0	0.00	2.200	
	6/8/2016	GL-MW-99 (dup)	<10.0 D	<50.0 D	<50.0 D	<50.0 D	<25.0 D	<50.0 D	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10/12/2016	GL-MW-11*	<4.08 D	<1.78 D	<2.23 D	<3.05 D	<2.27 D	<1.79 D	<b>16.8 D</b>	---	0.0	---	---	---	<0.153 D	<0.00500	<0.00500	<b>4.35 D</b>	<b>91.5 D</b>	6.98	-127.0	0.68	1.280	
	10/12/2016	GL-MW-A (dup)*	<4.08 D	<1.78 D	<2.23 D	<3.05 D	<2.27 D	<1.79 D	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	1/26/2017	GL-MW-11*	<0.817 D	<0.356 D	<0.446 D	<0.609 D	<0.454 D	<0.359 D	<b>9.23 D</b>	---	<b>2.5</b>	---	<1.00 D	<1.00 D	---	<0.00500	<0.00500	<b>4.71 D</b>	<b>60.6 D</b>	6.92	-167.3	0.76	1.294	
	4/26/2017	GL-MW-11	<0.200	<1.00	<1.00	<1.00	<0.500	<1.00	---	---	---	---	---	---	---	---	---	---	---	---	7.27	-112.2	1.31	0.806
7/17/2017	GL-MW-11	<0.200	<1.00	<1.00	<1.00	<0.500	<1.00	---	---	---	---	---	---	---	---	---	---	---	---	6.96	-121.2	0.97	0.990	
GL-MW-12	6/25/2015	GL-MW-12	<b>0.751</b>	<1.00	<1.00	<1.00	<0.500	<1.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	9/2/2015	GL-MW-12	<b>0.378</b>	<1.00	<1.00	<1.00	<0.500	<1.00	<b>40.7 D</b>	<b>6,760</b>	---	<b>9,420</b>	<b>4.74 D</b>	<0.500 D	---	---	---	---	<b>4.95</b>	6.32	6.8	1.16	0.488	
	1/7/2016	GL-MW-12	<0.200	<1.00	<1.00	<1.00	<0.500	<b>1.10</b>	---	---	0.0	---	---	---	---	---	---	---	---	---	6.30	171.0	4.73	0.373
	6/8/2016	GL-MW-12	<10.0 D	<50.0 D	<50.0 D	<50.0 D	<25.0 D	<50.0 D	<b>14.2 D</b>	---	<b>1.5</b>	---	<0.500 D	<0.500 D	---	<0.00500	<0.00500	<b>0.324 D</b>	<b>68.6 D</b>	6.96	-132.0	0.00	1.310	
	10/12/2016	GL-MW-12*	<4.08 D	<1.78 D	<2.23 D	<3.05 D	<2.27 D	<1.79 D	<b>105 D</b>	---	<b>4.5</b>	---	---	---	<b>0.558 JD</b>	<0.00500	<0.00500	<b>1.01 D</b>	<b>78.2 D</b>	6.83	-64.0	0.17	1.560	
	1/26/2017	GL-MW-12*	<0.0817	<0.0356	<0.0446	<0.0609	<0.0454	<b>0.447 J</b>	<b>31.6 D</b>	---	<b>0.5</b>	---	<1.00 D	<1.00 D	---	<0.00500	<0.00500	<b>0.516 D</b>	<b>21.1 D</b>	6.94	-73.7	0.68	0.856	
	1/26/2017	GL-MW-Dup*	<0.0817	<0.0356	<0.0446	<0.0609	<0.0454	<b>0.418 J</b>	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	4/26/2017	GL-MW-12	<0.200	<1.00	<1.00	<1.00	<0.500	<1.00	---	---	---	---	---	---	---	---	---	---	---	---	6.87	-42.0	0.92	0.910
7/17/2017	GL-MW-12	<0.200	<1.00	<1.00	<1.00	<0.500	<1.00	---	---	---	---	---	---	---	---	---	---	---	---	6.58	-82.0	0.86	1.098	
GL-MW-13	6/25/2015	GL-MW-13	<0.200	<1.00	<1.00	<1.00	<0.500	<1.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	9/2/2015	Well Damaged, No Sample	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	1/7/2016	Well Damaged, No Sample	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	6/8/2016	GL-MW-13	<10.0 D	<50.0 D	<50.0 D	<50.0 D	<25.0 D	<50.0 D	<b>8.46 D</b>	---	<b>3.0</b>	---	<0.500 D	<0.500 D	---	<0.00500	<0.00500	<b>0.161</b>	<b>459 D</b>	6.99	-88.0	0.00	0.654	
	10/12/2016	GL-MW-13*	<4.08 D	<1.78 D	<2.23 D	<3.05 D	<2.27 D	<1.79 D	<b>10.7 D</b>	---	0.0	---	---	---	<0.0765 D	<0.00500	<0.00500	<b>0.993 D</b>	<b>66.5 D</b>	7.23	-169.3	0.11	0.399	
	1/26/2017	GL-MW-13*	<0.817 D	<0.356 D	<0.446 D	<0.609 D	<0.454 D	<0.359 D	<b>5.88 D</b>	---	<b>0.5</b>	---	<0.500 D	<0.500 D	---	<0.00500	<0.00500	<b>0.163</b>	<b>18.0 D</b>	8.77	-105.0	0.77	0.290	
	4/26/2017	GL-MW-13	<0.200	<1.00	<1.00	<1.00	<0.500	<1.00	---	---	---	---	---	---	---	---	---	---	---	---	9.52	-362.2	0.74	0.193
	4/26/2017	GL-MW-DupA	<0.200	<1.00	<1.00	<1.00	<0.500	<1.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	7/17/2017	GL-MW-13	<0.200	<1.00	<1.00	<1.00	<0.500	<1.00	---	---	---	---	---	---	---	---	---	---	---	---	8.02	-233.9	0.89	0.197
7/17/2017	GL-MW-DupA	<0.200	<1.00	<1.00	<1.00	<0.500	<1.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
<b>MTCA Cleanup Level (1)</b>			0.2	400	160	16	5	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Notes: Refer to site diagram(s) for sampling locations.

(1) Available Method A Cleanup Levels or Most Conservative Method B Cleanup Levels, MTCA, Amendments adopted in November 2007, Revised 2013.

Exceeding Cleanup Levels does not necessarily trigger requirements for Cleanup Actions under MTCA.

D Dilution Required Due to Matrix

N/A Not Available.

J Analyte detected below Reporting Limit

dup Blind Field Duplicate

<0.200 Not detected above the specified laboratory detection limit.

**4.71** Bold Number(s) Indicates Contaminant Detected.

**0.429** Bold Number(s) and Shading Indicates Concentration Exceeds MTCA Cleanup Level.

<4.08 Laboratory Detection Limit Exceeds the Applicable MTCA Cleanup Level.

\* Analytical results were reported to the Method Detection Limit (MDL).

**TABLE 2****Groundwater Elevation Measurements****Gilman Square****615 NW Gilman Blvd, Issaquah, WA**

Location Designation	Well Installation Date	Ecology Well Tag Number	Elevation Top of PVC Casing (ft.)*	Depth to Top of Screen (ft.)	Depth to Bottom of Screen (ft.)	Well Diameter (in.)	Date Measured	Depth to Water (ft.)	Calculated Elevations (ft.)
GL-MW-11	6/24/15	BIK-977	97.86	3.0	13.0	2.0	1/26/17	7.60	90.26
							4/26/17	7.62	90.24
							7/17/17	8.67	89.19
GL-MW-12	6/24/15	BIK-978	98.66	4.0	14.0	2.0	1/26/17	9.42	89.24
							4/26/17	7.59	91.07
							7/17/17	9.54	89.12
GL-MW-13	6/24/15	BIK-979	95.40	6.0	11.0	2.0	1/26/17	4.41	90.99
							4/26/17	3.71	91.69
							7/17/17	5.91	89.49

\* Elevations based on an Arbitrary Datum of 100'.

# **APPENDIX A**



3600 Fremont Ave. N.  
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**G-Logics**

Stuart Hyde  
40 Second Ave. SE  
Issaquah, WA 98027

**RE: Gilman Square  
Work Order Number: 1707154**

July 21, 2017

**Attention Stuart Hyde:**

Fremont Analytical, Inc. received 4 sample(s) on 7/18/2017 for the analyses presented in the following report.

***Volatile Organic Compounds by EPA Method 8260C***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike C. Ridgeway".

Mike Ridgeway  
Laboratory Director

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**CLIENT:** G-Logics**Project:** Gilman Square**Work Order:** 1707154**Work Order Sample Summary**

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<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Date/Time Collected</b>	<b>Date/Time Received</b>
1707154-001	GL-MW-11	07/17/2017 12:00 AM	07/18/2017 11:53 AM
1707154-002	GL-MW-12	07/17/2017 12:00 AM	07/18/2017 11:53 AM
1707154-003	GL-MW-13	07/17/2017 12:00 AM	07/18/2017 11:53 AM
1707154-004	GL-MW-DupA	07/17/2017 12:00 AM	07/18/2017 11:53 AM

**CLIENT:** G-Logics  
**Project:** Gilman Square

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**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

### Qualifiers:

- \* - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

### Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



**CLIENT:** G-Logics  
**Project:** Gilman Square

**Lab ID:** 1707154-001

**Collection Date:** 7/17/2017

**Client Sample ID:** GL-MW-11

**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 17680

Analyst: NG

Vinyl chloride	ND	0.200		µg/L	1	7/21/2017 12:33:12 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/21/2017 12:33:12 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/21/2017 12:33:12 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/21/2017 12:33:12 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/21/2017 12:33:12 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/21/2017 12:33:12 AM
Surr: Dibromofluoromethane	93.8	45.4 - 152		%Rec	1	7/21/2017 12:33:12 AM
Surr: Toluene-d8	96.8	40.1 - 139		%Rec	1	7/21/2017 12:33:12 AM
Surr: 1-Bromo-4-fluorobenzene	93.0	64.2 - 128		%Rec	1	7/21/2017 12:33:12 AM

**Lab ID:** 1707154-002

**Collection Date:** 7/17/2017

**Client Sample ID:** GL-MW-12

**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 17680

Analyst: NG

Vinyl chloride	ND	0.200		µg/L	1	7/21/2017 1:01:47 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/21/2017 1:01:47 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/21/2017 1:01:47 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/21/2017 1:01:47 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/21/2017 1:01:47 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/21/2017 1:01:47 AM
Surr: Dibromofluoromethane	92.5	45.4 - 152		%Rec	1	7/21/2017 1:01:47 AM
Surr: Toluene-d8	96.0	40.1 - 139		%Rec	1	7/21/2017 1:01:47 AM
Surr: 1-Bromo-4-fluorobenzene	93.1	64.2 - 128		%Rec	1	7/21/2017 1:01:47 AM



**CLIENT:** G-Logics  
**Project:** Gilman Square

**Lab ID:** 1707154-003

**Collection Date:** 7/17/2017

**Client Sample ID:** GL-MW-13

**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 17680

Analyst: NG

Vinyl chloride	ND	0.200		µg/L	1	7/21/2017 1:30:19 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/21/2017 1:30:19 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/21/2017 1:30:19 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/21/2017 1:30:19 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/21/2017 1:30:19 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/21/2017 1:30:19 AM
Surr: Dibromofluoromethane	92.5	45.4 - 152		%Rec	1	7/21/2017 1:30:19 AM
Surr: Toluene-d8	95.3	40.1 - 139		%Rec	1	7/21/2017 1:30:19 AM
Surr: 1-Bromo-4-fluorobenzene	99.0	64.2 - 128		%Rec	1	7/21/2017 1:30:19 AM

**Lab ID:** 1707154-004

**Collection Date:** 7/17/2017

**Client Sample ID:** GL-MW-DupA

**Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Organic Compounds by EPA Method 8260C**

Batch ID: 17680

Analyst: NG

Vinyl chloride	ND	0.200		µg/L	1	7/21/2017 1:58:55 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	7/21/2017 1:58:55 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	7/21/2017 1:58:55 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	7/21/2017 1:58:55 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/21/2017 1:58:55 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	7/21/2017 1:58:55 AM
Surr: Dibromofluoromethane	93.4	45.4 - 152		%Rec	1	7/21/2017 1:58:55 AM
Surr: Toluene-d8	96.7	40.1 - 139		%Rec	1	7/21/2017 1:58:55 AM
Surr: 1-Bromo-4-fluorobenzene	98.0	64.2 - 128		%Rec	1	7/21/2017 1:58:55 AM

Work Order: 1707154  
 CLIENT: G-Logics  
 Project: Gilman Square

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260C**

Sample ID	<b>LCS-17680</b>	SampType:	<b>LCS</b>	Units:	<b>µg/L</b>	Prep Date:	<b>7/20/2017</b>	RunNo:	<b>37521</b>		
Client ID:	<b>LCSW</b>	Batch ID:	<b>17680</b>			Analysis Date:	<b>7/20/2017</b>	SeqNo:	<b>721133</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl chloride	20.4	0.200	20.00	0	102	48	145				
1,1-Dichloroethene	20.4	1.00	20.00	0	102	57.5	150				
trans-1,2-Dichloroethene	20.0	1.00	20.00	0	100	71.7	129				
cis-1,2-Dichloroethene	20.3	1.00	20.00	0	101	70.2	139				
Trichloroethene (TCE)	20.2	0.500	20.00	0	101	65.2	136				
Tetrachloroethene (PCE)	21.4	1.00	20.00	0	107	47.5	147				
Surr: Dibromofluoromethane	24.2		25.00		97.0	45.4	152				
Surr: Toluene-d8	24.5		25.00		97.9	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	26.0		25.00		104	64.2	128				

Sample ID	<b>MB-17680</b>	SampType:	<b>MBLK</b>	Units:	<b>µg/L</b>	Prep Date:	<b>7/20/2017</b>	RunNo:	<b>37521</b>		
Client ID:	<b>MBLKW</b>	Batch ID:	<b>17680</b>			Analysis Date:	<b>7/20/2017</b>	SeqNo:	<b>721134</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl chloride	ND	0.200									
1,1-Dichloroethene	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
cis-1,2-Dichloroethene	ND	1.00									
Trichloroethene (TCE)	ND	0.500									
Tetrachloroethene (PCE)	ND	1.00									
Surr: Dibromofluoromethane	23.3		25.00		93.0	45.4	152				
Surr: Toluene-d8	24.2		25.00		96.7	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	23.6		25.00		94.2	64.2	128				

Sample ID	<b>1707183-003ADUP</b>	SampType:	<b>DUP</b>	Units:	<b>µg/L</b>	Prep Date:	<b>7/20/2017</b>	RunNo:	<b>37521</b>		
Client ID:	<b>BATCH</b>	Batch ID:	<b>17680</b>			Analysis Date:	<b>7/21/2017</b>	SeqNo:	<b>721129</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl chloride	ND	0.200						0		30	
1,1-Dichloroethene	ND	1.00						0		30	

Work Order: 1707154  
 CLIENT: G-Logics  
 Project: Gilman Square

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260C**

Sample ID	1707183-003ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	7/20/2017	RunNo:	37521		
Client ID:	BATCH	Batch ID:	17680	Analysis Date:	7/21/2017	SeqNo:	721129				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	ND	1.00						0		30	
cis-1,2-Dichloroethene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Surr: Dibromofluoromethane	22.9		25.00		91.6	45.4	152		0		
Surr: Toluene-d8	23.6		25.00		94.3	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	23.2		25.00		93.0	64.2	128		0		

Sample ID	1707162-001AMS	SampType:	MS	Units:	µg/L	Prep Date:	7/20/2017	RunNo:	37521		
Client ID:	BATCH	Batch ID:	17680	Analysis Date:	7/21/2017	SeqNo:	721208				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	19.6	0.200	20.00	0	98.0	41	165				
1,1-Dichloroethene	21.2	1.00	20.00	0	106	51.6	164				
trans-1,2-Dichloroethene	20.2	1.00	20.00	0	101	63.5	138				
cis-1,2-Dichloroethene	19.8	1.00	20.00	0	99.2	60	154				
Trichloroethene (TCE)	20.0	0.500	20.00	0	99.9	60.4	134				
Tetrachloroethene (PCE)	21.3	1.00	20.00	0	106	50.3	133				
Surr: Dibromofluoromethane	24.0		25.00		96.1	45.4	152				
Surr: Toluene-d8	23.9		25.00		95.5	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.7		25.00		103	64.2	128				

Sample ID	1707162-001AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	7/20/2017	RunNo:	37521		
Client ID:	BATCH	Batch ID:	17680	Analysis Date:	7/21/2017	SeqNo:	721209				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	20.4	0.200	20.00	0	102	41	165	19.60	4.10	30	
1,1-Dichloroethene	21.4	1.00	20.00	0	107	51.6	164	21.18	1.21	30	
trans-1,2-Dichloroethene	20.5	1.00	20.00	0	103	63.5	138	20.19	1.56	30	
cis-1,2-Dichloroethene	19.8	1.00	20.00	0	98.9	60	154	19.83	0.257	30	

**Work Order:** 1707154  
**CLIENT:** G-Logics  
**Project:** Gilman Square

**QC SUMMARY REPORT**  
**Volatile Organic Compounds by EPA Method 8260C**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	19.9	0.500	20.00	0	99.7	60.4	134	19.99	0.231	30	
Tetrachloroethene (PCE)	21.6	1.00	20.00	0	108	50.3	133	21.28	1.34	30	
Surr: Dibromofluoromethane	23.8		25.00		95.3	45.4	152		0		
Surr: Toluene-d8	23.6		25.00		94.3	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	25.5		25.00		102	64.2	128		0		

Client Name: **GL**  
 Logged by: **Erica Silva**

Work Order Number: **1707154**  
 Date Received: **7/18/2017 11:53:00 AM**

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? Client

### Log In

3. Coolers are present? Yes  No  NA   
 4. Shipping container/cooler in good condition? Yes  No   
 5. Custody Seals present on shipping container/cooler?  
 (Refer to comments for Custody Seals not intact) Yes  No  Not Required   
 6. Was an attempt made to cool the samples? Yes  No  NA   
 7. Were all items received at a temperature of >0°C to 10.0°C \* Yes  No  NA   
 8. Sample(s) in proper container(s)? Yes  No   
 9. Sufficient sample volume for indicated test(s)? Yes  No   
 10. Are samples properly preserved? Yes  No   
 11. Was preservative added to bottles? Yes  No  NA   
 12. Is there headspace in the VOA vials? Yes  No  NA   
 13. Did all samples containers arrive in good condition(unbroken)? Yes  No   
 14. Does paperwork match bottle labels? Yes  No   
 15. Are matrices correctly identified on Chain of Custody? Yes  No   
 16. Is it clear what analyses were requested? Yes  No   
 17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes  No  NA

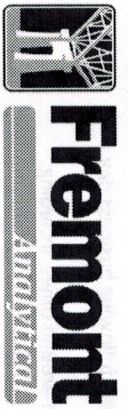
Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

### Item Information

Item #	Temp °C
Cooler	2.1
Sample	3.3
Temp Blank	2.5

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



3600 Fremont Ave N.  
Seattle, WA 98103  
Tel: 206-352-3790  
Fax: 206-352-7178

# Chain of Custody Record & Laboratory Services Agreement

Date: 7/17/17 Page: 1 of 1

Project Name: Gilman Square

Project No: 01-0888-5

Collected by: ST

Location: Issaquah

Report to (PM): Stuart Hyde

PM Email: Stuart.H@g-logics.com

Laboratory Project No (Internal): 1707154

Special Remarks: PCE + Breakdown ONLY (report to MDL)

Sample Disposal:  Return to client  Disposal by lab (after 30 days)

Client: G-Logics  
Address: 40 2nd Ave SE  
City, State, zip: Issaquah, WA 98027  
Telephone: 425-391-6874  
Fax:

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 824)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DH)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T)   Dissolved (D)	Anions (C)***	EDB (8011)	Comments
1 GL-MW-11	7/17/17		GW	X													
2 GL-MW-12				X													
3 GL-MW-13				X													
4 GL-MW-DupA				X													
5																	
6																	
7																	
8																	
9																	
10																	

\*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water  
 \*\*Metals (Circle): MTC-A-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Tl U V Zn  
 \*\*\*Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished: *[Signature]* Date/Time: 7/18/17 1056AM  
 Received: *[Signature]* Date/Time: 7/19/2017 1153  
 Turn-around Time:  Standard  3 Day  2 Day  Next Day  Same Day (specify)