

June 7, 2016

Mr. Steve Teel  
Washington State Department of Ecology  
Southwest Regional Office  
300 Desmond Drive SE  
Lacey, WA 98503

**SUBJECT: FIRST QUARTER 2016 GROUNDWATER COMPLIANCE MONITORING REPORT  
Former Olympia Dry Cleaners Site  
601 Union Avenue SE  
Olympia, Washington**

Dear Mr. Teel:

This quarterly groundwater compliance monitoring report is the first report for the Former Olympia Dry Cleaners Site (Site) prepared on behalf of the Estate of Katherine Burleson and GJG, LLC, to meet the reporting requirements of Consent Decree No. 14-2-02104-3 (State of Washington 2014) and the Cleanup Action Plan (CAP; Ecology 2014). The Site is located at 606 Union Avenue SE in Olympia, Washington (Figure 1).

In September 2015, an excavation to remove accessible soil contaminated with chlorinated solvents was completed in accordance with the Remedial Action Work Plan (RAWP; Floyd Snider 2015a) and RAWP addendum (Floyd|Snider 2015b). After the remedial action was completed, a Compliance Monitoring Plan (CMP) for post-remediation monitoring was developed in coordination with the Washington State Department of Ecology (Ecology) (Floyd|Snider 2016). The objective of this report is to document the results of the first post-remediation quarterly groundwater monitoring completed in March 2016. The cumulative results from these quarterly monitoring events will be used to assess the effectiveness of the cleanup action and will be further documented in an annual report to be prepared after the fourth round of monitoring.

#### **COMPLIANCE MONITORING SAMPLE COLLECTION**

This section describes the groundwater and seep water sampling performed during the March 2016 monitoring event. Except for the deviations noted in the section “Deviations from Compliance Monitoring Plan,” the field methods used during the monitoring event were in substantive accordance with the CMP. The compliance monitoring locations are shown on Figure 2.

### **Monitoring Well Groundwater Sampling**

Groundwater samples were collected from the five compliance wells (identified in the CMP) between March 8 and March 12, 2016. Groundwater samples were collected from monitoring wells MW-06, MW-09, MW-11, and MW-13 using standard low-flow sampling methods described in the CMP. MW-14 was found to be artesian (i.e., under pressure) at the time of the quarterly monitoring; therefore, a grab sample was collected from the flowing water after three well volumes were purged, in general accordance with Floyd|Snider's standard guidelines for groundwater sampling. The groundwater sample collection forms are included in Attachment 1.

The samples were submitted to Fremont Analytical Inc., in Seattle, Washington, under chain of custody for analysis of the chemicals of concern (COCs) at the Site, which are tetrachloroethene (PCE), trichloroethene (TCE), *cis*- and *trans*-1,2-dichloroethene (DCE), 1,1-DCE, and vinyl chloride.

### **French Drain Water Sampling**

At the time of the quarterly monitoring, the French drain sampling standpipe that collects artesian water downgradient of the excavated area was found to have approximately 1 foot of accumulated water. The volume of the entire drain pipe, approximately 20 gallons of water, was purged using a 1 gallon-per-minute (gpm) submersible pump. The water level in the stand pipe was not drawn down during purging, suggesting a recharge rate of at least 1 gpm. In accordance with the CMP, a water sample (FD-01) was collected from the standpipe on March 10, 2016, after purging.

The sample was submitted to Fremont Analytical under chain of custody for analysis of PCE, TCE, *cis*- and *trans*-1,2-DCE, 1,1-DCE, and vinyl chloride.

### **Seep Water Sampling**

A groundwater seep was observed flowing between curb sections along the curb line of Cherry Street SE south of the main excavation area and the former seep area, between the concrete curb and the asphalt roadway (Figure 2). The seep is being expressed through a small void in the asphalt under the curb and was noted to be flowing at an approximate rate of 0.25 to 0.5 gpm. A grab sample was collected from the seep on March 8, 2016, and a second confirmatory grab sample was collected from the seep on March 30, 2016, in accordance with the CMP.

The samples were submitted to Fremont Analytical under chain of custody for analysis of PCE, TCE, *cis*- and *trans*-1,2-DCE, 1,1-DCE, and vinyl chloride.

### **Data Validation**

A Compliance Screening, Tier 1, data quality review was performed on volatile organic compound (VOC) data resulting from laboratory analysis by U. S. Environmental Protection Agency (USEPA) Method 8260. The analytical data were validated in accordance with the USEPA guidelines (USEPA 2014).

A total of two seep samples and six groundwater samples were submitted in two sample delivery groups (FB1603156 and FB1603328) to Fremont Analytical for chemical analysis. The analytical holding times for all of the analyses were met, and the method blanks had no detections. The recoveries for surrogates, matrix spikes (MSs), matrix spike duplicates (MSDs), and laboratory control samples and the relative percent differences for MSs/MSDs and samples/sample duplicates all met the USEPA requirements.

No qualifiers were assigned to the analytical results based on the data quality review. The data were determined to be of acceptable quality for use as reported by the laboratory.

## **COMPLIANCE MONITORING ANALYTICAL RESULTS**

The analytical results from the March 2016 groundwater monitoring are provided in Table 1, along with data from the most recent pre-remediation monitoring well sampling in August 2013 (SES 2013) for comparison. The March 2016 groundwater monitoring results are also shown on Figure 3. The laboratory reports are included in Attachment 2.

### **Monitoring Well Groundwater Results**

Groundwater collected from monitoring well MW-14 contained TCE, PCE, *cis*-1,2-DCE, and vinyl chloride at concentrations greater than their respective cleanup levels. The March 2016 concentrations detected at MW-14 were greater than the pre-remediation concentrations. MW-14 is located south of the main excavation area and downgradient of residual soil contamination underlying the Cherry Street Q-Tip Trust building. This well is located within the artesian groundwater aquifer where groundwater flow direction has likely been altered by the use of impermeable controlled density fill (CDF) as backfill in the main excavation area.

TCE, *cis*-1,2-DCE, and vinyl chloride were detected in the groundwater sample collected from well MW-09, but only vinyl chloride was detected at a concentration greater than the cleanup level of 0.20 microgram per liter (µg/L), consistent with the pre-remediation monitoring. MW-09 is located in the alleyway between the Former Olympia Dry Cleaners building and the Cherry Street Q-Tip Trust building, downgradient of the secondary excavation area.

Groundwater samples collected from monitoring wells MW-06, MW-11, and MW-13 had no detectable COC concentrations, consistent with the pre-remediation monitoring.

### **French Drain Water Results**

The water sample from the artesian aquifer south of the excavation, which is captured by the French drain sampling location (FD-01) had PCE, TCE, *cis*-1,2-DCE, and vinyl chloride concentrations exceeding their respective cleanup levels. Similar to MW-14, the French drain collects water from the artesian aquifer south of the primary excavation area, and the water quality at both FD-01 and MW-14 in March 2016 was similar.

## Seep Water Results

The seep water samples collected from the curb line had PCE and vinyl chloride concentrations exceeding their respective cleanup levels, with water quality similar to the groundwater collected from MW-14 and FD-01.

## DEVIATIONS FROM COMPLIANCE MONITORING PLAN

During the March 2016 compliance monitoring, there were no significant deviations from the CMP. The groundwater sample from MW-14 was collected after three well volumes were purged, which was a deviation from the CMP, which specified low-flow sample collection. However, it was a minor deviation and it was in accordance with an industry standard method of groundwater sample collection.

## CORRECTIVE ACTIONS

The seep water samples collected from the curb line on March 8 and March 30, 2016, confirmed that PCE and vinyl chloride are present at concentrations greater than their respective cleanup levels. Per the CMP, contingency actions for addressing the groundwater seep identified between the curb line and the asphalt roadway along Cherry Street SE (Figure 2) are currently being evaluated.

On April 19, 2016, Floyd|Snider applied a spray sealant (Flex Seal) to the curb line to evaluate its potential effectiveness in controlling the seep. Floyd|Snider returned to the Site on May 5, 2016, and observed that the spray sealant had not set up, likely because of excessive moisture. Floyd|Snider returned to the Site on May 19, 2016, and completed a test in a small area to evaluate the effectiveness of caulk (plumber's putty), which appeared to seal the immediate test area but diverted the seepage to flow under the caulk. A continuous section of caulk may be a short-term solution, but the results in this small test area indicate that it would be unlikely to completely seal the seep area.

Floyd|Snider is currently working with a local asphalt company to evaluate other options for sealing the seep area, such as the application of an asphalt sealant along the curb line to contain water below the sidewalk/curb surface. In the event that the asphalt sealant is not effective in controlling seep water, the following options may be evaluated:

- **Installation of a trench drain or pipe along the curb line to channelize the seep.** If the water is channelized into a trench drain or pipe, activated carbon socks could be deployed to filter the water before its discharge at the catch basin south of the Site. As a potential alternative, a filtration unit could be installed in the catch basin. Channelizing the water would limit direct contact, because it would no longer be flowing on the surface. This action would be contingent on permitting approval from the City of Olympia.

- **Removal of a section of asphalt adjacent to the seep area and placement of an impermeable liner prior to repaving to prevent the seep from emerging.** This action would also be contingent on permitting approval from the City of Olympia.
- **Administration of small-scale pump test to determine whether pumping the artesian aquifer would decrease the flow of the seep.** The test would include pumping water from monitoring well MW-14 while monitoring the rate of seep discharge. Water collected during the pump test would be passed through a small carbon treatment unit to evaluate the efficiency of chlorinated VOC removal for this type of treatment.
- **Implementation of the full-scale contingency action, including pretreatment of the seep water, if necessary, and discharge to the sanitary sewer under a discharge authorization permit with the LOTT Clean Water Alliance.** This action may be taken if the previously described options are insufficient to control the seep, but it would require confirmation that the seep can be controlled and the discharge adequately treated before implementation. This contingency action would also require permitting approval from both the City of Olympia and the LOTT Clean Water Alliance.

## COMPLIANCE MONITORING SCHEDULE

The next quarterly monitoring event, which will be completed in June 2016, will consist of the collection of groundwater samples from the five compliance wells, water samples from the French drain, and seep samples. Subsequent 2016 quarterly monitoring events will be completed in September and December 2016. The results of the 2016 compliance monitoring will be documented in an Annual Summary Report, which will be submitted to Ecology after the first year of compliance monitoring has been completed.

## REFERENCES

- Floyd|Snider. 2015a. *Former Olympia Dry Cleaners Site Remedial Action Work Plan*. Prepared for Washington State Department of Ecology. 15 April.
- . 2015b. *Memorandum Re: Remedial Action Work Plan Addendum, Former Olympia Dry Cleaners Site*. Prepared for Steve Teel, Washington State Department of Ecology. 22 June.
- . 2016. *Former Olympia Dry Cleaners Site Compliance Monitoring Plan*. Prepared for Washington State Department of Ecology. 28 January.
- Sound Earth Strategies (SES). 2013. Groundwater Monitoring Data (obtained from Washington State Department of Ecology Environmental Information Management Database). 13 August.

State of Washington. 2014. *Consent Decree No. 14-2-02104-3, State of Washington, Department of Ecology v. The Estate of Katherine Burleson and GJG, LLC*. Thurston County Superior Court. 31 October.

U.S. Environmental Protection Agency (USEPA). 2014. *National Functional Guidelines for Superfund Organic Methods Data Review*. Prepared by the Office of Superfund Remediation and Technology Innovation. OSWER 9355.0-132/EPA-540-R-014-002. August.

Washington State Department of Ecology (Ecology). 2014. *Former Olympia Dry Cleaners Site Cleanup Action Plan*. 29 October.

Sincerely yours,

FLOYD | SNIDER



Lynn Grochala  
Senior Environmental Scientist

Encl.:      Table 1 Groundwater Monitoring Data  
              Figure 1 Site Vicinity Map  
              Figure 2 Source Removal Areas and Compliance Monitoring Locations  
              Figure 3 March 2016 Groundwater Monitoring Results  
              Attachment 1 Field Forms  
              Attachment 2 Laboratory Data

## Table

**Table 1**  
**Groundwater Monitoring Data<sup>1</sup>**

Sample Location	Status	Date	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	1,1-Dichloroethene (µg/L)	Vinyl Chloride (µg/L)
MW-06	Pre-remediation	8/13/2013	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U
	Post-remediation	3/12/2016	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U
MW-09	Pre-remediation	8/13/2013	1.0 U	1.0 U	4.1	1.0 U	1.0 U	2.7
	Post-remediation	3/12/2016	1.0 U	2.2	11	1.0 U	1.0 U	5.0
MW-11	Pre-remediation	8/13/2013	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U
	Post-remediation	3/12/2016	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U
MW-13	Pre-remediation	8/13/2008	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 U
	Post-remediation	3/12/2016	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U
MW-14	Pre-remediation	8/13/2013	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.2 U
	Post-remediation	3/8/2016	52	17	23	1.0 U	1.0 U	2.4
FD-01	Post-remediation	3/12/2016	46	26	160	1.0	1.0 U	36
Groundwater Cleanup Level (µg/L)			5.0	5.0	16	100	7.0	0.20
SEEP	Post-remediation	3/8/2016	33	15	110	1.0 U	1.0 U	15
		3/30/2016	23	17	160	1.0 U	1.0 U	22
Surface Water Cleanup Level (µg/L)			3.3	30	NA	10,000	3.2	2.4

## Notes:

BOLD Indicates a concentration that exceeds the Site cleanup level.

1. Pre-remediation groundwater monitoring data collected by Sound Earth Strategies.

## Abbreviation:

µg/L Micrograms per liter

## Qualifier:

U The analyte was not detected at the given reporting limit.



## Figures

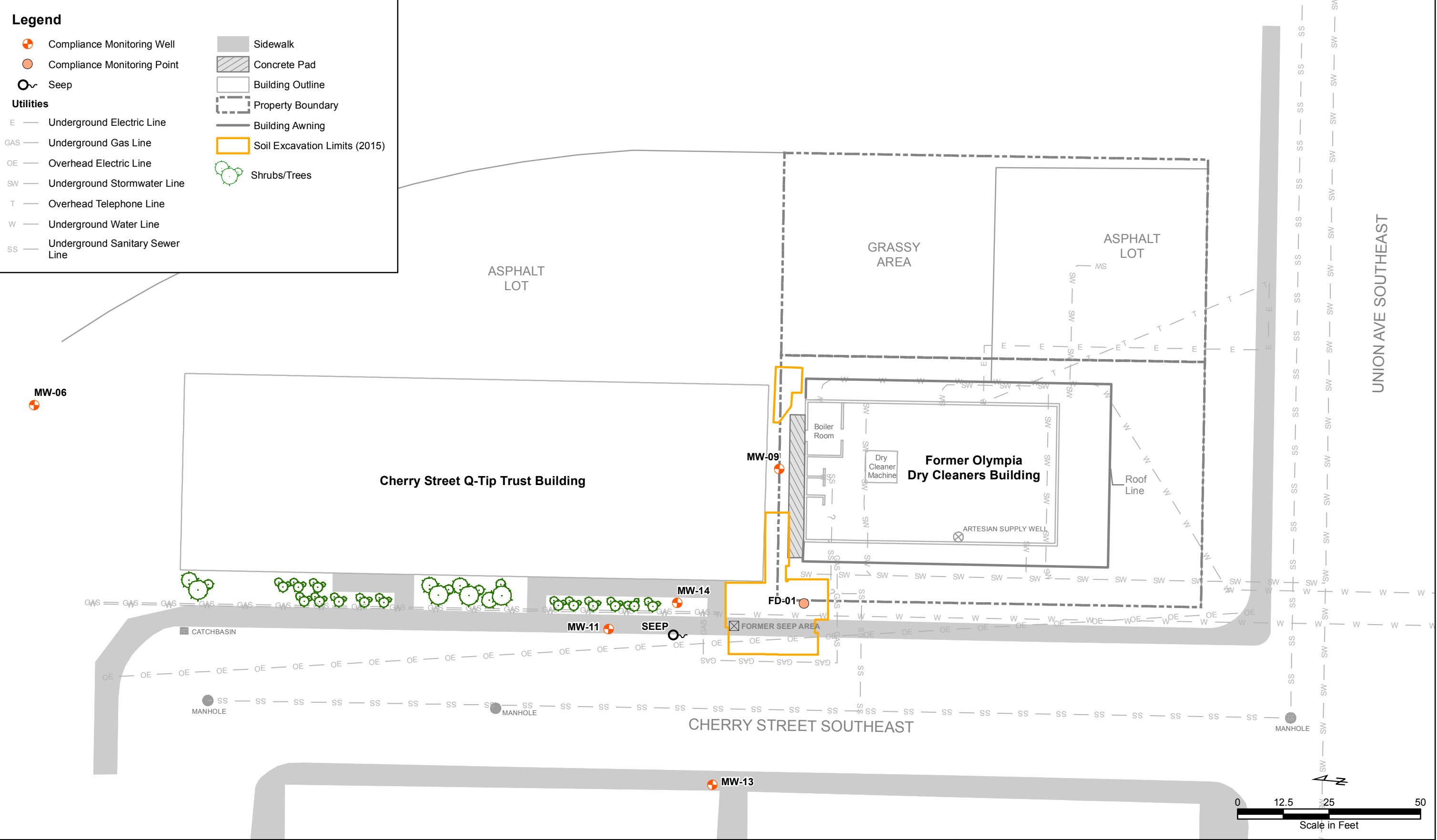


Note:  
· Orthoimage provided by Esri 2016.

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strategy ■ science ■ engineering

**Quarterly Groundwater  
Compliance Monitoring  
Former Olympia  
Dry Cleaners Site  
Olympia, Washington**

**Figure 1  
Site Vicinity Map**





Legend

Compliance Monitoring Well

Compliance Monitoring Point

Seep

Sidewalk

Concrete Pad

Building Outline

Property Boundary

Building Awning

Soil Excavation Limits (2015)

Shrubs/Trees

Notes:

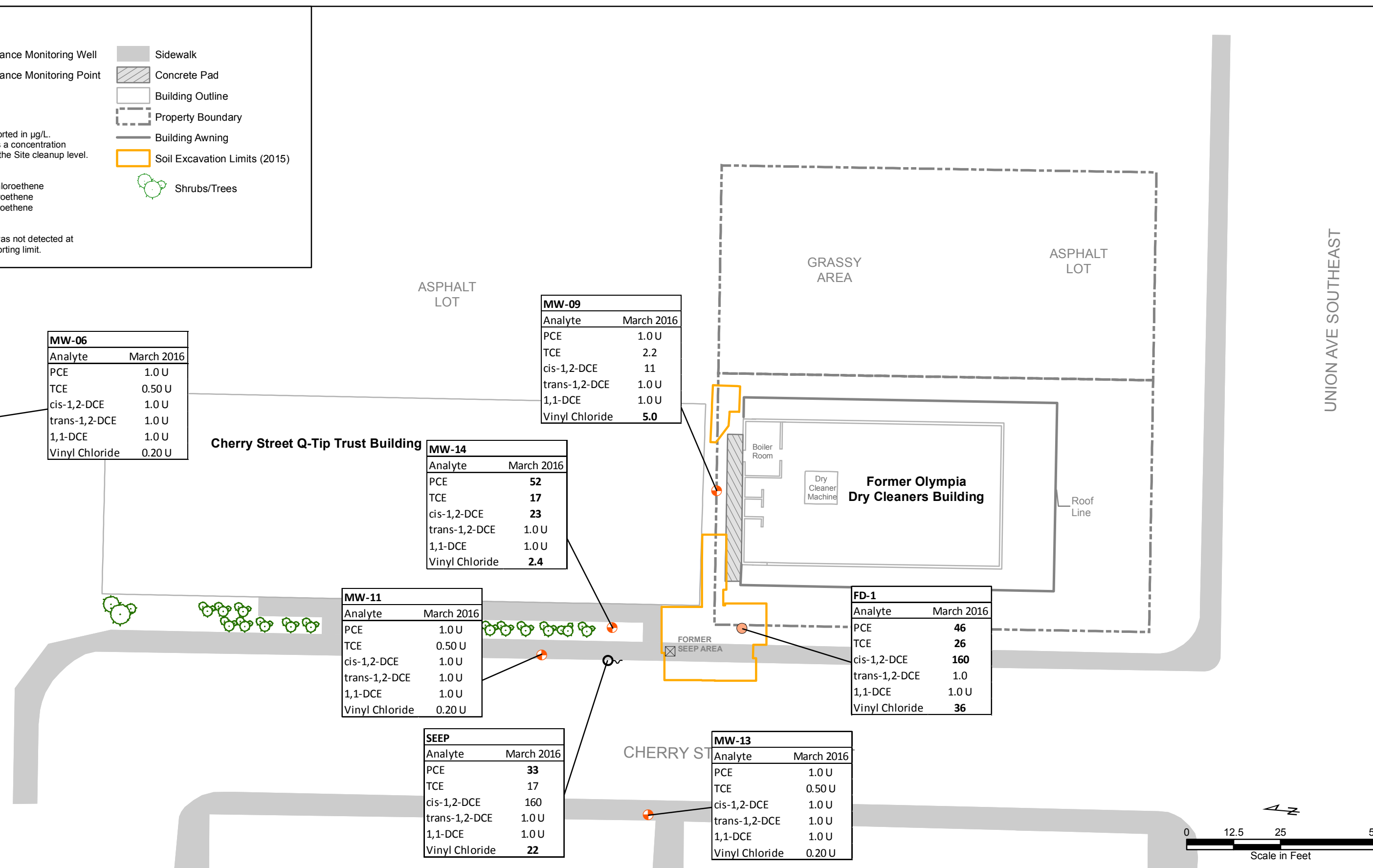
- All results reported in µg/L.
- Bold** indicates a concentration that exceeds the Site cleanup level.

Abbreviations:

PCE = Tetrachloroethene  
TCE = Trichloroethene  
DCE = Dichloroethene

Qualifier:

U = Analyte was not detected at the given reporting limit.



**Attachment 1**  
**Field Forms**

# GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: GTH - Olympia

Date of Collection: 3/12/2016

Project Number: \_\_\_\_\_

Field Personnel: K. Anderson

## Purge Data

Well ID: MW-06 Secure: ☐ Yes ☐ No ☒ ? Well Condition/Damage Description: regular monument cap missing - replaced w/ smooth aluminum cap - very hard to open.

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): \_\_\_\_\_

Depth of water (from top of well casing): 14.5 ft Well Casing Type/Diameter/Screened Interval: 1" PVC 10-20'

After 5 minutes of purging (from top of casing): \_\_\_\_\_

Begin purge (time): 14:12:40 1440

End purge (time): \_\_\_\_\_

Volume purged: \_\_\_\_\_

Purge water disposal method: irrigation

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Linear Ft.)
1 1/4"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water	Vol. Purged L	pH	DO mg/L	Conductivity $\mu S/cm$	Turbidity NTU	Temp $^{\circ}C$	ORP mV	Comments
1445		1	6.89	3.35	0.141	126	11.62	141	air bubbles -
1448		1.5	6.73	1.24	0.145	199	11.60	93	slower rate
1451		2	6.40	0.87	0.178	143	11.84	54	
1454		2.5	6.56	0.85	0.187	145	11.84	22	
1457		3	6.59	0.89	0.196	146	11.80	13	

## Sampling Data

Sample No: MW-06-031216 Location and Depth: MW-06, 15'

Date Collected (mo/dy/yr): 3/12/16 Time Collected: 1505 Weather: cold, rainy

Type: ☒ Ground Water ☐ Surface Water Other: \_\_\_\_\_ Sample: ☐ Filtered ☒ Unfiltered Other: \_\_\_\_\_

Sample Collected with: ☐ Bailer ☒ Pump Other: \_\_\_\_\_ Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other: \_\_\_\_\_

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: \_\_\_\_\_

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

## Sample Analyses

TPH-D (HCl) ☐ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐  
 TPH-G (HCl) ☐ BTEX (HCl) ☐ Total Metals (HNO3) ☐ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☒

## Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
<u>40 mL VOA w/ HCl</u>	<u>3</u>	<u>N/A</u>	

Signature: \_\_\_\_\_

Date: 3/12/16



# GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: GH - Olympic

Date of Collection: 3/12/16

Project Number: \_\_\_\_\_

Field Personnel: K. Anderson

## Purge Data

Well ID: MW-09 Secure: ☒ Yes ☐ No

Well Condition/Damage Description: \_\_\_\_\_

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No

One Casing Volume (gal): \_\_\_\_\_

Depth of water (from top of well casing): 2.32

Well Casing Type/Diameter/Screened Interval: 2" PVC, 3-6' (bgs)

After 5 minutes of purging (from top of casing): 3.19

Begin purge (time): 0938

End purge (time): \_\_\_\_\_

Volume purged: \_\_\_\_\_

Purge water disposal method: irrigation

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 1/4"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water ft	Vol. Purged L	pH	DO mg/L	Conductivity $\mu S/cm$	Turbidity NTU	Temp $^{\circ}C$	ORP mV	Comments
0943	3.19	1	7.13	1.33	0.138	26.1	10.99	82	
0946	3.22	2	7.08	0.82	0.143	20.7	11.07	90	
0949	3.24	3	7.12	0.71	0.144	12.1	11.12	17	
0952	2.24	4	7.11	0.63	0.147	11.0	11.13	4	
0955	2.24	5	7.09	0.49	0.150	7.3	11.42	-6	

## Sampling Data

Sample No: MW-09-03/12/16 Location and Depth: MW-09, 5.5' bgs

Date Collected (mo/dy/yr): 3/12/16 Time Collected: 1000 Weather: cold, cloudy

Type: ☒ Ground Water ☐ Surface Water Other: \_\_\_\_\_ Sample: ☐ Filtered ☒ Unfiltered Other: \_\_\_\_\_

Sample Collected with: ☐ Bailer ☒ Pump Other: \_\_\_\_\_ Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other: \_\_\_\_\_

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: \_\_\_\_\_

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

## Sample Analyses

TPH-D (HCl) ☐ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐  
 TPH-G (HCl) ☐ BTEX (HCl) ☐ Total Metals (HNO3) ☐ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☒

## Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
40 mL VOA w/HCl	3	KVA	

Signature: [Signature]

Date: 3/12/16

# GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: GTA Olympia

Date of Collection: 3/12/16

Project Number: \_\_\_\_\_

Field Personnel: K. Anderson

## Purge Data

Well ID: MW-11 Secure: ☒ Yes ☐ No Well Condition/Damage Description: \_\_\_\_\_

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): \_\_\_\_\_

Depth of water (from top of well casing): Artesian Well Casing Type/Diameter/Screened Interval: 2" PVC 5-10'

After 5 minutes of purging (from top of casing): 0.41 ft

Begin purge (time): 0820

End purge (time): \_\_\_\_\_

Volume purged: \_\_\_\_\_

Purge water disposal method: irrigation

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 1/4"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water ft	Vol. Purged L	pH	DO mg/L	Conductivity $\mu S/cm$	Turbidity NTU	Temp $^{\circ}C$	ORPm V	Comments
0805	0.41	2	7.36	1.65	0.099	19.4	9.14	40	
0808	0.45	2	7.33	1.08	0.097	22.1	9.13	13	
0831	0.45	3	7.31	0.93	0.096	20.0	9.21	-1	
0834	0.45	4	7.24	0.72	0.096	20.2	9.16	-7	
0837	0.45	5	7.16	0.68	0.096	18.5	9.21	-7	

## Sampling Data

Sample No: MW-11-03/12/16 Location and Depth: MW-11, 7.5'

Date Collected (mo/dy/yr): 3/12/16 Time Collected: 0940 Weather: cold, rainy

Type: ☒ Ground Water ☐ Surface Water Other: \_\_\_\_\_ Sample: ☐ Filtered ☒ Unfiltered Other: \_\_\_\_\_

Sample Collected with: ☐ Bailer ☒ Pump Other: \_\_\_\_\_ Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: \_\_\_\_\_

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: \_\_\_\_\_

Sample Description (Color, Turbidity, Odor, Other): \_\_\_\_\_

## Sample Analyses

TPH-D (HCl) ☐ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐  
 TPH-G (HCl) ☐ BTEX (HCl) ☐ Total Metals (HNO3) ☐ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☒

## Additional Information

Types of Sample Containers: \_\_\_\_\_ Quantity: \_\_\_\_\_ Duplicate Sample Numbers: \_\_\_\_\_ Comments: \_\_\_\_\_

<u>50 ml vials w/HCl</u>	<u>3</u>	<u>N/A</u>	

Signature: [Signature] Date: 3/12/16



# GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: GTH - Olympia

Date of Collection: 3/12/16

Project Number: \_\_\_\_\_

Field Personnel: K. Anderson

## Purge Data

Well ID: MW-13 Secure: ☒ Yes ☐ No Well Condition/Damage Description: 24' PVC good

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No

One Casing Volume (gal): \_\_\_\_\_

Depth of water (from top of well casing): 0.07 ft

Well Casing Type/Diameter/Screened Interval: 2" PVC, 4.5 - 9.5'

After 5 minutes of purging (from top of casing): \_\_\_\_\_

Begin purge (time): 0740

End purge (time): \_\_\_\_\_

Volume purged: \_\_\_\_\_

Purge water disposal method: \_\_\_\_\_

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Linear Ft.)
1 1/2"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water ft	Vol. Purged l	pH	DO mg/l	Conductivity $\mu\text{S/cm}$	Turbidity NTU	Temp °C	ORP mV	Comments
0745	1.65	1	7.18	1.37	0.130	49.0	9.72	86	
0748	1.95	2	7.34	0.99	0.122	31.3	9.75	76	
0751	1.96	3	7.41	0.90	0.119	25.0	9.67	70	
0754	2.00	4	7.49	0.71	0.115	20.1	9.66	63	
0800 0757	2.04	5.5	7.55	0.64	0.113	15.4	9.62	58	
0803 0800		6.5	7.61	0.59	0.111	14.0	9.71	52	
0806									

## Sampling Data

Sample No: MW-13-031216 Location and Depth: MW-13, 7'

Date Collected (mo/dy/yr): 3/12/16 Time Collected: 0805 Weather: cold + rainy

Type: ☒ Ground Water ☐ Surface Water Other: \_\_\_\_\_ Sample: ☐ Filtered ☒ Unfiltered Other: \_\_\_\_\_

Sample Collected with: ☐ Bailer ☒ Pump Other: \_\_\_\_\_ Type: peristaltic

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other: \_\_\_\_\_

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: \_\_\_\_\_

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

## Sample Analyses

TPH-D (HCl) ☐ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐  
 TPH-G (HCl) ☐ BTEX (HCl) ☐ Total Metals (HNO3) ☐ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☒

## Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
3x 500 mL VOA w/HCl		N/A	

Signature: [Signature] Date: 3/12/16

# GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: GTH - Olympia

Date of Collection: 3/8/2016

Project Number: \_\_\_\_\_

Field Personnel: K. Andersen

## Purge Data

Well ID: MW-14

Secure: ☒ Yes ☐ No

Well Condition/Damage Description: \_\_\_\_\_

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☒ No N/A One Casing Volume (gal): \_\_\_\_\_

Depth of water (from top of well casing): artesian

Well Casing Type/Diameter/Screened Interval: 2" PVC, 10-15'

After 5 minutes of purging (from top of casing): \_\_\_\_\_

Begin purge (time): \_\_\_\_\_

End purge (time): \_\_\_\_\_

Volume purged: 9 gal

Purge water disposal method: irrigation

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Linear Ft.)
1 1/4"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time: 1155 Depth to Water: 0' Vol. Purged: 9 gal pH: 5.93 DO: 4.14 Conductivity: 0.165 mS/cm Turbidity: 51.8 Temp: 11.13 ORP: 190 Comments: volume ~ 3 gallons

(Allowing artesian well - bailed 3 well volumes then sampled)

## Sampling Data

Sample No: MW-14 - 030816

Location and Depth: MW-14, artesian 6W grab

Date Collected (mo/dy/yr): 3/8/16

Time Collected: 1155

Weather: \_\_\_\_\_

Type: ☒ Ground Water ☐ Surface Water Other: \_\_\_\_\_

Sample: ☐ Filtered ☒ Unfiltered Other: \_\_\_\_\_

Sample Collected with: ☒ Bailor ☐ Pump Other: \_\_\_\_\_

Type: \_\_\_\_\_

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☒ Horiba U-50 Other: \_\_\_\_\_

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: N/A

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

## Sample Analyses

TPH-D (HCl) ☐ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐  
 TPH-G (HCl) ☐ BTEX (HCl) ☐ Total Metals (HNO3) ☐ TKN/Phos (N2SO4) ☐ C VOCs (HCl) ☒

## Additional Information

Types of Sample Containers: 40 mL VOA w/HCl Quantity: 3

Duplicate Sample Numbers: N/A

Comments: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: 3/8/2016

## GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: GTH - Olympia  
Project Number: \_\_\_\_\_Date of Collection: 3/12/16  
Field Personnel: K. Anderson

## Purge Data

Well ID: Arach drain Secure: ☒ Yes ☐ No Well Condition/Damage Description: \_\_\_\_\_Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No N/A One Casing Volume (gal): \_\_\_\_\_Depth of water (from top of well casing): ~ 2' below Well Casing Type/Diameter/Screened Interval: 2" PVC x 5-10'

After 5 minutes of purging (from top of casing): \_\_\_\_\_

Begin purge (time): \_\_\_\_\_

End purge (time): \_\_\_\_\_

Volume purged: \_\_\_\_\_

Purge water disposal method: \_\_\_\_\_

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 1/4"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time Depth to Water Vol. Purged pH DO Conductivity Turbidity Temp ORP Comments

1' 20 gal  
(no drawdown)

## Sampling Data

Sample No: FDRAIN - 031216 Location and Depth: stand pipe, ~ 1' bgsDate Collected (mo/dy/yr): 3/12/16 Time Collected: 1750 Weather: \_\_\_\_\_Type: ☐ Ground Water ☐ Surface Water Other: \_\_\_\_\_ Sample: ☐ Filtered ☒ Unfiltered Other: \_\_\_\_\_Sample Collected with: ☐ Bailor ☒ Pump Other: \_\_\_\_\_ Type: centrifugalWater Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: \_\_\_\_\_

Sample Decon Procedure: Sample collected with (circle one): decontaminated all tubing; disposable and/or dedicated silicon and poly tubing Other: \_\_\_\_\_

Sample Description (Color, Turbidity, Odor, Other): \_\_\_\_\_

## Sample Analyses

TPH-D (HCl) ☐ Chlor / Fluor (unpres) ☐ COD / TOC (H2SO4) ☐ Orthophos (FILTER) ☐ Diss. Metals (HNO3) ☐  
TPH-G (HCl) ☐ BTEX (HCl) ☐ Total Metals (HNO3) ☐ TKN/Phos (N2SO4) ☐ VOCs (HCl) ☒

## Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
3 x 40 mL VOA w/ HCl		N/A	

Signature: [Signature]Date: 3/12/16

**Attachment 2**  
**Laboratory Data**



3600 Fremont Ave. N.

Seattle, WA 98103

T: (206) 352-3790

F: (206) 352-7178

[info@fremontanalytical.com](mailto:info@fremontanalytical.com)

**Floyd | Snider**

Lynn Grochala

601 Union St., Suite 600

Seattle, WA 98101

**RE: GTH-Olympia**

**Lab ID: 1603156**

March 23, 2016

**Attention Lynn Grochala:**

Fremont Analytical, Inc. received 7 sample(s) on 3/14/2016 for the analyses presented in the following report.

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

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 Ridgeway", with a stylized flourish at the end.

Mike Ridgeway  
President

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**CLIENT:** Floyd | Snider  
**Project:** GTH-Olympia  
**Lab Order:** 1603156

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**Work Order Sample Summary**

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Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1603156-001	SEEP-030816	03/08/2016 9:15 AM	03/14/2016 2:56 PM
1603156-002	MW-14-030816	03/08/2016 11:55 AM	03/14/2016 2:56 PM
1603156-003	MW-13-031216	03/12/2016 8:05 AM	03/14/2016 2:56 PM
1603156-004	MW-11-031216	03/12/2016 8:40 AM	03/14/2016 2:56 PM
1603156-005	MW-09-031216	03/12/2016 10:00 AM	03/14/2016 2:56 PM
1603156-006	MW-06-031216	03/12/2016 3:05 PM	03/14/2016 2:56 PM
1603156-007	FDRAIN-031216	03/12/2016 5:50 PM	03/14/2016 2:56 PM

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**CLIENT:** Floyd | Snider  
**Project:** GTH-Olympia

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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





## Analytical Report

WO#: 1603156

Date Reported: 3/23/2016

Client: Floyd | Snider

Collection Date: 3/8/2016 9:15:00 AM

Project: GTH-Olympia

Lab ID: 1603156-001

Matrix: Water

Client Sample ID: SEEP-030816

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

Batch ID: R28236

Analyst: BC

Vinyl chloride	15.1	0.200		µg/L	1	3/15/2016 6:03:14 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 6:03:14 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 6:03:14 PM
cis-1,2-Dichloroethene	109	10.0	D	µg/L	10	3/16/2016 1:16:35 PM
Trichloroethene (TCE)	15.4	0.500		µg/L	1	3/15/2016 6:03:14 PM
Tetrachloroethene (PCE)	32.5	1.00		µg/L	1	3/15/2016 6:03:14 PM
Surr: Dibromofluoromethane	97.9	45.4-152		%Rec	1	3/15/2016 6:03:14 PM
Surr: Toluene-d8	98.4	40.1-139		%Rec	1	3/15/2016 6:03:14 PM
Surr: 1-Bromo-4-fluorobenzene	98.6	64.2-128		%Rec	1	3/15/2016 6:03:14 PM



## Analytical Report

WO#: 1603156

Date Reported: 3/23/2016

Client: Floyd | Snider

Collection Date: 3/8/2016 11:55:00 AM

Project: GTH-Olympia

Lab ID: 1603156-002

Matrix: Water

Client Sample ID: MW-14-030816

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

Batch ID: R28236

Analyst: BC

Vinyl chloride	2.41	0.200		µg/L	1	3/15/2016 6:32:29 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 6:32:29 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 6:32:29 PM
cis-1,2-Dichloroethene	22.9	1.00		µg/L	1	3/15/2016 6:32:29 PM
Trichloroethene (TCE)	17.4	0.500		µg/L	1	3/15/2016 6:32:29 PM
Tetrachloroethene (PCE)	51.9	10.0	D	µg/L	10	3/16/2016 1:46:00 PM
Surr: Dibromofluoromethane	98.3	45.4-152		%Rec	1	3/15/2016 6:32:29 PM
Surr: Toluene-d8	98.9	40.1-139		%Rec	1	3/15/2016 6:32:29 PM
Surr: 1-Bromo-4-fluorobenzene	97.6	64.2-128		%Rec	1	3/15/2016 6:32:29 PM



## Analytical Report

WO#: 1603156

Date Reported: 3/23/2016

Client: Floyd | Snider

Collection Date: 3/12/2016 8:05:00 AM

Project: GTH-Olympia

Lab ID: 1603156-003

Matrix: Water

Client Sample ID: MW-13-031216

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

Batch ID: R28236

Analyst: BC

Vinyl chloride	ND	0.200		µg/L	1	3/15/2016 7:01:47 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 7:01:47 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 7:01:47 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 7:01:47 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	3/15/2016 7:01:47 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	3/15/2016 7:01:47 PM
Surr: Dibromofluoromethane	99.0	45.4-152		%Rec	1	3/15/2016 7:01:47 PM
Surr: Toluene-d8	97.8	40.1-139		%Rec	1	3/15/2016 7:01:47 PM
Surr: 1-Bromo-4-fluorobenzene	98.8	64.2-128		%Rec	1	3/15/2016 7:01:47 PM



## Analytical Report

WO#: 1603156

Date Reported: 3/23/2016

Client: Floyd | Snider

Collection Date: 3/12/2016 8:40:00 AM

Project: GTH-Olympia

Lab ID: 1603156-004

Matrix: Water

Client Sample ID: MW-11-031216

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

Batch ID: R28236

Analyst: BC

Vinyl chloride	ND	0.200		µg/L	1	3/15/2016 7:31:02 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 7:31:02 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 7:31:02 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 7:31:02 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	3/15/2016 7:31:02 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	3/15/2016 7:31:02 PM
Surr: Dibromofluoromethane	98.7	45.4-152		%Rec	1	3/15/2016 7:31:02 PM
Surr: Toluene-d8	97.5	40.1-139		%Rec	1	3/15/2016 7:31:02 PM
Surr: 1-Bromo-4-fluorobenzene	97.5	64.2-128		%Rec	1	3/15/2016 7:31:02 PM



## Analytical Report

WO#: 1603156

Date Reported: 3/23/2016

Client: Floyd | Snider

Collection Date: 3/12/2016 10:00:00 AM

Project: GTH-Olympia

Lab ID: 1603156-005

Matrix: Water

Client Sample ID: MW-09-031216

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

Batch ID: R28236

Analyst: BC

Vinyl chloride	5.01	0.200		µg/L	1	3/15/2016 8:00:06 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 8:00:06 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 8:00:06 PM
cis-1,2-Dichloroethene	10.9	1.00		µg/L	1	3/15/2016 8:00:06 PM
Trichloroethene (TCE)	2.16	0.500		µg/L	1	3/15/2016 8:00:06 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	3/15/2016 8:00:06 PM
Surr: Dibromofluoromethane	99.8	45.4-152		%Rec	1	3/15/2016 8:00:06 PM
Surr: Toluene-d8	98.0	40.1-139		%Rec	1	3/15/2016 8:00:06 PM
Surr: 1-Bromo-4-fluorobenzene	97.8	64.2-128		%Rec	1	3/15/2016 8:00:06 PM



## Analytical Report

WO#: 1603156

Date Reported: 3/23/2016

Client: Floyd | Snider

Collection Date: 3/12/2016 3:05:00 PM

Project: GTH-Olympia

Lab ID: 1603156-006

Matrix: Water

Client Sample ID: MW-06-031216

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

Batch ID: R28236

Analyst: BC

Vinyl chloride	ND	0.200		µg/L	1	3/15/2016 8:29:19 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 8:29:19 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 8:29:19 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 8:29:19 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	3/15/2016 8:29:19 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	3/15/2016 8:29:19 PM
Surr: Dibromofluoromethane	98.8	45.4-152		%Rec	1	3/15/2016 8:29:19 PM
Surr: Toluene-d8	98.2	40.1-139		%Rec	1	3/15/2016 8:29:19 PM
Surr: 1-Bromo-4-fluorobenzene	96.5	64.2-128		%Rec	1	3/15/2016 8:29:19 PM



## Analytical Report

WO#: 1603156

Date Reported: 3/23/2016

**Client:** Floyd | Snider

**Collection Date:** 3/12/2016 5:50:00 PM

**Project:** GTH-Olympia

**Lab ID:** 1603156-007

**Matrix:** Water

**Client Sample ID:** FDRAIN-031216

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

Batch ID: R28236

Analyst: BC

Vinyl chloride	36.0	0.200		µg/L	1	3/15/2016 8:58:29 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/15/2016 8:58:29 PM
trans-1,2-Dichloroethene	1.00	1.00		µg/L	1	3/15/2016 8:58:29 PM
cis-1,2-Dichloroethene	159	10.0	D	µg/L	10	3/16/2016 2:15:28 PM
Trichloroethene (TCE)	25.5	0.500		µg/L	1	3/15/2016 8:58:29 PM
Tetrachloroethene (PCE)	45.8	10.0	D	µg/L	10	3/16/2016 2:15:28 PM
Surr: Dibromofluoromethane	98.4	45.4-152		%Rec	1	3/15/2016 8:58:29 PM
Surr: Toluene-d8	99.4	40.1-139		%Rec	1	3/15/2016 8:58:29 PM
Surr: 1-Bromo-4-fluorobenzene	100	64.2-128		%Rec	1	3/15/2016 8:58:29 PM



Date: 3/23/2016

Work Order: 1603156  
CLIENT: Floyd | Snider  
Project: GTH-Olympia

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

Sample ID: <b>LCS-R28236</b>	SampType: <b>LCS</b>	Units: <b>µg/L</b>			Prep Date: <b>3/15/2016</b>			RunNo: <b>28236</b>			
Client ID: <b>LCSW</b>	Batch ID: <b>R28236</b>				Analysis Date: <b>3/15/2016</b>			SeqNo: <b>530822</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	19.5	0.200	20.00	0	97.7	53.6	139				
1,1-Dichloroethene	18.6	1.00	20.00	0	92.9	65.6	136				
trans-1,2-Dichloroethene	19.6	1.00	20.00	0	98.0	71.7	129				
cis-1,2-Dichloroethene	19.1	1.00	20.00	0	95.5	71.1	130				
Trichloroethene (TCE)	17.6	0.500	20.00	0	87.9	65.2	136				
Tetrachloroethene (PCE)	19.6	1.00	20.00	0	98.2	47.5	147				
Surr: Dibromofluoromethane	25.1		25.00		101	45.4	152				
Surr: Toluene-d8	24.7		25.00		98.8	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.4		25.00		102	64.2	128				

Sample ID: <b>MB-R28236</b>	SampType: <b>MBLK</b>	Units: <b>µg/L</b>			Prep Date: <b>3/15/2016</b>			RunNo: <b>28236</b>			
Client ID: <b>MBLKW</b>	Batch ID: <b>R28236</b>				Analysis Date: <b>3/15/2016</b>			SeqNo: <b>530824</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	24.0		25.00		96.0	45.4	152				
Surr: Toluene-d8	24.3		25.00		97.4	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	24.3		25.00		97.2	64.2	128				

Sample ID: <b>1603127-002CDUP</b>		SampType: <b>DUP</b>		Units: <b>µg/L</b>		Prep Date: <b>3/15/2016</b>			RunNo: <b>28236</b>		
Client ID: <b>BATCH</b>		Batch ID: <b>R28236</b>					Analysis Date: <b>3/15/2016</b>			SeqNo: <b>530797</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	





Date: 3/23/2016

**Work Order:** 1603156  
**CLIENT:** Floyd | Snider  
**Project:** GTH-Olympia

## QC SUMMARY REPORT

### Volatile Organic Compounds by EPA Method 8260

Sample ID: <b>1603127-002CDUP</b>		SampType: <b>DUP</b>		Units: <b>µg/L</b>		Prep Date: <b>3/15/2016</b>		RunNo: <b>28236</b>			
Client ID: <b>BATCH</b>		Batch ID: <b>R28236</b>				Analysis Date: <b>3/15/2016</b>		SeqNo: <b>530797</b>			
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	24.4		25.00		97.6	45.4	152		0		
Surr: Toluene-d8	24.6		25.00		98.4	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	24.2		25.00		96.8	64.2	128		0		

Sample ID: <b>1603139-001AMS</b>		SampType: <b>MS</b>		Units: <b>µg/L</b>		Prep Date: <b>3/15/2016</b>		RunNo: <b>28236</b>			
Client ID: <b>BATCH</b>		Batch ID: <b>R28236</b>				Analysis Date: <b>3/15/2016</b>		SeqNo: <b>530801</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	21.1	0.200	20.00	0	106	58.1	158				
1,1-Dichloroethene	20.2	1.00	20.00	0	101	63	141				
trans-1,2-Dichloroethene	20.6	1.00	20.00	0	103	63.5	138				
cis-1,2-Dichloroethene	19.8	1.00	20.00	0	98.8	67.1	123				
Trichloroethene (TCE)	17.8	0.500	20.00	0	89.1	60.4	134				
Tetrachloroethene (PCE)	20.1	1.00	20.00	0	101	50.3	133				
Surr: Dibromofluoromethane	25.5		25.00		102	45.4	152				
Surr: Toluene-d8	25.3		25.00		101	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.7		25.00		103	64.2	128				

Sample ID: <b>1603139-001AMSD</b>		SampType: <b>MSD</b>		Units: <b>µg/L</b>		Prep Date: <b>3/15/2016</b>		RunNo: <b>28236</b>			
Client ID: <b>BATCH</b>		Batch ID: <b>R28236</b>				Analysis Date: <b>3/15/2016</b>		SeqNo: <b>530802</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	21.4	0.200	20.00	0	107	58.1	158	21.10	1.41	30	
1,1-Dichloroethene	20.4	1.00	20.00	0	102	63	141	20.16	1.43	30	
trans-1,2-Dichloroethene	20.7	1.00	20.00	0	103	63.5	138	20.65	0.0968	30	
cis-1,2-Dichloroethene	20.0	1.00	20.00	0	99.8	67.1	123	19.76	1.01	30	



Date: 3/23/2016

Work Order: 1603156  
CLIENT: Floyd | Snider  
Project: GTH-Olympia

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

Sample ID: <b>1603139-001AMSD</b>	SampType: <b>MSD</b>	Units: <b>µg/L</b>			Prep Date: <b>3/15/2016</b>			RunNo: <b>28236</b>			
Client ID: <b>BATCH</b>	Batch ID: <b>R28236</b>				Analysis Date: <b>3/15/2016</b>			SeqNo: <b>530802</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	17.8	0.500	20.00	0	89.2	60.4	134	17.82	0.0561	30	
Tetrachloroethene (PCE)	20.1	1.00	20.00	0	101	50.3	133	20.11	0.149	30	
Surr: Dibromofluoromethane	25.7		25.00		103	45.4	152		0	0	
Surr: Toluene-d8	24.8		25.00		99.2	40.1	139		0	0	
Surr: 1-Bromo-4-fluorobenzene	25.6		25.00		102	64.2	128		0	0	

Sample ID: <b>1603159-003DDUP</b>	SampType: <b>DUP</b>	Units: <b>µg/L</b>			Prep Date: <b>3/15/2016</b>			RunNo: <b>28236</b>			
Client ID: <b>BATCH</b>	Batch ID: <b>R28236</b>				Analysis Date: <b>3/15/2016</b>			SeqNo: <b>530816</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	
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	24.6		25.00		98.2	45.4	152		0		
Surr: Toluene-d8	23.8		25.00		95.2	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	24.4		25.00		97.7	64.2	128		0		

Sample ID: <b>CCV-E-R28236</b>	SampType: <b>CCV</b>	Units: <b>µg/L</b>			Prep Date: <b>3/16/2016</b>			RunNo: <b>28236</b>			
Client ID: <b>CCV</b>	Batch ID: <b>R28236</b>				Analysis Date: <b>3/16/2016</b>			SeqNo: <b>531090</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	19.1	1.00	20.00	0	95.4	80	120				
Tetrachloroethene (PCE)	20.0	1.00	20.00	0	100	80	120				
Surr: Dibromofluoromethane	25.4		25.00		101	72.1	122				
Surr: Toluene-d8	24.9		25.00		99.6	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	25.4		25.00		102	63.3	132				



## Sample Log-In Check List

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

Work Order Number: **1603156**  
Date Received: **3/14/2016 2:56:00 PM**

### Chain of Custody

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

### 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  $>0^{\circ}\text{C}$  to  $10.0^{\circ}\text{C}$  \* 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	1.5
Sample	1.0
Temp Blank	3.2

\* Note: DoD/ELAP and TNI require items to be received at  $4^{\circ}\text{C}$  +/-  $2^{\circ}\text{C}$

# Chain of Custody Record



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

Laboratory Project No (internal): 1603156

Page: 1 of: 1

Date: 3/12/16

Project Name: GTH-0lympic

Project No: t-a

Collected by: K. Anderson

Location: Lynn Grochala

Report To (PM): Lynn Grochala

PM Email: Lynn.grochala@Playstonider.com

Client: Floyd Snider

Address: (see file)

City, State, Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

\*\*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

5	MW-09-031216	↓	1000	W	X
6	MW-06-031216	↓	1505	W	X
7	F-DEAIN-031216	↓	1750	W	X
8					
9					
10					

\*\*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 Nitrate+Nitrite

Sample Disposal: ☒ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished Date/Time: 3/14/16 2:18pm Received Date/Time: 3/14/16 2:18

Relinquished Date/Time: 3/14/16 2:56pm Received Date/Time: 3/14/16 2:56pm

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

\*Please coordinate with the lab in advance

www.fremontanalytical.com



3600 Fremont Ave. N.  
Seattle, WA 98103  
T: (206) 352-3790  
F: (206) 352-7178  
info@fremontanalytical.com

**Floyd | Snider**  
Lynn Grochala  
601 Union St., Suite 600  
Seattle, WA 98101

**RE: Former Olympia Dry Cleaner**  
**Lab ID: 1603328**

April 04, 2016

**Attention Lynn Grochala:**

Fremont Analytical, Inc. received 2 sample(s) on 3/30/2016 for the analyses presented in the following report.

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

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  
President

DoD/ELAP Certification #L2371, ISO/ICC 17025:2005  
ORELAP Certification: WA 100009-007 (NELAP Recognized)

Original

[www.fremontanalytical.com](http://www.fremontanalytical.com)



Date: 04/04/2016

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**CLIENT:** Floyd | Snider  
**Project:** Former Olympia Dry Cleaner  
**Lab Order:** 1603328

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## Work Order Sample Summary

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Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1603328-001	SEEP-033016	03/30/2016 7:30 AM	03/30/2016 2:00 PM
1603328-002	Trip Blank	03/28/2016 2:15 PM	03/30/2016 2:00 PM

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**CLIENT:** Floyd | Snider  
**Project:** Former Olympia Dry Cleaner

---

**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

WO#: 1603328  
Date Reported: 4/4/2016

**Client:** Floyd | Snider

**Collection Date:** 3/30/2016 7:30:00 AM

**Project:** Former Olympia Dry Cleaner

**Lab ID:** 1603328-001

**Matrix:** Water

**Client Sample ID:** SEEP-033016

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

Batch ID: R28543      Analyst: BC

Vinyl chloride	21.5	0.200		µg/L	1	3/31/2016 8:07:44 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/31/2016 8:07:44 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/31/2016 8:07:44 PM
cis-1,2-Dichloroethene	157	10.0	D	µg/L	10	4/3/2016 9:48:22 AM
Trichloroethene (TCE)	17.3	0.500		µg/L	1	3/31/2016 8:07:44 PM
Tetrachloroethene (PCE)	22.8	1.00		µg/L	1	3/31/2016 8:07:44 PM
Surr: Dibromofluoromethane	102	45.4-152		%Rec	1	3/31/2016 8:07:44 PM
Surr: Toluene-d8	100	40.1-139		%Rec	1	3/31/2016 8:07:44 PM
Surr: 1-Bromo-4-fluorobenzene	95.7	64.2-128		%Rec	1	3/31/2016 8:07:44 PM



Date: 4/4/2016

Work Order: 1603328  
CLIENT: Floyd | Snider  
Project: Former Olympia Dry Cleaner

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

Sample ID	LCS-R28543	SampType:	LCS	Units:	µg/L	Prep Date:	3/31/2016	RunNo:	28543		
Client ID:	LCSW	Batch ID:	R28543			Analysis Date:	3/31/2016	SeqNo:	536421		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	16.6	0.200	20.00	0	83.1	53.6	139				
1,1-Dichloroethene	19.3	1.00	20.00	0	96.3	65.6	136				
trans-1,2-Dichloroethene	19.6	1.00	20.00	0	97.9	71.7	129				
Trichloroethene (TCE)	19.4	0.500	20.00	0	97.2	65.2	136				
Tetrachloroethene (PCE)	19.3	1.00	20.00	0	96.5	47.5	147				
Surr: Dibromofluoromethane	25.7		25.00		103	45.4	152				
Surr: Toluene-d8	25.4		25.00		102	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.4		25.00		101	64.2	128				

Sample ID	MB-R28543	SampType:	MBLK		Units:	µg/L		Prep Date:	3/31/2016		RunNo:	28543	
Client ID:	MBLKW	Batch ID:	R28543					Analysis Date:	3/31/2016		SeqNo:	536422	
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											
Trichloroethene (TCE)	ND	0.500											
Tetrachloroethene (PCE)	ND	1.00											
Surr: Dibromofluoromethane	23.5		25.00		94.1	45.4	152						
Surr: Toluene-d8	25.0		25.00		100	40.1	139						
Surr: 1-Bromo-4-fluorobenzene	24.1		25.00		96.6	64.2	128						

Sample ID	1603328-001AMS	SampType:	MS	Units:	µg/L	Prep Date:	4/1/2016	RunNo:	28543		
Client ID:	SEEP-033016	Batch ID:	R28543			Analysis Date:	4/1/2016	SeqNo:	536403		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	40.9	0.200	20.00	21.54	96.7	58.1	158				
1,1-Dichloroethene	22.6	1.00	20.00	0.3400	111	63	141				
trans-1,2-Dichloroethene	22.3	1.00	20.00	0.7200	108	63.5	138				
Trichloroethene (TCE)	38.7	0.500	20.00	17.32	107	60.4	134				

Original



Date: 4/4/2016

Work Order: 1603328  
CLIENT: Floyd | Snider  
Project: Former Olympia Dry Cleaner

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

Sample ID	1603328-001AMS	SampType:	MS	Units:	µg/L	Prep Date:	4/1/2016	RunNo:	28543		
Client ID:	SEEP-033016	Batch ID:	R28543			Analysis Date:	4/1/2016	SeqNo:	536403		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Tetrachloroethene (PCE)	44.8	1.00	20.00	22.80	110	50.3	133				
Surr: Dibromofluoromethane	27.0		25.00		108	45.4	152				
Surr: Toluene-d8	25.8		25.00		103	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.0		25.00		100	64.2	128				

Sample ID	1603328-001AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	4/1/2016	RunNo:	28543		
Client ID:	SEEP-033016	Batch ID:	R28543			Analysis Date:	4/1/2016	SeqNo:	536404		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl chloride	43.5	0.200	20.00	21.54	110	58.1	158	40.87	6.17	30	
1,1-Dichloroethene	25.7	1.00	20.00	0.3400	127	63	141	22.61	12.8	30	
trans-1,2-Dichloroethene	25.2	1.00	20.00	0.7200	123	63.5	138	22.34	12.1	30	
Trichloroethene (TCE)	39.4	0.500	20.00	17.32	111	60.4	134	38.67	1.97	30	
Tetrachloroethene (PCE)	44.2	1.00	20.00	22.80	107	50.3	133	44.80	1.30	30	
Surr: Dibromofluoromethane	27.2		25.00		109	45.4	152		0	0	
Surr: Toluene-d8	25.5		25.00		102	40.1	139		0	0	
Surr: 1-Bromo-4-fluorobenzene	24.9		25.00		99.6	64.2	128		0	0	

Sample ID	CCV-G-R28569	SampType: CCV			Units: µg/L		Prep Date: 4/3/2016			RunNo: 28569		
Client ID:	CCV	Batch ID: R28569			Analysis Date: 4/3/2016					SeqNo: 537036		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

cis-1,2-Dichloroethene	21.1	1.00	20.00	0	106	80	120				
Surr: Dibromofluoromethane	26.2		25.00		105	72.1	122				
Surr: Toluene-d8	25.1		25.00		100	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	25.3		25.00		101	63.3	132				

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

Work Order Number: **1603328**  
 Date Received: **3/30/2016 2:00:00 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 °C
Cooler	7.8
Sample	8.3
Temp Blank	6.5

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

Original



# Fremont

3600 Fremont Ave N.  
Seattle, WA 98103

Tel: 206-352-3790  
Fax: 206-352-7178

Date: 3/30/16

Laboratory Project No (Internal):

1403328

## Chain of Custody Record

Page: 1 of: 1

Client:

Floyd Snider

Project Name:

Former Olympia Day Cleaner

Address:

601 Union St

Location:

6th Ave

City, State, Zip:

Seattle, WA

Report To (PM):

Floyd Snider

Telephone:

206-292-2078

PM Email:

floyd.snider@floyd-snider.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/8TEX	BTX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 / 625)	PCBs (EPA 8082 / 608)	Metals** (EPA 8210 / 200.8)	Total (T)   Dissolved (D)	Anions (IC)***	ECB (8011)	CVOCs *	Comments
1 SEEP-033016	3/30/16	0730	W															*Project-specific CVOC list
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

\*\*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 Tl Ti U V Zn

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

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (a fee may be assessed if samples are retained after 30 days.)

Relinquished: 3/30/16 1400 Date/Time Received: 3-30-16 14:00 Date/Time

Relinquished: X Received: X

TAT → SameDay<sup>^</sup> NextDay<sup>^</sup> 2 Day 3 Day STD

\*Please coordinate with the lab in advance