g-logics

May 16, 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**
**April 2017, Third 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 third quarter of groundwater sampling conducted in April 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). This groundwater sampling work was completed in support of the previously conducted remedial excavation, summarized in G-Logics *Interim Cleanup Action Report* (dated December 2, 2015).

**G-Logics, Inc.**
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## 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). Historical groundwater analytical results are summarized in Table 1.

### 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 third round of groundwater sampling in April 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 Sample Results**

During the October 2016 and January 2017 quarterly-sampling events, the groundwater samples collected from wells GL-MW-11 and GL-MW-13 required dilution due to "matrix interference" (caused by the amendment added to the subsurface to increase biodegradation of the contaminants). The amendment interfered with the laboratory instruments (called matrix interference), therefore the samples required dilution prior to analysis. Because of this, the reporting limits and method-detection limits for vinyl chloride achievable by the laboratory were greater than the MTCA Method A cleanup level for vinyl chloride.

Samples collected during this sampling event (April 2017) did not present matrix-interference problems; therefore standard reporting and detection limits were achievable. Accordingly, the April 2017 samples did not contain concentrations of chlorinated solvents 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.

### 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 northwest.

## CONCLUSIONS

Based on the information gathered during this sampling event, the perched-groundwater present at the Site remains in an anaerobic/reducing condition and is favorable for biodegradation of chlorinated-solvent contaminants. In addition, analytical results from all wells indicate that vinyl chloride has been successfully degraded to concentrations below cleanup levels.

G-Logics recommends collecting one more quarter of groundwater samples, planned for July 2017. Assuming that a final quarter of "clean" analytical results (concentrations below MTCA Method A cleanup levels) will be collected, G-Logics will prepare the final Cleanup Action Report for the Gilman Square site in the summer of 2017. The report will be submitted to Ecology with the request for a No Further Action determination.

## 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, April 26, 2017 |

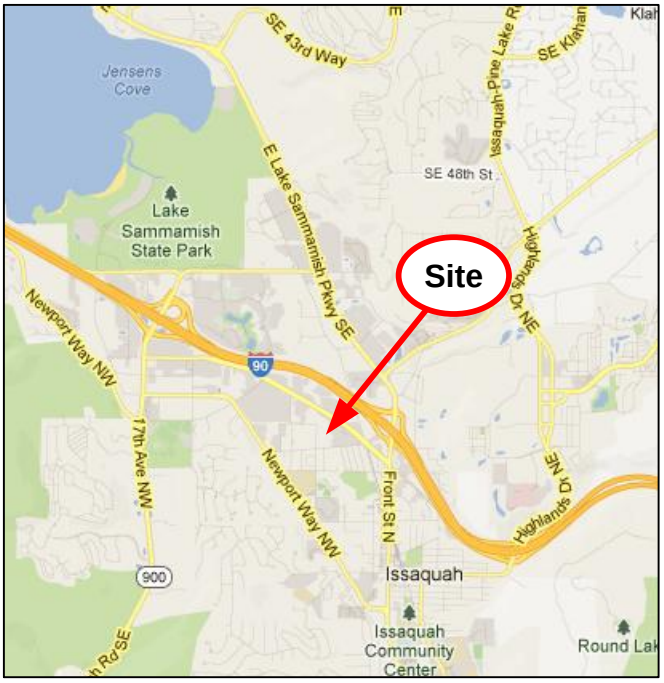
**Tables:**

| | |
|---|---|
| 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

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Project File: 01-0868-J-GWQ3-F1.vsd

***Site Location Maps***

***Gilman Square***

***615 Northwest Gilman Blvd***

***Issaquah, Washington***

Figure

1

## Legend

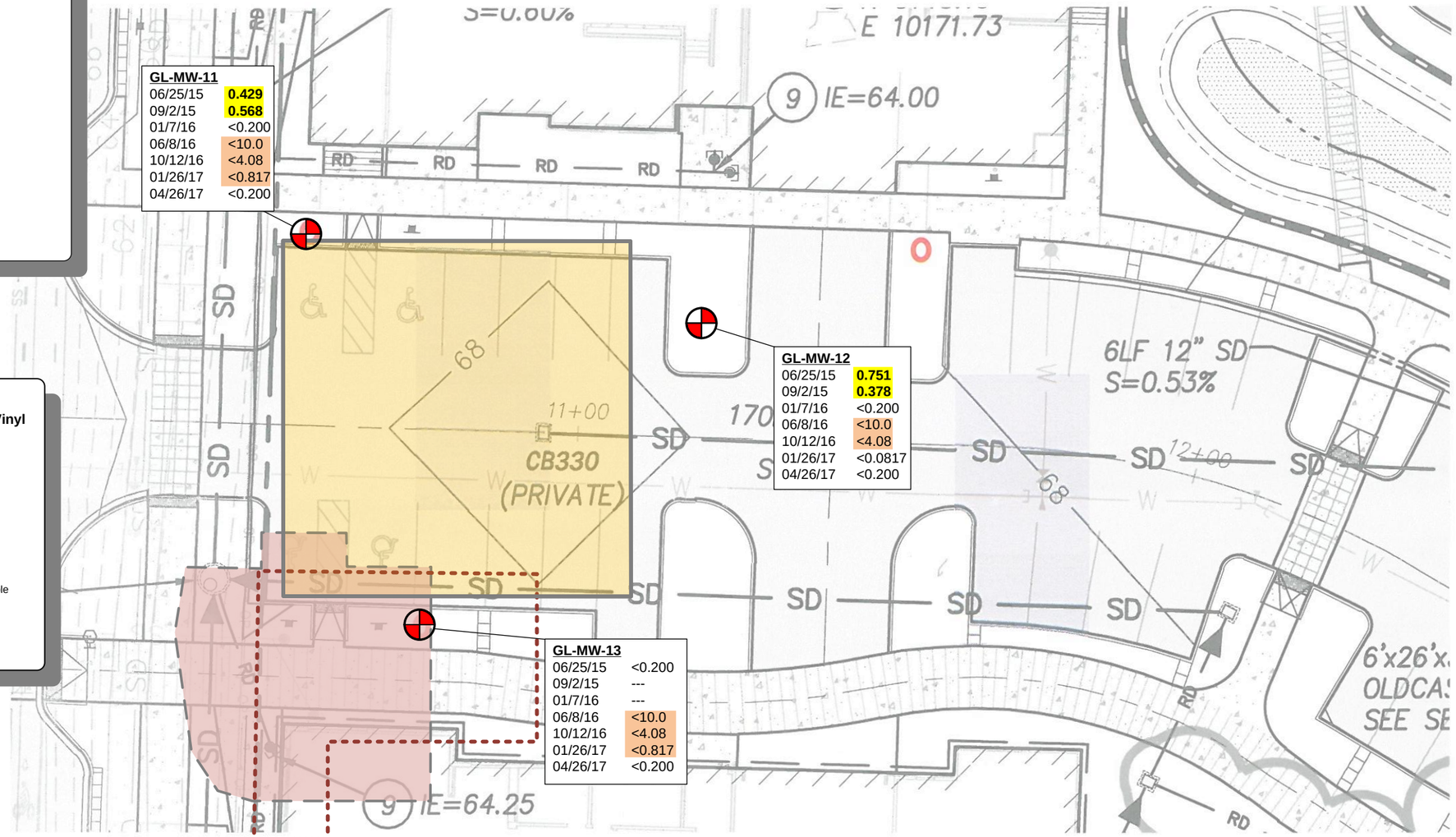
- Approximate Footprint of Former Drycleaner
- Dewatering- System Excavation Boundary
- Former Drycleaner Excavation Boundary

## Data Legend

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

| GL-MW-11 | |
|---|---|
| 06/25/15 | **0.429** |
| 09/2/15 | **0.568** |
| 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




| GL-MW-11 | |
|---|---|
| 06/25/15 | **0.429** |
| 09/2/15 | **0.568** |
| 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 |

| GL-MW-12 | |
|---|---|
| 06/25/15 | **0.751** |
| 09/2/15 | **0.378** |
| 01/7/16 | <0.200 |
| 06/8/16 | <10.0 |
| 10/12/16 | <4.08 |
| 01/26/17 | <0.0817 |
| 04/26/17 | <0.200 |

| GL-MW-13 | |
|---|---|
| 06/25/15 | <0.200 |
| 09/2/15 | --- |
| 01/7/16 | --- |
| 06/8/16 | <10.0 |
| 10/12/16 | <4.08 |
| 01/26/17 | <0.817 |
| 04/26/17 | <0.200 |

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

**Approximate Drawing Scale: 1" = 20'**

0 ft. 12 ft. 20 ft. 40 ft.

***Current Well Locations, Vinyl Chloride Concentration Data***

***Gilman Square***

***615 Northwest Gilman Blvd***

***Issaquah, Washington***

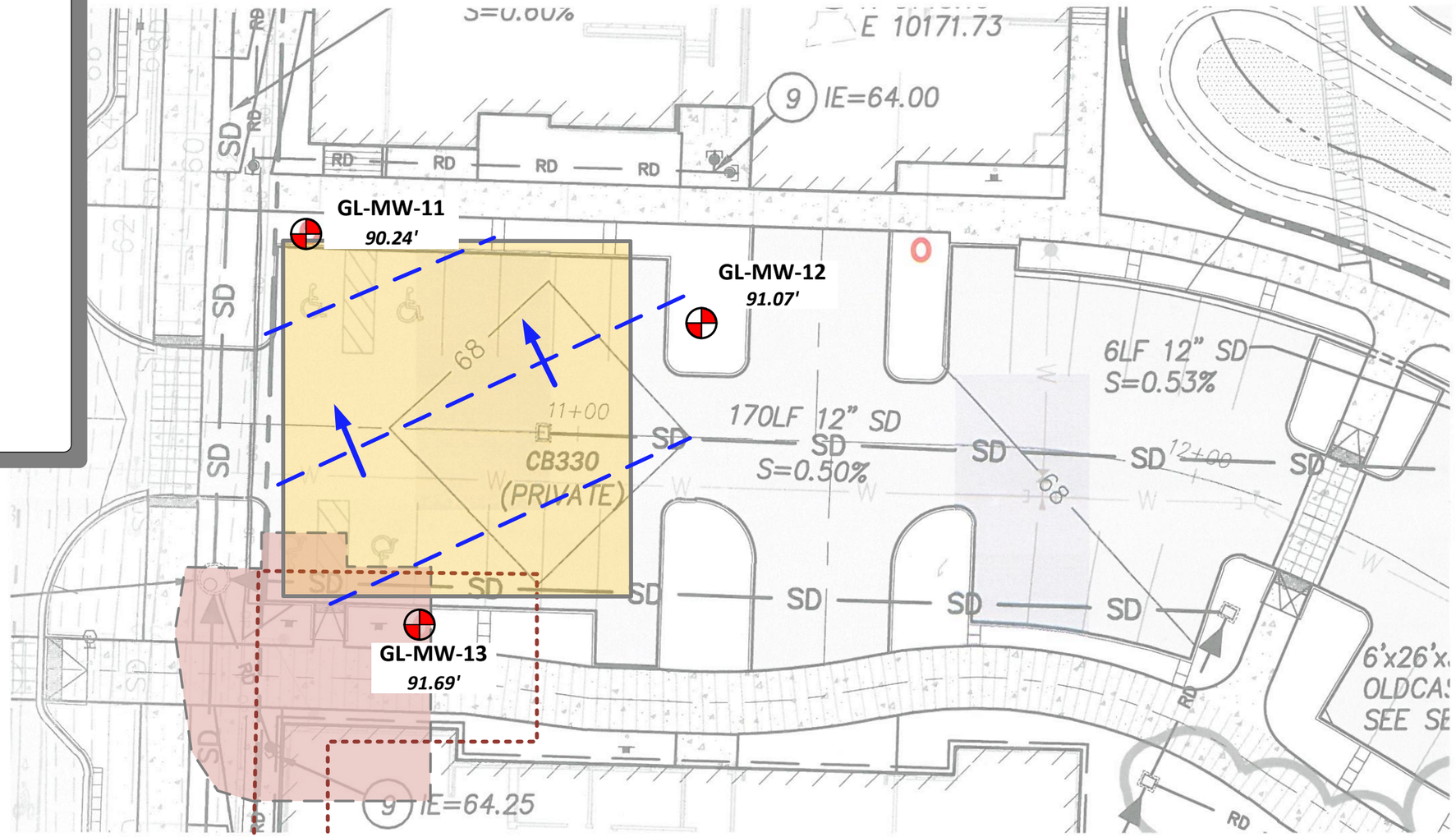
Figure 2

*Project File: 01-0868-J-GWQ3-F2.vsd*

**Mapping Reference: On-Site Measurements, Building Plans Provided by Andersen Construction.**

## 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.

**Approximate Drawing Scale: 1" = 20'**

0 ft. 12 ft. 20 ft. 40 ft.

***Interpreted Groundwater Elevation Contours, April 26, 2017***
***Gilman Square***
***615 Northwest Gilman Blvd***
***Issaquah, Washington***

Figure 3

*Project File: 01-0868-J-GWQ3-F3.vsd*

**Mapping Reference: On-Site Measurements, Building Plans Provided by Andersen Construction.**

# 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 | | | | | | | | | | | Water Quality Parameters | | | |
| **GL-MW-11** | 6/25/2015 | GL-MW-11 | **0.429** | <1.00 | <1.00 | <1.00 | <0.500 | <1.00 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 9/2/2015 | GL-MW-11 | **0.568** | <1.00 | <1.00 | **1.07** | <0.500 | <1.00 | **40.9 D** | **5,600** | --- | **7,730** | **4.79 D** | <0.500 D | --- | --- | --- | --- | **7.68** | 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 | **4.39 D** | --- | **1.8** | --- | <0.500 D | <0.500 D | --- | <0.00500 | <0.00500 | **0.255 D** | **636 D** | 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 | **16.8 D** | --- | 0.0 | --- | --- | --- | <0.153 D | <0.00500 | <0.00500 | **4.35 D** | **91.5 D** | 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 | **9.23 D** | --- | **2.5** | --- | <1.00 D | <1.00 D | --- | <0.00500 | <0.00500 | **4.71 D** | **60.6 D** | 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 |
| **GL-MW-12** | 6/25/2015 | GL-MW-12 | **0.751** | <1.00 | <1.00 | <1.00 | <0.500 | <1.00 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 9/2/2015 | GL-MW-12 | **0.378** | <1.00 | <1.00 | <1.00 | <0.500 | <1.00 | **40.7 D** | **6,760** | --- | **9,420** | **4.74 D** | <0.500 D | --- | --- | --- | --- | **4.95** | 6.32 | 6.8 | 1.16 | 0.488 |
| | 1/7/2016 | GL-MW-12 | <0.200 | <1.00 | <1.00 | <1.00 | <0.500 | **1.10** | --- | --- | 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 | **14.2 D** | --- | **1.5** | --- | <0.500 D | <0.500 D | --- | <0.00500 | <0.00500 | **0.324 D** | **68.6 D** | 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 | **105 D** | --- | **4.5** | --- | --- | --- | **0.558 JD** | <0.00500 | <0.00500 | **1.01 D** | **78.2 D** | 6.83 | -64.0 | 0.17 | 1.560 |
| | 1/26/2017 | GL-MW-12* | <0.0817 | <0.0356 | <0.0446 | <0.0609 | <0.0454 | **0.447 J** | **31.6 D** | --- | **0.5** | --- | <1.00 D | <1.00 D | --- | <0.00500 | <0.00500 | **0.516 D** | **21.1 D** | 6.94 | -73.7 | 0.68 | 0.856 |
| | 1/26/2017 | GL-MW-Dup* | <0.0817 | <0.0356 | <0.0446 | <0.0609 | <0.0454 | **0.418 J** | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 4/26/2017 | GL-MW-12 | <0.200 | <1.00 | <1.00 | <1.00 | <0.500 | <1.00 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 6.9 | -42.0 | 0.92 | 0.910 |
| **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 | **8.46 D** | --- | **3.0** | --- | <0.500 D | <0.500 D | --- | <0.00500 | <0.00500 | **0.161** | **459 D** | 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 | **10.7 D** | --- | 0.0 | --- | --- | --- | <0.0765 D | <0.00500 | <0.00500 | **0.993 D** | **66.5 D** | 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 | **5.88 D** | --- | **0.5** | --- | <0.500 D | <0.500 D | --- | <0.00500 | <0.00500 | **0.163** | **18.0 D** | 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 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 9.5 | -362.2 | 0.7 | 0.193 |
| | 4/26/2017 | GL-MW-DupA | <0.200 | <1.00 | <1.00 | <1.00 | <0.500 | <1.00 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **MTCA Cleanup Level (1)** | | | 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).

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## 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 |
| **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 |
| **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 |

* Elevations based on an Arbitrary Datum of 100'.

# APPENDIX A

3600 Fremont Ave. N.
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info@fremontanalytical.com

**G-Logics**
Stuart Hyde
40 Second Ave. SE
Issaquah, WA 98027

**RE: Gilman Square**
**Work Order Number: 1704323**

May 03, 2017

**Attention Stuart Hyde:**

Fremont Analytical, Inc. received 5 sample(s) on 4/26/2017 for the analyses presented in the following report.

***Total Organic Carbon by SM 5310C***
***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,

Mike Ridgeway
Laboratory Director

**Date:** *05/04/2017*

**CLIENT:** G-Logics
**Project:** Gilman Square
**Work Order:** 1704323

# Work Order Sample Summary

| Lab Sample ID | Client Sample ID | Date/Time Collected | Date/Time Received |
|---|---|---|---|
| 1704323-001 | GL-MW-11 | 04/26/2017 12:20 PM | 04/26/2017 2:30 PM |
| 1704323-002 | GL-MW-12 | 04/26/2017 12:05 PM | 04/26/2017 2:30 PM |
| 1704323-003 | GL-MW-13 | 04/26/2017 10:20 AM | 04/26/2017 2:30 PM |
| 1704323-004 | GL-MW-DupA | 04/26/2017 11:30 AM | 04/26/2017 2:30 PM |
| 1704323-005 | Trip Blank | 04/24/2017 4:14 PM | 04/26/2017 2:30 PM |



Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

# Case Narrative

WO#: **1704323**
Date: **5/3/2017**

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

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

# Analytical Report

Work Order: **1704323**
Date Reported: **5/3/2017**

**Client:** G-Logics
**Project:** Gilman Square
**Lab ID:** 1704323-001
**Client Sample ID:** **GL-MW-11**

**Collection Date:** 4/26/2017 12:20:00 PM
**Matrix:** Groundwater

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Volatile Organic Compounds by EPA Method 8260C** | | | | Batch ID: 16925 | | Analyst: NG |
| Vinyl chloride | ND | 0.200 | | µg/L | 1 | 5/2/2017 7:32:57 PM |
| 1,1-Dichloroethene | ND | 1.00 | | µg/L | 1 | 5/2/2017 7:32:57 PM |
| trans-1,2-Dichloroethene | ND | 1.00 | | µg/L | 1 | 5/2/2017 7:32:57 PM |
| cis-1,2-Dichloroethene | ND | 1.00 | | µg/L | 1 | 5/2/2017 7:32:57 PM |
| Trichloroethene (TCE) | ND | 0.500 | | µg/L | 1 | 5/2/2017 7:32:57 PM |
| Tetrachloroethene (PCE) | ND | 1.00 | | µg/L | 1 | 5/2/2017 7:32:57 PM |
| Surr: Dibromofluoromethane | 101 | 45.4-152 | | %Rec | 1 | 5/2/2017 7:32:57 PM |
| Surr: Toluene-d8 | 96.7 | 40.1-139 | | %Rec | 1 | 5/2/2017 7:32:57 PM |
| Surr: 1-Bromo-4-fluorobenzene | 93.5 | 64.2-128 | | %Rec | 1 | 5/2/2017 7:32:57 PM |
| **Total Organic Carbon by SM 5310C** | | | | Batch ID: R35823 | | Analyst: KT |
| Total Organic Carbon | 38.5 | 2.50 | D | mg/L | 5 | 4/27/2017 4:18:20 PM |

# Analytical Report

Work Order: **1704323**
Date Reported: **5/3/2017**

**Client:** G-Logics
**Project:** Gilman Square
**Lab ID:** 1704323-002
**Client Sample ID:** **GL-MW-12**

**Collection Date:** 4/26/2017 12:05:00 PM
**Matrix:** Groundwater

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Volatile Organic Compounds by EPA Method 8260C** | | | | Batch ID: 16925 | | Analyst: NG |
| Vinyl chloride | ND | 0.200 | | µg/L | 1 | 5/2/2017 6:06:33 PM |
| 1,1-Dichloroethene | ND | 1.00 | | µg/L | 1 | 5/2/2017 6:06:33 PM |
| trans-1,2-Dichloroethene | ND | 1.00 | | µg/L | 1 | 5/2/2017 6:06:33 PM |
| cis-1,2-Dichloroethene | ND | 1.00 | | µg/L | 1 | 5/2/2017 6:06:33 PM |
| Trichloroethene (TCE) | ND | 0.500 | | µg/L | 1 | 5/2/2017 6:06:33 PM |
| Tetrachloroethene (PCE) | ND | 1.00 | | µg/L | 1 | 5/2/2017 6:06:33 PM |
| Surr: Dibromofluoromethane | 101 | 45.4-152 | | %Rec | 1 | 5/2/2017 6:06:33 PM |
| Surr: Toluene-d8 | 97.0 | 40.1-139 | | %Rec | 1 | 5/2/2017 6:06:33 PM |
| Surr: 1-Bromo-4-fluorobenzene | 93.2 | 64.2-128 | | %Rec | 1 | 5/2/2017 6:06:33 PM |
| **Total Organic Carbon by SM 5310C** | | | | Batch ID: R35823 | | Analyst: KT |
| Total Organic Carbon | 39.7 | 1.00 | D | mg/L | 2 | 4/27/2017 4:45:23 PM |

# Analytical Report

Work Order: **1704323**
Date Reported: **5/3/2017**

**Client:** G-Logics
**Project:** Gilman Square
**Lab ID:** 1704323-003
**Client Sample ID:** **GL-MW-13**

**Collection Date:** 4/26/2017 10:20:00 AM
**Matrix:** Groundwater

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Volatile Organic Compounds by EPA Method 8260C** | | | | Batch ID: 16925 | | Analyst: NG |
| Vinyl chloride | ND | 0.200 | | µg/L | 1 | 5/2/2017 8:01:43 PM |
| 1,1-Dichloroethene | ND | 1.00 | | µg/L | 1 | 5/2/2017 8:01:43 PM |
| trans-1,2-Dichloroethene | ND | 1.00 | | µg/L | 1 | 5/2/2017 8:01:43 PM |
| cis-1,2-Dichloroethene | ND | 1.00 | | µg/L | 1 | 5/2/2017 8:01:43 PM |
| Trichloroethene (TCE) | ND | 0.500 | | µg/L | 1 | 5/2/2017 8:01:43 PM |
| Tetrachloroethene (PCE) | ND | 1.00 | | µg/L | 1 | 5/2/2017 8:01:43 PM |
| Surr: Dibromofluoromethane | 102 | 45.4-152 | | %Rec | 1 | 5/2/2017 8:01:43 PM |
| Surr: Toluene-d8 | 96.8 | 40.1-139 | | %Rec | 1 | 5/2/2017 8:01:43 PM |
| Surr: 1-Bromo-4-fluorobenzene | 97.3 | 64.2-128 | | %Rec | 1 | 5/2/2017 8:01:43 PM |
| **Total Organic Carbon by SM 5310C** | | | | Batch ID: R35823 | | Analyst: KT |
| Total Organic Carbon | 9.61 | 1.00 | D | mg/L | 2 | 4/27/2017 5:12:21 PM |

# Analytical Report

Work Order: **1704323**
Date Reported: **5/3/2017**

**Client:** G-Logics
**Collection Date:** 4/26/2017 11:30:00 AM
**Project:** Gilman Square
**Lab ID:** 1704323-004
**Matrix:** Groundwater
**Client Sample ID:** **GL-MW-DupA**

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Volatile Organic Compounds by EPA Method 8260C** | | | | Batch ID: 16925 | | Analyst: NG |
| Vinyl chloride | ND | 0.200 | | µg/L | 1 | 5/2/2017 6:35:24 PM |
| 1,1-Dichloroethene | ND | 1.00 | | µg/L | 1 | 5/2/2017 6:35:24 PM |
| trans-1,2-Dichloroethene | ND | 1.00 | | µg/L | 1 | 5/2/2017 6:35:24 PM |
| cis-1,2-Dichloroethene | ND | 1.00 | | µg/L | 1 | 5/2/2017 6:35:24 PM |
| Trichloroethene (TCE) | ND | 0.500 | | µg/L | 1 | 5/2/2017 6:35:24 PM |
| Tetrachloroethene (PCE) | ND | 1.00 | | µg/L | 1 | 5/2/2017 6:35:24 PM |
| Surr: Dibromofluoromethane | 101 | 45.4-152 | | %Rec | 1 | 5/2/2017 6:35:24 PM |
| Surr: Toluene-d8 | 96.7 | 40.1-139 | | %Rec | 1 | 5/2/2017 6:35:24 PM |
| Surr: 1-Bromo-4-fluorobenzene | 95.4 | 64.2-128 | | %Rec | 1 | 5/2/2017 6:35:24 PM |

**Work Order:** 1704323
**CLIENT:** G-Logics
**Project:** Gilman Square

# QC SUMMARY REPORT

## Total Organic Carbon by SM 5310C

| Sample ID | **MB-R35823** | SampType: | **MBLK** | | | Units: | **mg/L** | Prep Date: | **4/27/2017** | RunNo: | **35823** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **MBLKW** | Batch ID: | **R35823** | | | | | Analysis Date: | **4/27/2017** | SeqNo: | **686352** | |
| Analyte | | Result | RL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Total Organic Carbon | | ND | 0.500 | | | | | | | | | |

| Sample ID | **LCS-R35823** | SampType: | **LCS** | | | Units: | **mg/L** | Prep Date: | **4/27/2017** | RunNo: | **35823** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSW** | Batch ID: | **R35823** | | | | | Analysis Date: | **4/27/2017** | SeqNo: | **686353** | |
| Analyte | | Result | RL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Total Organic Carbon | | 5.42 | 0.500 | 5.000 | 0 | 108 | 80 | 120 | | | | |

| Sample ID | **1704282-001ADUP** | SampType: | **DUP** | | | Units: | **mg/L** | Prep Date: | **4/27/2017** | RunNo: | **35823** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **BATCH** | Batch ID: | **R35823** | | | | | Analysis Date: | **4/27/2017** | SeqNo: | **686355** | |
| Analyte | | Result | RL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Total Organic Carbon | | 2.02 | 0.500 | | | | | | 1.955 | 3.47 | 20 | |

| Sample ID | **1704282-001AMS** | SampType: | **MS** | | | Units: | **mg/L** | Prep Date: | **4/27/2017** | RunNo: | **35823** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **BATCH** | Batch ID: | **R35823** | | | | | Analysis Date: | **4/27/2017** | SeqNo: | **686356** | |
| Analyte | | Result | RL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Total Organic Carbon | | 7.35 | 0.500 | 5.000 | 1.955 | 108 | 70 | 130 | | | | |

| Sample ID | **1704282-001AMSD** | SampType: | **MSD** | | | Units: | **mg/L** | Prep Date: | **4/27/2017** | RunNo: | **35823** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **BATCH** | Batch ID: | **R35823** | | | | | Analysis Date: | **4/27/2017** | SeqNo: | **686357** | |
| Analyte | | Result | RL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Total Organic Carbon | | 7.01 | 0.500 | 5.000 | 1.955 | 101 | 70 | 130 | 7.354 | 4.76 | 30 | |

**Work Order:** 1704323
**CLIENT:** G-Logics
**Project:** Gilman Square

# QC SUMMARY REPORT

## Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-16925** SampType: **LCS** Units: **µg/L** Prep Date: **5/1/2017** RunNo: **35887**
Client ID: **LCSW** Batch ID: **16925** Analysis Date: **5/2/2017** SeqNo: **687594**

| Analyte | Result | RL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 21.7 | 0.200 | 20.00 | 0 | 109 | 48 | 145 | | | | |
| 1,1-Dichloroethene | 20.7 | 1.00 | 20.00 | 0 | 104 | 57.5 | 150 | | | | |
| trans-1,2-Dichloroethene | 20.8 | 1.00 | 20.00 | 0 | 104 | 71.7 | 129 | | | | |
| cis-1,2-Dichloroethene | 20.5 | 1.00 | 20.00 | 0 | 102 | 70.2 | 139 | | | | |
| Trichloroethene (TCE) | 20.1 | 0.500 | 20.00 | 0 | 100 | 65.2 | 136 | | | | |
| Tetrachloroethene (PCE) | 20.9 | 1.00 | 20.00 | 0 | 104 | 47.5 | 147 | | | | |
| Surr: Dibromofluoromethane | 26.1 | | 25.00 | | 105 | 45.4 | 152 | | | | |
| Surr: Toluene-d8 | 25.8 | | 25.00 | | 103 | 40.1 | 139 | | | | |
| Surr: 1-Bromo-4-fluorobenzene | 26.0 | | 25.00 | | 104 | 64.2 | 128 | | | | |

Sample ID **MB-16925** SampType: **MBLK** Units: **µg/L** Prep Date: **5/1/2017** RunNo: **35887**
Client ID: **MBLKW** Batch ID: **16925** Analysis Date: **5/2/2017** SeqNo: **687595**

| 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 | 24.8 | | 25.00 | | 99.0 | 45.4 | 152 | | | | |
| Surr: Toluene-d8 | 24.4 | | 25.00 | | 97.7 | 40.1 | 139 | | | | |
| Surr: 1-Bromo-4-fluorobenzene | 23.7 | | 25.00 | | 94.8 | 64.2 | 128 | | | | |

Sample ID **1704306-002ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/1/2017** RunNo: **35887**
Client ID: **BATCH** Batch ID: **16925** Analysis Date: **5/2/2017** SeqNo: **687566**

| 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:** 1704323
**CLIENT:** G-Logics
**Project:** Gilman Square

# QC SUMMARY REPORT

## Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704306-002ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/1/2017** RunNo: **35887**
Client ID: **BATCH** Batch ID: **16925** Analysis Date: **5/2/2017** SeqNo: **687566**

| 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 | 4.03 | 1.00 | | | | | | 3.948 | 2.15 | 30 | |
| Trichloroethene (TCE) | 2.08 | 0.500 | | | | | | 2.113 | 1.62 | 30 | |
| Tetrachloroethene (PCE) | ND | 1.00 | | | | | | 0 | | 30 | |
| Surr: Dibromofluoromethane | 25.2 | | 25.00 | | 101 | 45.4 | 152 | | 0 | | |
| Surr: Toluene-d8 | 24.6 | | 25.00 | | 98.4 | 40.1 | 139 | | 0 | | |
| Surr: 1-Bromo-4-fluorobenzene | 23.5 | | 25.00 | | 94.0 | 64.2 | 128 | | 0 | | |

Sample ID **1704306-011ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/1/2017** RunNo: **35887**
Client ID: **BATCH** Batch ID: **16925** Analysis Date: **5/2/2017** SeqNo: **687576**

| 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 | |
| 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) | 2.14 | 1.00 | | | | | | 2.132 | 0.466 | 30 | |
| Surr: Dibromofluoromethane | 25.3 | | 25.00 | | 101 | 45.4 | 152 | | 0 | | |
| Surr: Toluene-d8 | 24.3 | | 25.00 | | 97.1 | 40.1 | 139 | | 0 | | |
| Surr: 1-Bromo-4-fluorobenzene | 23.3 | | 25.00 | | 93.2 | 64.2 | 128 | | 0 | | |

Sample ID **1704323-002AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/1/2017** RunNo: **35887**
Client ID: **GL-MW-12** Batch ID: **16925** Analysis Date: **5/2/2017** SeqNo: **687582**

| Analyte | Result | RL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 23.5 | 0.200 | 20.00 | 0 | 117 | 41 | 165 | | | | |
| 1,1-Dichloroethene | 22.5 | 1.00 | 20.00 | 0 | 113 | 51.6 | 164 | | | | |
| trans-1,2-Dichloroethene | 21.9 | 1.00 | 20.00 | 0 | 109 | 63.5 | 138 | | | | |
| cis-1,2-Dichloroethene | 21.4 | 1.00 | 20.00 | 0 | 107 | 60 | 154 | | | | |

**Work Order:** 1704323
**CLIENT:** G-Logics
**Project:** Gilman Square

# QC SUMMARY REPORT

## Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704323-002AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/1/2017** RunNo: **35887**
Client ID: **GL-MW-12** Batch ID: **16925** Analysis Date: **5/2/2017** SeqNo: **687582**

| Analyte | Result | RL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Trichloroethene (TCE) | 21.4 | 0.500 | 20.00 | 0 | 107 | 60.4 | 134 | | | | |
| Tetrachloroethene (PCE) | 22.4 | 1.00 | 20.00 | 0.4626 | 110 | 50.3 | 133 | | | | |
| Surr: Dibromofluoromethane | 26.1 | | 25.00 | | 105 | 45.4 | 152 | | | | |
| Surr: Toluene-d8 | 25.7 | | 25.00 | | 103 | 40.1 | 139 | | | | |
| Surr: 1-Bromo-4-fluorobenzene | 26.3 | | 25.00 | | 105 | 64.2 | 128 | | | | |

Sample ID **1704323-002AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **5/1/2017** RunNo: **35887**
Client ID: **GL-MW-12** Batch ID: **16925** Analysis Date: **5/2/2017** SeqNo: **687583**

| Analyte | Result | RL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 24.1 | 0.200 | 20.00 | 0 | 121 | 41 | 165 | 23.47 | 2.78 | 30 | |
| 1,1-Dichloroethene | 23.3 | 1.00 | 20.00 | 0 | 117 | 51.6 | 164 | 22.52 | 3.49 | 30 | |
| trans-1,2-Dichloroethene | 22.2 | 1.00 | 20.00 | 0 | 111 | 63.5 | 138 | 21.88 | 1.41 | 30 | |
| cis-1,2-Dichloroethene | 21.7 | 1.00 | 20.00 | 0 | 109 | 60 | 154 | 21.41 | 1.50 | 30 | |
| Trichloroethene (TCE) | 21.1 | 0.500 | 20.00 | 0 | 105 | 60.4 | 134 | 21.38 | 1.34 | 30 | |
| Tetrachloroethene (PCE) | 22.3 | 1.00 | 20.00 | 0.4626 | 109 | 50.3 | 133 | 22.40 | 0.301 | 30 | |
| Surr: Dibromofluoromethane | 26.0 | | 25.00 | | 104 | 45.4 | 152 | | 0 | | |
| Surr: Toluene-d8 | 25.4 | | 25.00 | | 102 | 40.1 | 139 | | 0 | | |
| Surr: 1-Bromo-4-fluorobenzene | 26.1 | | 25.00 | | 105 | 64.2 | 128 | | 0 | | |

# Sample Log-In Check List

| | | | |
|---|---|---|---|
| Client Name: | **GL** | Work Order Number: | **1704323** |
| Logged by: | **Erica Silva** | Date Received: | **4/26/2017 2:30:00 PM** |

## 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: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

**Item Information**

| Item # | Temp ºC |
|---|---|
| Cooler | 4.1 |
| Sample | 5.3 |
| Temp Blank | 3.4 |

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

# Chain of Custody Record and Laboratory Services Agreement

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

Date: 4/26/17

Laboratory Project No (internal): 1704323

Page: 1 of 1



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

Project Name: Gilman Square
Project No: 01-0868-5 Collected by: JT
Location: Issaquah
Report To (PM): ~~Jack Taylor~~ Stuart Hyke
PM Email: StuartH@g-logics.com

*Matrix Codes: 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

| | Sample Name | Sample Date | Sample Time | Sample Type (Matrix)* | VOCs (EPA 8260 / 624) | GX/BTEX | BTEX | Gasoline Range Organics (GX) | Hydrocarbon Identification (HCID) | Diesel/Heavy Oil Range Organics (DX) | SVOCs (EPA 8270 / 625) | PAHs (EPA 8270 - SIM / 625) | PCBs (EPA 8082 / 608) | Metals** (EPA 6020 / 200.8) | Total (T) \| Dissolved (D) | Anions (IC)*** | EDB (8011) | TOC | Ethane | Ethene | Methane | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | GL-MW-11 | 4/26 | 1220 | GW | X | | | | | | | | | | | | X | | | | | PCE + Breakdown Only |
| 2 | GL-MW-12 | 4/26 | 1205 | GW | X | | | | | | | | | | | | X | | | | | +3 VOAs for lab QA/QC |
| 3 | GL-MW-13 | 4/26 | 1020 | GW | X | | | | | | | | | | | | X | | | | | |
| 4 | GL-MW-DupA | 4/26 | 1130 | GW | X | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | |
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**Metals Analysis (Circle): MTCA-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 Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks: PCE + Breakdown ~~ONLY~~ only
Report to MDL

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

| Relinquished | Date/Time | Received | Date/Time |
|---|---|---|---|
| x | 4/26 1430 | x | 4/26/2017 14:30 |
| Relinquished | Date/Time | Received | Date/Time |
| x | | x | |

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance