

April 28, 2017

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

**SUBJECT: FIRST QUARTER 2017 GROUNDWATER COMPLIANCE MONITORING REPORT
Former Olympia Dry Cleaners Site
606 Union Avenue SE
Olympia, Washington**

Dear Mr. Teel:

This groundwater compliance monitoring report is the first quarterly monitoring report of 2017 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 (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). Source removal areas are shown on Figure 2. 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), with modifications approved by Ecology (Ecology 2017) based on the 2016 annual report (Floyd|Snider 2017) as described below. The objective of this groundwater compliance monitoring report is to document the results of the groundwater compliance monitoring completed in March 2017. The cumulative results of these quarterly monitoring events will be used to assess the ongoing effectiveness of the cleanup action and to document compliance with the Site cleanup levels.

2017 COMPLIANCE MONITORING SUMMARY

The compliance monitoring network for long-term groundwater monitoring at the Site includes monitoring wells MW-06, MW-09, MW-11, MW-13, and MW-14. Per the CMP, and in concurrence with Ecology, the monitoring frequency has been reduced to semiannually after the first year of quarterly monitoring. The active seep located along the Cherry Street SE curb line and north of the main excavation area, will continue to be monitored on a quarterly basis in 2017 to evaluate surface discharges of the groundwater seep. In addition, a SEEP-POST sample will be

collected on a quarterly basis until treatment of the seep (using a carbon filtration sock) is no longer required. A French drain that collects water from the north end of the main excavation area was sampled during 2016, but was removed from the compliance network in coordination with Ecology because water from the vicinity of the French drain is adequately represented by samples collected from the seep and monitoring well MW-14. The current compliance monitoring network is shown on Figure 2.

FIRST QUARTER COMPLIANCE MONITORING SAMPLE COLLECTION

This section describes the groundwater and seep water sampling performed in March 2017. There were no significant deviations from the CMP during this monitoring event; the field methods used were in substantive accordance with the CMP.

The water 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.

The analytical results from the March 2017 groundwater monitoring are provided in Table 1, along with data from the 2016 quarterly monitoring events and the pre-remediation monitoring well sampling in August 2013 (SES 2013) for comparison. The analytical data for surface water, including the seep, are summarized in Table 2. All groundwater and surface water monitoring results are shown on Figure 3. A copy of the laboratory report is included in Attachment 1.

Monitoring Well Groundwater Sample Collection and Results

Groundwater samples were collected from the five compliance wells (MW-06, MW-09, MW-11, MW-13, and MW-14) on March 10, 2017, using standard low-flow sampling methods described in the CMP. Monitoring well MW-14 (artesian) was still flowing, but at a slow enough rate that a low-flow sample was collected. Analytical results from this sampling event are presented in Tables 1 and 2, groundwater elevations are summarized in Table 3, and the groundwater sample collection forms are included in Attachment 2.

Groundwater collected from monitoring well MW-14 contained TCE and PCE at concentrations greater than their respective cleanup levels. Vinyl chloride, which was detected during the last sampling event, was not detected in March 2017. The concentrations of TCE, PCE, and *cis*-1,2-DCE increased relative to the last sampling event but remained less than their peak 2016 concentrations. The concentration of *cis*-1,2-DCE also remained less than the cleanup levels of 16 µg/L. 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 as backfill in the main excavation area.

The groundwater sample collected from well MW-09 showed a decrease of *cis*-1,2-DCE concentrations, which were less than the cleanup level during December 2016 as well as during this sampling event. The only COC exceeding cleanup levels at MW-09 is vinyl chloride; however, vinyl chloride concentrations have also decreased since the previous quarter. 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 all previous monitoring data.

Seep Treatment

As discussed in the previous compliance monitoring reports, a carbon filter sock was installed at the point of the seep expression and directly downgradient on September 29, 2016. A sample of filtered seep water was collected during the third quarter and demonstrated that the filter sock was effective at reducing PCE, TCE, and vinyl chloride concentrations in runoff water. During the fourth quarter of sampling, the sock was rotated over and lengthwise, then re-bolted to the curb on either end of the sock. Fourth quarter sample results indicated breakthrough of PCE, likely associated with high groundwater and wet winter weather (including freeze/thaw cycles). The sock was subsequently replaced during the March 2017 monitoring event and a second carbon filter sock was added in line at the curb line north of the primary seep treatment sock. The right-of-way obstruction permit acquired from the City of Olympia for placement of the filter sock was extended through March 2018.

Seep Water Sample Collection and Results

The groundwater seep monitored in 2016 was observed to still be flowing between curb sections along the curb line of Cherry Street SE, north of the main excavation area and the former seep area, and 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. A grab sample was collected from the seep (SEEP) on March 10, 2017, while the filter sock was removed for replacement. An additional seep grab sample (SEEP-POST) was collected from the discharge of the filter sock a few hours after installing the new activated carbon filter sock. These results are presented in Table 2.

The unfiltered seep water sample collected from the curb line (SEEP) had a PCE concentration exceeding its cleanup level. The concentrations of TCE and vinyl chloride decreased to less than their respective cleanup levels since the previous monitoring period in December 2016. The *cis*-1,2-DCE concentration also decreased since the last sampling event.

The water sample taken at the seep immediately downstream of the new carbon filter sock (SEEP-POST) demonstrated a significant improvement in water quality; however, PCE was still detected at 3.4 µg/L, slightly exceeding the cleanup level of 3.3 µg/L, with low-level detections of TCE, *cis*-1,2-DCE, and vinyl chloride less than their respective cleanup levels. A second sample

collected from the post-treatment seep discharge on March 22, 2017, had similar results; a sample collected from the surface water point of compliance (SEEP-CB) during this event did not have detectable PCE.

The seep was observed to be flowing at a faster rate during December 2016 and March 2016, which is presumed to be a result of record high rainfall during both of these monitoring periods. In order to increase the residence time and allow this more rapidly flowing water to remain in contact with the carbon treatment media, a second activated carbon filter sock was added along the curb line immediately downslope of the primary treatment sock on March 30, 2017. A sample collected from the point of discharge of the second sock did not have detectable concentrations of any Site COCs. A spare replacement sock was ordered to allow quicker replacement of the carbon sock(s) should breakthrough be observed in the future.

Groundwater Elevation Measurements

The depth to water was recorded with an electronic water level meter prior to sample collection at all monitoring wells. Groundwater elevations were determined using top-of-casing survey information from SoundEarth Strategies. The primary groundwater flow direction at the Site is to the north. Groundwater elevations are summarized in Table 3.

Data Validation

A Compliance Screening (Stages 1 & 2A) data quality review was performed on volatile organic compound data resulting from laboratory analysis by U.S. Environmental Protection Agency (USEPA) Method 8260C. The analytical data were validated in accordance with the USEPA *National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA 2016).

A total of five seep samples, five groundwater samples, and two trip blanks were submitted in three sample delivery groups (FA1703131, FA1703248, and FA1703346) to Fremont Analytical, Inc., of Seattle, Washington for chemical analysis. For all analyses the analytical holding times were met and the method blanks had no detections. The surrogate, matrix spike (MS), matrix spike duplicate (MSD) and laboratory control sample recoveries and MS/MSD relative percent differences (RPDs) all met USEPA requirements.

The sample/sample duplicate RPD for vinyl chloride in sample SEEP-PRE-031017, and for PCE in sample SEEP-POST-031017 were outside the laboratory control limits of ± 30 percent. As all other quality control objectives for this analysis have been met, it is with professional judgment that only the vinyl chloride result for SEEP-PRE-031017 and the PCE result for SEEP-POST-031017 were qualified "J" as estimated based on this RPD information.

Data were determined to be of acceptable quality for use as qualified above.

COMPLIANCE MONITORING SCHEDULE

The next compliance monitoring event will be completed in June 2017 and will consist of the collection of surface water samples from the seep and the discharge of the filter sock (SEEP-POST) to continue documenting the treatment efficiency of the filter sock. The results of the June 2017 compliance monitoring will be documented in a quarterly monitoring report, which will be submitted to Ecology no later than 90 days following the sampling event.

CONTINUED SEEP TREATMENT

The filter socks will be rotated and changed out quarterly to ensure that breakthrough at concentrations greater than the cleanup level does not occur. During each quarterly monitoring event, the downstream sock will be rotated and moved upstream, and a new sock will be installed in the downstream position. The filter socks are monitored by the owner on a weekly basis per the right-of-way obstruction permit requirements to make sure they remain in place and attached to the curb.

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.

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SoundEarth 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.

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

_____. 2017. *Ecology Comments on the 2016 Annual Summary Report for Groundwater Compliance Monitoring, prepared by Floyd|Snider, dated February 13, 2017, Olympia Dry Cleaners Site*. Letter from Steve Teel, Ecology, to Tom Colligan, Floyd|Snider. 8 March.

Sincerely yours,

FLOYD | SNIDER



Lynn Grochala
Senior Environmental Scientist

Encl.: Table 1 Groundwater Monitoring Data
 Table 2 Surface Water Monitoring Data
 Table 3 Groundwater Elevation Data
 Figure 1 Site Vicinity Map
 Figure 2 Source Removal Areas and Compliance Monitoring Locations
 Figure 3 March 2017 Groundwater and Surface Water Monitoring Results
 Attachment 1 Laboratory Data
 Attachment 2 Field Forms

Tables

Table 1
Groundwater Monitoring Data

Sample Location	Status ¹	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
		6/9/2016	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U
		9/29/2016	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U
		12/20/2016	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U
		3/10/2017	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
		6/9/2016	1.0 U	3.2	26	1.0 U	1.0 U	9.8
		9/29/2016	1.0 U	2.8	27	1.0 U	1.0 U	11
		12/20/2016	1.0 U	0.69	10	1.0 U	1.0 U	6.9
		3/10/2017	1.0 U	0.61	6.2	1.0 U	1.0 U	2.6
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
		6/9/2016	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U
		9/29/2016	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U
		12/20/2016	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U
		3/10/2017	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U
MW-13	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
		6/9/2016	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U
		9/29/2016	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U
		12/20/2016	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U
		3/10/2017	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	0.20 U
	Post-remediation	3/8/2016	52	17	23	1.0 U	1.0 U	2.4
		6/9/2016 ²	99	34	33	1.0 U	1.0 U	2.8
		9/29/2016	96	40	42	1.0 U	1.0 U	0.20 U
		12/20/2016 ²	23	11	7.3	1.0 U	1.0 U	0.79
		3/10/2017	38	24	14	1.0 U	1.0 U	0.20 U
Groundwater Cleanup Level (µg/L)			5.0	5.0	16	100	7.0	0.20

Notes:

- BOLD** Indicates a concentration that exceeds the site cleanup level.
- ¹ Pre-remediation groundwater monitoring data collected by SoundEarth Strategies.
- ² Field duplicate taken at this location on this date; the greatest concentration between the two samples is shown.

Abbreviation:

- µg/L Micrograms per liter

Qualifier:

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

Table 2
Surface Water Monitoring Data

Sample Location	Status	Date	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)	<i>cis</i> -1,2-Dichloroethene (µg/L)	<i>trans</i> -1,2-Dichloroethene (µg/L)	1,1-Dichloroethene (µg/L)	Vinyl Chloride (µg/L)
SEEP	Pre-remediation ¹	7/10/2008	390	580	2,500	12	2.6	190
	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
		6/9/2016	16	18	170	1.3	1.0 U	20
		9/29/2016	16	30	180	1.0 U	1.0 U	16
		12/20/2016	56	44	110	1.0 U	1.0 U	10
		3/10/2017	13	7.6	19	1.0 U	1.0 U	1.8 J
SEEP-CB ²	Pre-remediation	10/15/2008	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Post-remediation	6/9/2016	1.0 U	0.50 U	1.8	1.0 U	1.0 U	0.20 U
		3/22/2017	1.0 U	0.72	1.3	1.0 U	1.0 U	0.20 U
SEEP-POST ³	Post-remediation	9/29/2016	1.0 U	0.55	2.3	1.0 U	1.0 U	0.62
		12/20/2016	10	8.0	19	1.0 U	1.0 U	2.2
		3/10/2017	3.4 J	2.5	6.3	1.0 U	1.0 U	1.3
		3/22/2017	4.8	4.1	10	1.0 U	1.0 U	1.3
		3/30/2017	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U
		Surface Water Cleanup Level (µg/L)			3.3	30	NA	10,000

Notes:

BOLD Indicates a concentration that exceeds the site cleanup level.

- 1 Pre-remediation seep samples were collected approximately 16 feet south of the current seep sampling location. However, both pre- and post-remediation samples are representative of the same source of seep water.
- 2 Sample collected at the downstream catch basin. Pre-remediation sample was collected by the Washington State Department of Ecology from approximately the same location and named "Street - 2."
- 3 Sample collected downstream of the carbon filter sock to demonstrate treatment efficiency.

Abbreviations:

µg/L Micrograms per liter
NA Not applicable

Qualifier:

- J The analyte was detected; the concentration is considered to be an estimate.
U The analyte was not detected at the given reporting limit.

Table 3
Groundwater Elevation Data

Well ID	Top of Casing Elevation (feet) ^{1,2}	Date	Depth to Water (feet)	Groundwater Elevation (feet) ²
MW-06	20.12	03/12/2016	1.46	18.66
		06/09/2016	0.86	19.26
		09/29/2016	0.20	19.92
		12/20/2016	1.38	18.74
		03/10/2017	0.65	19.47
MW-09	30.56	03/12/2016	2.32	28.24
		06/09/2016	3.41	27.15
		09/29/2016	3.44	27.12
		12/20/2016	3.40	27.16
		03/10/2017	3.22	27.34
MW-11 ³	24.66	03/12/2016	0.00	24.66
		06/09/2016	0.00	24.66
		09/29/2016	0.00	24.66
		12/20/2016	0.50	24.16
		03/10/2017	0.38	24.28
MW-13	26.38	03/12/2016	0.07	26.31
		06/09/2016	0.17	26.21
		09/29/2016	0.42	25.96
		12/20/2016	0.20	26.18
		03/10/2017	0.16	26.22
MW-14 ³	26.00	03/12/2016	0.00	26.00
		06/09/2016	0.00	26.00
		09/29/2016	0.00	26.00
		12/20/2016	0.00	26.00
		03/10/2017	0.00	26.00

Notes:

- 1 Top of well casing survey information from SoundEarth Strategies.
- 2 Elevations reported in North American Vertical Datum of 1988.
- 3 Depth to water values of 0.00 feet indicate a location with artesian groundwater; reported groundwater elevations are considered estimates.

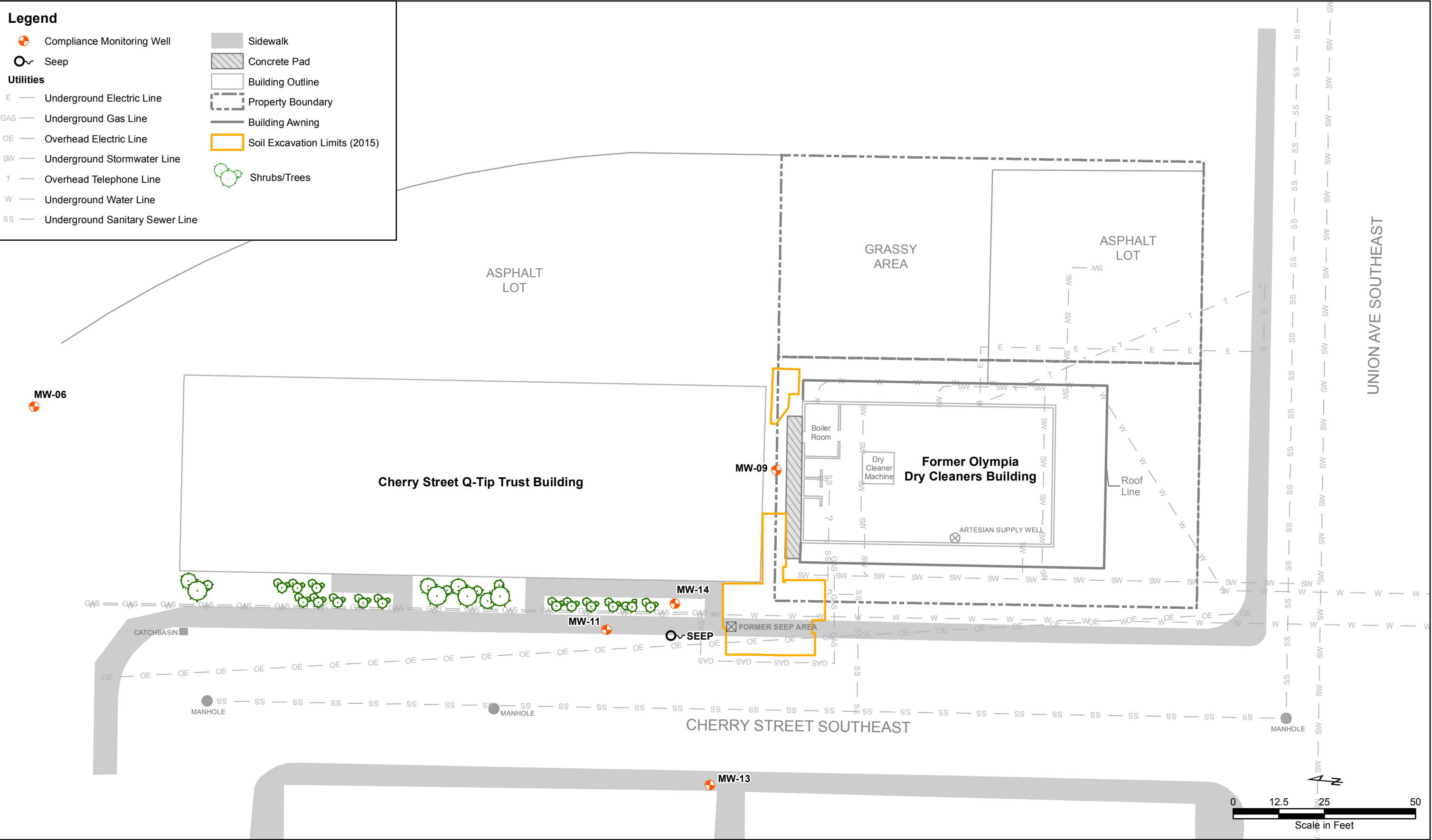
Figures



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

**Figure 1
Site Vicinity Map**



Legend

Compliance Monitoring Well

Seep

Sidewalk

Concrete Pad

Building Outline

Property Boundary

Building Awning

Soil Excavation Limits (2015)

Carbon Filter Sock

Shrubs/Trees

Notes:

· All results reported in µg/L.

· **Bold** indicates a concentration that exceeds the cleanup level.

Abbreviations:

DCE = Dichloroethene

µg/L = Micrograms per liter

PCE = Tetrachloroethene

TCE = Trichloroethene

Qualifiers:

J = The analyte was detected, the concentration is considered to be an estimate.

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

MW-06

Analyte	3/10/17
PCE	1.0 U
TCE	0.50 U
cis-1,2-DCE	1.0 U
trans-1,2-DCE	1.0 U
1,1-DCE	1.0 U
Vinyl Chloride	0.20 U

MW-09

Analyte	3/10/17
PCE	1.0 U
TCE	0.61
cis-1,2-DCE	6.2
trans-1,2-DCE	1.0 U
1,1-DCE	1.0 U
Vinyl Chloride	2.6

MW-11

Analyte	3/10/17
PCE	1.0 U
TCE	0.50 U
cis-1,2-DCE	1.0 U
trans-1,2-DCE	1.0 U
1,1-DCE	1.0 U
Vinyl Chloride	0.20 U

MW-14

Analyte	3/10/17
PCE	38
TCE	24
cis-1,2-DCE	14
trans-1,2-DCE	1.0 U
1,1-DCE	1.0 U
Vinyl Chloride	0.20 U

MW-13

Analyte	3/10/17
PCE	1.0 U
TCE	0.50 U
cis-1,2-DCE	1.0 U
trans-1,2-DCE	1.0 U
1,1-DCE	1.0 U
Vinyl Chloride	0.20 U

SEEP-CB

Analyte	3/22/17
PCE	1.0 U
TCE	0.72
cis-1,2-DCE	1.3
trans-1,2-DCE	1.0 U
1,1-DCE	1.0 U
Vinyl Chloride	0.20 U

SEEP-POST

Analyte	3/30/17
PCE	1.0 U
TCE	0.50 U
cis-1,2-DCE	1.0 U
trans-1,2-DCE	1.0 U
1,1-DCE	1.0 U
Vinyl Chloride	0.20 U

SEEP

Analyte	3/10/17
PCE	13
TCE	7.6
cis-1,2-DCE	19
trans-1,2-DCE	1.0 U
1,1-DCE	1.0 U
Vinyl Chloride	1.8 J

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

Figure 3
March 2017 Groundwater and Surface Water
Monitoring Results

I:\GIS\Projects\GTH-Olympia_Dry_Cleaners\MXD\QuarterlyGroundwaterComplianceMonitoring\2017\Figure 3 March 2017 Groundwater and Surface Water Monitoring Results.mxd
4/18/2017

Attachment 1
Laboratory Data



Floyd | Snider

Lynn Grochala
601 Union St., Suite 600
Seattle, WA 98101

RE: Olympia Dry Cleaner
Work Order Number: 1703131

March 17, 2017

Attention Lynn Grochala:

Fremont Analytical, Inc. received 9 sample(s) on 3/10/2017 for the analyses presented in the following report.

Sample Moisture (Percent Moisture)
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

CLIENT: Floyd | Snider
Project: Olympia Dry Cleaner
Work Order: 1703131

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703131-001	SEEP-PRE-031017	03/10/2017 11:35 AM	03/10/2017 5:43 PM
1703131-002	MW-09-031017	03/10/2017 12:50 PM	03/10/2017 5:43 PM
1703131-003	MW-14-031017	03/10/2017 1:30 PM	03/10/2017 5:43 PM
1703131-004	MW-11-031017	03/10/2017 2:10 PM	03/10/2017 5:43 PM
1703131-005	MW-13-031017	03/10/2017 2:50 PM	03/10/2017 5:43 PM
1703131-006	MW-06-031017	03/10/2017 3:30 PM	03/10/2017 5:43 PM
1703131-007	SEEP-POST-031017	03/10/2017 2:38 PM	03/10/2017 5:43 PM
1703131-008	CARBON-031017	03/10/2017 2:33 PM	03/10/2017 5:43 PM
1703131-009	Trip Blank	02/22/2017 4:00 PM	03/10/2017 5:43 PM

CLIENT: Floyd | Snider
Project: 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

Work Order: 1703131

Date Reported: 3/17/2017

Client: Floyd | Snider

Collection Date: 3/10/2017 11:35:00 AM

Project: Olympia Dry Cleaner

Lab ID: 1703131-001

Matrix: Water

Client Sample ID: SEEP-PRE-031017

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

Batch ID: 16496

Analyst: NG

Vinyl chloride	1.75	0.200		µg/L	1	3/15/2017 2:24:39 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 2:24:39 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 2:24:39 PM
cis-1,2-Dichloroethene	18.9	1.00		µg/L	1	3/15/2017 2:24:39 PM
Trichloroethene (TCE)	7.63	0.500		µg/L	1	3/15/2017 2:24:39 PM
Tetrachloroethene (PCE)	12.6	1.00		µg/L	1	3/15/2017 2:24:39 PM
Surr: Dibromofluoromethane	100	45.4-152		%Rec	1	3/15/2017 2:24:39 PM
Surr: Toluene-d8	93.3	40.1-139		%Rec	1	3/15/2017 2:24:39 PM
Surr: 1-Bromo-4-fluorobenzene	96.3	64.2-128		%Rec	1	3/15/2017 2:24:39 PM



Analytical Report

Work Order: 1703131

Date Reported: 3/17/2017

Client: Floyd | Snider

Collection Date: 3/10/2017 12:50:00 PM

Project: Olympia Dry Cleaner

Lab ID: 1703131-002

Matrix: Water

Client Sample ID: MW-09-031017

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

Batch ID: 16496

Analyst: NG

Vinyl chloride	2.64	0.200		µg/L	1	3/15/2017 3:22:05 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 3:22:05 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 3:22:05 PM
cis-1,2-Dichloroethene	6.15	1.00		µg/L	1	3/15/2017 3:22:05 PM
Trichloroethene (TCE)	0.612	0.500		µg/L	1	3/15/2017 3:22:05 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	3/15/2017 3:22:05 PM
Surr: Dibromofluoromethane	101	45.4-152		%Rec	1	3/15/2017 3:22:05 PM
Surr: Toluene-d8	92.7	40.1-139		%Rec	1	3/15/2017 3:22:05 PM
Surr: 1-Bromo-4-fluorobenzene	94.0	64.2-128		%Rec	1	3/15/2017 3:22:05 PM



Analytical Report

Work Order: 1703131

Date Reported: 3/17/2017

Client: Floyd | Snider

Collection Date: 3/10/2017 1:30:00 PM

Project: Olympia Dry Cleaner

Lab ID: 1703131-003

Matrix: Water

Client Sample ID: MW-14-031017

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

Batch ID: 16496

Analyst: NG

Vinyl chloride	ND	0.200		µg/L	1	3/15/2017 3:50:41 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 3:50:41 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 3:50:41 PM
cis-1,2-Dichloroethene	13.8	1.00		µg/L	1	3/15/2017 3:50:41 PM
Trichloroethene (TCE)	23.8	0.500		µg/L	1	3/15/2017 3:50:41 PM
Tetrachloroethene (PCE)	38.2	1.00		µg/L	1	3/15/2017 3:50:41 PM
Surr: Dibromofluoromethane	102	45.4-152		%Rec	1	3/15/2017 3:50:41 PM
Surr: Toluene-d8	93.5	40.1-139		%Rec	1	3/15/2017 3:50:41 PM
Surr: 1-Bromo-4-fluorobenzene	94.9	64.2-128		%Rec	1	3/15/2017 3:50:41 PM



Analytical Report

Work Order: 1703131

Date Reported: 3/17/2017

Client: Floyd | Snider

Collection Date: 3/10/2017 2:10:00 PM

Project: Olympia Dry Cleaner

Lab ID: 1703131-004

Matrix: Water

Client Sample ID: MW-11-031017

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

Batch ID: 16496

Analyst: NG

Vinyl chloride	ND	0.200		µg/L	1	3/15/2017 4:19:18 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 4:19:18 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 4:19:18 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 4:19:18 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	3/15/2017 4:19:18 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	3/15/2017 4:19:18 PM
Surr: Dibromofluoromethane	104	45.4-152		%Rec	1	3/15/2017 4:19:18 PM
Surr: Toluene-d8	92.7	40.1-139		%Rec	1	3/15/2017 4:19:18 PM
Surr: 1-Bromo-4-fluorobenzene	95.1	64.2-128		%Rec	1	3/15/2017 4:19:18 PM



Analytical Report

Work Order: 1703131
Date Reported: 3/17/2017

Client: Floyd | Snider

Collection Date: 3/10/2017 2:50:00 PM

Project: Olympia Dry Cleaner

Lab ID: 1703131-005

Matrix: Water

Client Sample ID: MW-13-031017

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

Batch ID: 16496

Analyst: NG

Vinyl chloride	ND	0.200		µg/L	1	3/15/2017 4:47:48 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 4:47:48 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 4:47:48 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 4:47:48 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	3/15/2017 4:47:48 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	3/15/2017 4:47:48 PM
Surr: Dibromofluoromethane	103	45.4-152		%Rec	1	3/15/2017 4:47:48 PM
Surr: Toluene-d8	93.7	40.1-139		%Rec	1	3/15/2017 4:47:48 PM
Surr: 1-Bromo-4-fluorobenzene	94.0	64.2-128		%Rec	1	3/15/2017 4:47:48 PM



Analytical Report

Work Order: 1703131
Date Reported: 3/17/2017

Client: Floyd | Snider

Collection Date: 3/10/2017 3:30:00 PM

Project: Olympia Dry Cleaner

Lab ID: 1703131-006

Matrix: Water

Client Sample ID: MW-06-031017

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

Batch ID: 16496

Analyst: NG

Vinyl chloride	ND	0.200		µg/L	1	3/15/2017 7:39:31 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 7:39:31 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 7:39:31 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 7:39:31 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	3/15/2017 7:39:31 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	3/15/2017 7:39:31 PM
Surr: Dibromofluoromethane	105	45.4-152		%Rec	1	3/15/2017 7:39:31 PM
Surr: Toluene-d8	92.3	40.1-139		%Rec	1	3/15/2017 7:39:31 PM
Surr: 1-Bromo-4-fluorobenzene	94.2	64.2-128		%Rec	1	3/15/2017 7:39:31 PM



Analytical Report

Work Order: 1703131

Date Reported: 3/17/2017

Client: Floyd | Snider

Collection Date: 3/10/2017 2:38:00 PM

Project: Olympia Dry Cleaner

Lab ID: 1703131-007

Matrix: Water

Client Sample ID: SEEP-POST-031017

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

Batch ID: 16496

Analyst: NG

Vinyl chloride	1.32	0.200		µg/L	1	3/15/2017 8:08:07 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 8:08:07 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/15/2017 8:08:07 PM
cis-1,2-Dichloroethene	8.25	1.00		µg/L	1	3/15/2017 8:08:07 PM
Trichloroethene (TCE)	2.48	0.500		µg/L	1	3/15/2017 8:08:07 PM
Tetrachloroethene (PCE)	3.43	1.00		µg/L	1	3/15/2017 8:08:07 PM
Surr: Dibromofluoromethane	103	45.4-152		%Rec	1	3/15/2017 8:08:07 PM
Surr: Toluene-d8	91.1	40.1-139		%Rec	1	3/15/2017 8:08:07 PM
Surr: 1-Bromo-4-fluorobenzene	94.7	64.2-128		%Rec	1	3/15/2017 8:08:07 PM



Client: Floyd | Snider

Collection Date: 3/10/2017 2:33:00 PM

Project: Olympia Dry Cleaner

Lab ID: 1703131-008

Matrix: Solid

Client Sample ID: CARBON-031017

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

Batch ID: 16486

Analyst: MW

Vinyl chloride	0.518	0.00332		mg/Kg-dry	1	3/14/2017 12:42:31 AM
1,1-Dichloroethene	ND	0.0831		mg/Kg-dry	1	3/14/2017 12:42:31 AM
trans-1,2-Dichloroethene	ND	0.0332		mg/Kg-dry	1	3/14/2017 12:42:31 AM
cis-1,2-Dichloroethene	9.18	0.332	D	mg/Kg-dry	10	3/14/2017 8:05:27 PM
Trichloroethene (TCE)	0.521	0.0332		mg/Kg-dry	1	3/14/2017 12:42:31 AM
Tetrachloroethene (PCE)	0.148	0.0332		mg/Kg-dry	1	3/14/2017 12:42:31 AM
Surr: Dibromofluoromethane	88.9	56.5-129		%Rec	1	3/14/2017 12:42:31 AM
Surr: Toluene-d8	96.9	64.5-151		%Rec	1	3/14/2017 12:42:31 AM
Surr: 1-Bromo-4-fluorobenzene	95.9	63.1-141		%Rec	1	3/14/2017 12:42:31 AM

Sample Moisture (Percent Moisture)

Batch ID: R34977

Analyst: BB

Percent Moisture	41.8	0.500		wt%	1	3/16/2017 9:17:03 AM
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Client: Floyd | Snider

Collection Date: 2/22/2017 4:00:00 PM

Project: Olympia Dry Cleaner

Lab ID: 1703131-009

Matrix: Water

Client Sample ID: Trip Blank

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

Batch ID: 16496

Analyst: NG

Vinyl chloride	ND	0.200	QH	µg/L	1	3/15/2017 4:43:07 AM
1,1-Dichloroethene	ND	1.00	H	µg/L	1	3/15/2017 4:43:07 AM
trans-1,2-Dichloroethene	ND	1.00	H	µg/L	1	3/15/2017 4:43:07 AM
cis-1,2-Dichloroethene	ND	1.00	H	µg/L	1	3/15/2017 4:43:07 AM
Trichloroethene (TCE)	ND	0.500	H	µg/L	1	3/15/2017 4:43:07 AM
Tetrachloroethene (PCE)	ND	1.00	H	µg/L	1	3/15/2017 4:43:07 AM
Surr: Dibromofluoromethane	100	45.4-152	H	%Rec	1	3/15/2017 4:43:07 AM
Surr: Toluene-d8	94.4	40.1-139	H	%Rec	1	3/15/2017 4:43:07 AM
Surr: 1-Bromo-4-fluorobenzene	95.0	64.2-128	H	%Rec	1	3/15/2017 4:43:07 AM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Work Order: 1703131
CLIENT: Floyd | Snider
Project: Olympia Dry Cleaner

QC SUMMARY REPORT

Sample Moisture (Percent Moisture)

Sample ID	1703130-003ADUP	SampType:	DUP			Units:	wt%			Prep Date:	3/16/2017			RunNo:	34977		
Client ID:	BATCH	Batch ID:	R34977							Analysis Date:	3/16/2017			SeqNo:	668146		
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual				
Percent Moisture		10.9	0.500						11.95		8.96	20					

Work Order: 1703131
CLIENT: Floyd | Snider
Project: Olympia Dry Cleaner

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-16496	SampType: LCS		Units: µg/L		Prep Date: 3/14/2017			RunNo: 34983		
Client ID:	LCSW	Batch ID: 16496		Analysis Date: 3/15/2017					SeqNo: 668266		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	13.5	0.200	20.00	0	67.5	48	145				
1,1-Dichloroethene	16.5	1.00	20.00	0	82.4	65.6	136				
trans-1,2-Dichloroethene	17.7	1.00	20.00	0	88.5	71.7	129				
cis-1,2-Dichloroethene	17.1	1.00	20.00	0	85.5	70.2	139				
Trichloroethene (TCE)	19.7	0.500	20.00	0	98.5	65.2	136				
Tetrachloroethene (PCE)	19.5	1.00	20.00	0	97.6	47.5	147				
Surr: Dibromofluoromethane	25.0		25.00		99.9	45.4	152				
Surr: Toluene-d8	24.7		25.00		98.8	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.7		25.00		103	64.2	128				

Sample ID	1703099-001BMS	SampType:	MS	Units:	µg/L	Prep Date:	3/14/2017	RunNo:	34983		
Client ID:	BATCH	Batch ID:	16496			Analysis Date:	3/15/2017	SeqNo:	668243		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	12.8	0.200	20.00	0	64.0	41	165				
1,1-Dichloroethene	18.2	1.00	20.00	0	91.1	51.6	164				
trans-1,2-Dichloroethene	19.9	1.00	20.00	0	99.4	63.5	138				
cis-1,2-Dichloroethene	22.0	1.00	20.00	0	110	67.1	123				
Trichloroethene (TCE)	20.3	0.500	20.00	0	102	60.4	134				
Tetrachloroethene (PCE)	20.7	1.00	20.00	0	104	50.3	133				
Surr: Dibromofluoromethane	25.6		25.00		102	45.4	152				
Surr: Toluene-d8	24.8		25.00		99.1	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	26.3		25.00		105	64.2	128				

Sample ID	1703099-001BMSD	SampType:	MSD	Units:	µg/L	Prep Date:	3/14/2017	RunNo:	34983		
Client ID:	BATCH	Batch ID:	16496			Analysis Date:	3/15/2017	SeqNo:	668244		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	16.2	0.200	20.00	0	80.9	41	165	12.79	23.3	30	
1,1-Dichloroethene	18.8	1.00	20.00	0	93.8	51.6	164	18.21	2.98	30	

Work Order: 1703131
CLIENT: Floyd | Snider
Project: Olympia Dry Cleaner

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	1703099-001BMSD	SampType:	MSD	Units:	µg/L	Prep Date:	3/14/2017	RunNo:	34983		
Client ID:	BATCH	Batch ID:	16496	Analysis Date:				3/15/2017	SeqNo:	668244	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	21.1	1.00	20.00	0	105	63.5	138	19.88	5.75	30	
cis-1,2-Dichloroethene	19.5	1.00	20.00	0	97.3	67.1	123	21.95	12.0	30	
Trichloroethene (TCE)	21.0	0.500	20.00	0	105	60.4	134	20.31	3.23	30	
Tetrachloroethene (PCE)	21.0	1.00	20.00	0	105	50.3	133	20.74	1.29	30	
Surr: Dibromofluoromethane	25.6		25.00		102	45.4	152		0		
Surr: Toluene-d8	24.8		25.00		99.0	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	26.2		25.00		105	64.2	128		0		

Sample ID	MB-16496	SampType:	MBLK		Units:	µg/L		Prep Date:	3/14/2017		RunNo:	34983	
Client ID:	MBLKW	Batch ID:	16496					Analysis Date:	3/15/2017		SeqNo:	668268	
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		25.2		25.00		101	45.4	152					
Surr: Toluene-d8		23.4		25.00		93.5	40.1	139					
Surr: 1-Bromo-4-fluorobenzene		23.9		25.00		95.4	64.2	128					

Sample ID	1703131-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	3/14/2017	RunNo:	34983		
Client ID:	SEEP-PRE-031017	Batch ID:	16496			Analysis Date:	3/15/2017	SeqNo:	668251		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	2.42	0.200						1.747	32.4	30	R
1,1-Dichloroethene	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
cis-1,2-Dichloroethene	25.0	1.00						18.88	27.7	30	



Work Order: 1703131
CLIENT: Floyd | Snider
Project: Olympia Dry Cleaner

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	1703131-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	3/14/2017	RunNo:	34983		
Client ID:	SEEP-PRE-031017	Batch ID:	16496			Analysis Date:	3/15/2017	SeqNo:	668251		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	7.82	0.500						7.632	2.48	30	
Tetrachloroethene (PCE)	12.8	1.00						12.58	1.75	30	
Surr: Dibromofluoromethane	25.3		25.00		101	45.4	152		0		
Surr: Toluene-d8	23.2		25.00		92.8	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	23.5		25.00		94.0	64.2	128		0		

NOTES:

R - High RPD observed. The method is in control as indicated by the LCS.

Sample ID	1703131-007ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	3/14/2017	RunNo:	34983		
Client ID:	SEEP-POST-031017	Batch ID:	16496			Analysis Date:	3/15/2017	SeqNo:	668258		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	1.30	0.200						1.323	2.09	30	
1,1-Dichloroethene	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
cis-1,2-Dichloroethene	7.19	1.00						8.252	13.8	30	
Trichloroethene (TCE)	1.86	0.500						2.478	28.6	30	
Tetrachloroethene (PCE)	2.30	1.00						3.433	39.6	30	R
Surr: Dibromofluoromethane	25.6		25.00		103	45.4	152		0		
Surr: Toluene-d8	22.5		25.00		89.9	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	23.6		25.00		94.4	64.2	128		0		

NOTES:

R - High RPD observed. The method is in control as indicated by the LCS.



Date: 3/17/2017

Work Order: 1703131
CLIENT: Floyd | Snider
Project: Olympia Dry Cleaner

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

Sample ID	LCS-16486	SampType:	LCS	Units:	mg/Kg	Prep Date:	3/13/2017	RunNo:	34909		
Client ID:	LCSS	Batch ID:	16486			Analysis Date:	3/13/2017	SeqNo:	666889		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.836	0.00200	1.000	0	83.6	44	142				
1,1-Dichloroethene	0.933	0.0500	1.000	0	93.3	49.7	142				
trans-1,2-Dichloroethene	0.981	0.0200	1.000	0	98.1	68	130				
cis-1,2-Dichloroethene	1.00	0.0200	1.000	0	100	71.3	135				
Trichloroethene (TCE)	1.05	0.0200	1.000	0	105	65.5	137				
Tetrachloroethene (PCE)	0.959	0.0200	1.000	0	95.9	52.7	150				
Surr: Dibromofluoromethane	1.21		1.250		97.0	56.5	129				
Surr: Toluene-d8	1.26		1.250		101	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.27		1.250		102	63.1	141				

Sample ID	MB-16486	SampType:	MBLK		Units:	mg/Kg		Prep Date:	3/13/2017		RunNo:	34909	
Client ID:	MBLKS	Batch ID:	16486					Analysis Date:	3/13/2017		SeqNo:	666890	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual
Vinyl chloride		ND	0.00200										
1,1-Dichloroethene		ND	0.0500										
trans-1,2-Dichloroethene		ND	0.0200										
cis-1,2-Dichloroethene		ND	0.0200										
Trichloroethene (TCE)		ND	0.0200										
Tetrachloroethene (PCE)		ND	0.0200										
Surr: Dibromofluoromethane		1.16		1.250		92.5	56.5	129					
Surr: Toluene-d8		1.23		1.250		98.7	64.5	151					
Surr: 1-Bromo-4-fluorobenzene		1.21		1.250		96.6	63.1	141					

Sample ID	1703137-001BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	3/13/2017	RunNo:	34909		
Client ID:	BATCH	Batch ID:	16486			Analysis Date:	3/13/2017	SeqNo:	666884		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.00194						0		30	
1,1-Dichloroethene	ND	0.0485						0		30	

Work Order: 1703131
CLIENT: Floyd | Snider
Project: Olympia Dry Cleaner

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	1703137-001BDUP	SampType:	DUP	Units:	mg/Kg-dry	Prep Date:	3/13/2017	RunNo:	34909		
Client ID:	BATCH	Batch ID:	16486			Analysis Date:	3/13/2017	SeqNo:	666884		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	ND	0.0194						0		30	
cis-1,2-Dichloroethene	ND	0.0194						0		30	
Trichloroethene (TCE)	ND	0.0194						0		30	
Tetrachloroethene (PCE)	ND	0.0194						0		30	
Surr: Dibromofluoromethane	1.11		1.214		91.6	56.5	129		0		
Surr: Toluene-d8	1.19		1.214		98.4	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.17		1.214		96.4	63.1	141		0		

Sample ID	1703130-003BMS	SampType:	MS	Units:	mg/Kg-dry	Prep Date:	3/13/2017	RunNo:	34909		
Client ID:	BATCH	Batch ID:	16486			Analysis Date:	3/14/2017	SeqNo:	666881		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.638	0.00163	0.8126	0	78.5	51.2	146				
1,1-Dichloroethene	0.577	0.0406	0.8126	0	71.1	61.9	141				
trans-1,2-Dichloroethene	0.664	0.0163	0.8126	0	81.7	52	136				
cis-1,2-Dichloroethene	0.797	0.0163	0.8126	0	98.0	58.6	136				
Trichloroethene (TCE)	0.832	0.0163	0.8126	0	102	68.6	132				
Tetrachloroethene (PCE)	0.755	0.0163	0.8126	0	92.9	35.6	158				
Surr: Dibromofluoromethane	0.961		1.016		94.7	56.5	129				
Surr: Toluene-d8	1.02		1.016		100	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.03		1.016		101	63.1	141				

Sample ID	1703130-003BMSD	SampType:	MSD	Units:	mg/Kg-dry	Prep Date:	3/13/2017	RunNo:	34909		
Client ID:	BATCH	Batch ID:	16486			Analysis Date:	3/14/2017	SeqNo:	666882		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.598	0.00163	0.8126	0	73.6	51.2	146	0.6378	6.49	30	
1,1-Dichloroethene	0.551	0.0406	0.8126	0	67.8	61.9	141	0.5774	4.66	30	
trans-1,2-Dichloroethene	0.657	0.0163	0.8126	0	80.9	52	136	0.6639	1.03	30	
cis-1,2-Dichloroethene	0.764	0.0163	0.8126	0	94.0	58.6	136	0.7967	4.17	30	



Work Order: 1703131
CLIENT: Floyd | Snider
Project: Olympia Dry Cleaner

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	1703130-003BMSD	SampType:	MSD	Units:			mg/Kg-dry	Prep Date:		3/13/2017	RunNo:		34909
Client ID:	BATCH	Batch ID:	16486	Analysis Date:					3/14/2017	SeqNo:			666882
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Trichloroethene (TCE)	0.786	0.0163	0.8126	0	96.8	68.6	132	0.8320	5.64	30			
Tetrachloroethene (PCE)	0.707	0.0163	0.8126	0	87.0	35.6	158	0.7545	6.53	30			
Surr: Dibromofluoromethane	0.963		1.016		94.9	56.5	129		0				
Surr: Toluene-d8	1.01		1.016		99.8	64.5	151		0				
Surr: 1-Bromo-4-fluorobenzene	1.03		1.016		101	63.1	141		0				

Client Name: **FS**
 Logged by: **Clare Griggs**

Work Order Number: **1703131**
 Date Received: **3/10/2017 5:43:00 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:	<u>Kristen Anderson</u>	Date	<u>3/13/2017</u>
By Whom:	<u>Clare Griggs</u>	Via:	<input checked="" type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<u>Trip Blank</u>		
Client Instructions:	<u>Report Trip Blank</u>		

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	6.8
Sample	8.0

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



Fremont

Analytical

3600 Fremont Ave N.
Seattle, WA 98103

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

Chain of Custody Record and Laboratory Services Agreement

Date: 3/10/17

Laboratory Project No (internal): 1703131

Page: 1 of: 1

Client: Floyd Snider
Address: 601 Union St, Ste 600
City, State, Zip: Seattle, WA 98101
Telephone: 206-292-2078 Fax: 206-682-7867

Project Name: Olympic Dry Cleaner
Project No: GTH-Olympic t-10 Collected by: K. Anderson
Location: 606 Union Ave SE, Olympia, WA
Report To (PM): Lynn Grochala
PM Email: lynn.grochala@floydsnider.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)*														Comments	
				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)		
1 SEEP-PRE-031017	3/10/17	1135	W															★ PCE, TCE, CIS- + trans - 1,2-DCE, 1,1-DCE, vinyl chloride
2 MW-09-031017		1250																
3 MW-14-031017		1330																
4 MW-11-031017		1410																
5 MW-13-031017		1450																
6 MW-06-031017		1530																
7 SEEP-POST-031017		1438	↓															
8 CARBON-031017	ENV	1433	SL															
9 TRIP BLANK	2/24/17	1600	W															
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 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:

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 [Signature] Date/Time 3/10/17 1743 Received [Signature] Date/Time 3/10/17 1743
Relinquished _____ Date/Time _____ Received _____ Date/Time _____

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance



Fremont
Analytical

3600 Fremont Ave. N.
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info@fremontanalytical.com

Floyd | Snider

Lynn Grochala
601 Union St., Suite 600
Seattle, WA 98101

RE: Former Olympia Dry Cleaner

Work Order Number: 1703248

March 27, 2017

Attention Lynn Grochala:

Fremont Analytical, Inc. received 3 sample(s) on 3/22/2017 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260C

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
Laboratory Director

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

CLIENT: Floyd | Snider
Project: Former Olympia Dry Cleaner
Work Order: 1703248

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703248-001	Seep-POST	03/22/2017 2:40 PM	03/22/2017 3:50 PM
1703248-002	Seep-CB	03/22/2017 2:30 PM	03/22/2017 3:50 PM
1703248-003	Trip Blank	03/09/2017 5:55 PM	03/22/2017 3:50 PM

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

Work Order: 1703248

Date Reported: 3/27/2017

Client: Floyd | Snider

Collection Date: 3/22/2017 2:40:00 PM

Project: Former Olympia Dry Cleaner

Lab ID: 1703248-001

Matrix: Water

Client Sample ID: Seep-POST

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

Batch ID: 16593

Analyst: NG

Vinyl chloride	1.28	0.200		µg/L	1	3/25/2017 10:06:28 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/25/2017 10:06:28 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/25/2017 10:06:28 AM
cis-1,2-Dichloroethene	9.95	1.00		µg/L	1	3/25/2017 10:06:28 AM
Trichloroethene (TCE)	4.14	0.500		µg/L	1	3/25/2017 10:06:28 AM
Tetrachloroethene (PCE)	4.75	1.00		µg/L	1	3/25/2017 10:06:28 AM
Surr: Dibromofluoromethane	106	45.4-152		%Rec	1	3/25/2017 10:06:28 AM
Surr: Toluene-d8	83.4	40.1-139		%Rec	1	3/25/2017 10:06:28 AM
Surr: 1-Bromo-4-fluorobenzene	102	64.2-128		%Rec	1	3/25/2017 10:06:28 AM



Analytical Report

Work Order: 1703248

Date Reported: 3/27/2017

Client: Floyd | Snider

Collection Date: 3/22/2017 2:30:00 PM

Project: Former Olympia Dry Cleaner

Lab ID: 1703248-002

Matrix: Water

Client Sample ID: Seep-CB

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

Batch ID: 16593

Analyst: NG

Vinyl chloride	ND	0.200		µg/L	1	3/25/2017 10:36:50 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/25/2017 10:36:50 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/25/2017 10:36:50 AM
cis-1,2-Dichloroethene	1.30	1.00		µg/L	1	3/25/2017 10:36:50 AM
Trichloroethene (TCE)	0.715	0.500		µg/L	1	3/25/2017 10:36:50 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	3/25/2017 10:36:50 AM
Surr: Dibromofluoromethane	104	45.4-152		%Rec	1	3/25/2017 10:36:50 AM
Surr: Toluene-d8	92.5	40.1-139		%Rec	1	3/25/2017 10:36:50 AM
Surr: 1-Bromo-4-fluorobenzene	98.9	64.2-128		%Rec	1	3/25/2017 10:36:50 AM



Date: 3/27/2017

Work Order: 1703248
CLIENT: Floyd | Snider
Project: Former Olympia Dry Cleaner

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

Sample ID	LCS-16593	SampType:	LCS	Units:	µg/L	Prep Date:	3/24/2017	RunNo:	35168		
Client ID:	LCSW	Batch ID:	16593			Analysis Date:	3/24/2017	SeqNo:	672595		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	15.8	0.200	20.00	0	79.2	48	145				
1,1-Dichloroethene	19.3	1.00	20.00	0	96.5	57.5	150				
trans-1,2-Dichloroethene	18.6	1.00	20.00	0	93.1	71.7	129				
cis-1,2-Dichloroethene	21.2	1.00	20.00	0	106	70.2	139				
Trichloroethene (TCE)	19.6	0.500	20.00	0	98.0	65.2	136				
Tetrachloroethene (PCE)	18.7	1.00	20.00	0	93.3	47.5	147				
Surr: Dibromofluoromethane	25.9		25.00		104	45.4	152				
Surr: Toluene-d8	23.1		25.00		92.4	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	23.1		25.00		92.6	64.2	128				

Sample ID	MB-16593	SampType:	MBLK		Units:	µg/L		Prep Date:	3/24/2017		RunNo:	35168	
Client ID:	MBLKW	Batch ID:	16593					Analysis Date:	3/24/2017		SeqNo:	672596	
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	25.7		25.00		103	45.4	152						
Surr: Toluene-d8	22.1		25.00		88.4	40.1	139						
Surr: 1-Bromo-4-fluorobenzene	21.3		25.00		85.2	64.2	128						

Sample ID	1703245-035BDUP	SampType:	DUP	Units:	µg/L	Prep Date:	3/24/2017	RunNo:	35168		
Client ID:	BATCH	Batch ID:	16593			Analysis Date:	3/25/2017	SeqNo:	672580		
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: 1703248
CLIENT: Floyd | Snider
Project: Former Olympia Dry Cleaner

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	1703245-035BDUP	SampType:	DUP			Units:	µg/L			Prep Date:	3/24/2017			RunNo:	35168		
Client ID:	BATCH	Batch ID:	16593			Analysis Date:					3/25/2017			SeqNo:	672580		
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		25.6		25.00		102	45.4	152			0						
Surr: Toluene-d8		22.3		25.00		89.0	40.1	139			0						
Surr: 1-Bromo-4-fluorobenzene		24.4		25.00		97.7	64.2	128			0						

Sample ID	1703277-001AMS	SampType:	MS	Units:	µg/L	Prep Date:	3/24/2017	RunNo:	35168		
Client ID:	BATCH	Batch ID:	16593	Analysis Date:				3/25/2017	SeqNo:	672573	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	21.9	0.200	20.00	0	109	41	165				
1,1-Dichloroethene	22.4	1.00	20.00	0	112	51.6	164				
trans-1,2-Dichloroethene	22.1	1.00	20.00	0	110	63.5	138				
cis-1,2-Dichloroethene	24.3	1.00	20.00	0	121	67.1	123				
Trichloroethene (TCE)	30.8	0.500	20.00	0	154	60.4	134				S
Tetrachloroethene (PCE)	20.0	1.00	20.00	0	99.9	50.3	133				
Surr: Dibromofluoromethane	28.9		25.00		116	45.4	152				
Surr: Toluene-d8	25.7		25.00		103	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	28.6		25.00		115	64.2	128				

NOTES:

S - Outlying spike recoveries were associated with this sample.

Sample ID	1703277-001AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	3/24/2017	RunNo:	35168		
Client ID:	BATCH	Batch ID:	16593	Analysis Date:				3/25/2017	SeqNo:	672574	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	15.6	0.200	20.00	0	77.9	41	165	21.87	33.7	30	R
1,1-Dichloroethene	19.4	1.00	20.00	0	97.2	51.6	164	22.36	14.0	30	
trans-1,2-Dichloroethene	19.0	1.00	20.00	0	94.8	63.5	138	22.06	15.1	30	



Work Order: 1703248
CLIENT: Floyd | Snider
Project: Former Olympia Dry Cleaner

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	1703277-001AMSD	SampType:	MSD		Units:	µg/L		Prep Date:	3/24/2017		RunNo:	35168
Client ID:	BATCH	Batch ID:	16593					Analysis Date:	3/25/2017		SeqNo:	672574
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
cis-1,2-Dichloroethene	19.7	1.00	20.00	0	98.4	67.1	123	24.27	20.9	30	R	
Trichloroethene (TCE)	16.6	0.500	20.00	0	83.1	60.4	134	30.76	59.7	30		
Tetrachloroethene (PCE)	14.9	1.00	20.00	0	74.3	50.3	133	19.99	29.4	30		
Surr: Dibromofluoromethane	27.9		25.00		112	45.4	152		0			
Surr: Toluene-d8	15.9		25.00		63.8	40.1	139		0			
Surr: 1-Bromo-4-fluorobenzene	31.0		25.00		124	64.2	128		0			

NOTES:

R - High RPD observed, spike recoveries are within range.

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

Work Order Number: **1703248**
 Date Received: **3/22/2017 3:50:00 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 ☐

Samples received straight from field

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	2.5
Sample	11.4
Temp Blank	0.5

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



Fremont

Analytical

3600 Fremont Ave N.
Seattle, WA 98103

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

Client:

Address:

City, State, Zip:

Telephone:

Floyd Smider
601 Lynn St Ste 600
Seattle, WA
206-292-2078

Fax:

Chain of Custody Record and Laboratory Services Agreement

Date: 3/23/17

Laboratory Project No (internal): 1703248

Page: 1 of 1

Project Name:

Project No:

Location:

Report To (PM):

PM Email:

Former Olympia Dry Cleaners

GTH-Olympia

Oly, WA

Lynn Grochala

lynn.grochala@floydsmdr.com

Collected by:

LG

*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

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water																				
Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*															Comments		
				VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	SVOCS (EPA 8270 / 625)	PAHs (EPA 8270 - SIM / 625)	PCBs (EPA 8082 / 608)	Metals** (EPA 8020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	CVOC*				
1 Seep-POST	3/22/17	1440	W														X			* project coc list
2 Seep-CB	3/22/17	1430	W														X			
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 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.)

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	3/23/17 1550	x	3/22/2017 1550
Relinquished	Date/Time	Received	Date/Time
x		x	

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

Special Remarks:

3-DAY TAT
Smp date 3/22

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

*Please coordinate with the lab in advance



Fremont
Analytical

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: GTH-Olympia
Work Order Number: 1703346

April 05, 2017

Attention Lynn Grochala:

Fremont Analytical, Inc. received 1 sample(s) on 3/30/2017 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260C

This report consists of the following:

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

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

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
Laboratory Director

CLIENT: Floyd | Snider
Project: GTH-Olympia
Work Order: 1703346

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1703346-001	SEEP-POST-033017	03/30/2017 1:25 PM	03/30/2017 3:12 PM

CLIENT: Floyd | Snider
Project: GTH-Olympia

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: 1703346
Date Reported: 4/5/2017

Client: Floyd | Snider

Collection Date: 3/30/2017 1:25:00 PM

Project: GTH-Olympia

Lab ID: 1703346-001

Matrix: Water

Client Sample ID: SEEP-POST-033017

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

Batch ID: 16679

Analyst: NG

Vinyl chloride	ND	0.200		µg/L	1	4/4/2017 8:09:12 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	4/4/2017 8:09:12 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/4/2017 8:09:12 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/4/2017 8:09:12 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/4/2017 8:09:12 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	4/4/2017 8:09:12 AM
Surr: Dibromofluoromethane	100	45.4-152		%Rec	1	4/4/2017 8:09:12 AM
Surr: Toluene-d8	92.7	40.1-139		%Rec	1	4/4/2017 8:09:12 AM
Surr: 1-Bromo-4-fluorobenzene	96.9	64.2-128		%Rec	1	4/4/2017 8:09:12 AM

Work Order: 1703346
CLIENT: Floyd | Snider
Project: GTH-Olympia

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-16679	SampType:	LCS	Units:	µg/L	Prep Date:	4/3/2017	RunNo:	35304		
Client ID:	LCSW	Batch ID:	16679	Analysis Date:				4/3/2017	SeqNo:	675677	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl chloride	19.7	0.200	20.00	0	98.7	48	145				
1,1-Dichloroethene	22.6	1.00	20.00	0	113	57.5	150				
trans-1,2-Dichloroethene	21.3	1.00	20.00	0	106	71.7	129				
cis-1,2-Dichloroethene	20.6	1.00	20.00	0	103	70.2	139				
Trichloroethene (TCE)	22.1	0.500	20.00	0	110	65.2	136				
Tetrachloroethene (PCE)	22.6	1.00	20.00	0	113	47.5	147				
Surr: Dibromofluoromethane	24.9		25.00		99.7	45.4	152				
Surr: Toluene-d8	24.9		25.00		99.6	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	24.3		25.00		97.3	64.2	128				

Sample ID	MB-16679	SampType:	MBLK	Units:	µg/L	Prep Date:	4/3/2017	RunNo:	35304		
Client ID:	MBLKW	Batch ID:	16679			Analysis Date:	4/3/2017	SeqNo:	675678		
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	25.5		25.00		102	45.4	152				
Surr: Toluene-d8	24.1		25.00		96.4	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	20.9		25.00		83.6	64.2	128				

Sample ID	1703314-005FDUP	SampType:	DUP	Units:	µg/L	Prep Date:	4/3/2017	RunNo:	35304		
Client ID:	BATCH	Batch ID:	16679			Analysis Date:	4/3/2017	SeqNo:	675663		
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: 1703346
CLIENT: Floyd | Snider
Project: GTH-Olympia

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	1703314-005FDUP	SampType:	DUP	Units:	µg/L	Prep Date:	4/3/2017	RunNo:	35304		
Client ID:	BATCH	Batch ID:	16679			Analysis Date:	4/3/2017	SeqNo:	675663		
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	24.8		25.00		99.1	45.4	152		0		
Surr: Toluene-d8	25.1		25.00		100	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	23.5		25.00		94.0	64.2	128		0		

Sample ID	1703314-003FMS	SampType:	MS			Units:	µg/L			Prep Date:	4/3/2017			RunNo:	35304			
Client ID:	BATCH	Batch ID:	16679			Analysis Date:						4/3/2017			SeqNo:	675659		
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual						
Vinyl chloride		16.2	0.200	20.00	0	80.8	41	165										
1,1-Dichloroethene		19.4	1.00	20.00	0	97.0	51.6	164										
trans-1,2-Dichloroethene		20.3	1.00	20.00	0	102	63.5	138										
cis-1,2-Dichloroethene		20.0	1.00	20.00	0	99.8	67.1	123										
Trichloroethene (TCE)		18.3	0.500	20.00	0	91.3	60.4	134										
Tetrachloroethene (PCE)		18.3	1.00	20.00	0	91.5	50.3	133										
Surr: Dibromofluoromethane		26.6		25.00		106	45.4	152										
Surr: Toluene-d8		20.8		25.00		83.1	40.1	139										
Surr: 1-Bromo-4-fluorobenzene		27.1		25.00		108	64.2	128										

Sample ID	1703314-003FMSD	SampType: MSD	Units: µg/L			Prep Date: 4/3/2017			RunNo: 35304		
Client ID:	BATCH	Batch ID:	16679			Analysis Date: 4/3/2017			SeqNo: 675660		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	20.5	0.200	20.00	0	102	41	165	16.16	23.6	30	
1,1-Dichloroethene	22.0	1.00	20.00	0	110	51.6	164	19.41	12.6	30	
trans-1,2-Dichloroethene	21.8	1.00	20.00	0	109	63.5	138	20.30	7.13	30	
cis-1,2-Dichloroethene	22.2	1.00	20.00	0	111	67.1	123	19.96	10.5	30	

Work Order: 1703346
CLIENT: Floyd | Snider
Project: GTH-Olympia

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	1703314-003FMSD	SampType:	MSD	Units:	µg/L	Prep Date:	4/3/2017	RunNo:	35304		
Client ID:	BATCH	Batch ID:	16679			Analysis Date:	4/3/2017	SeqNo:	675660		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	22.1	0.500	20.00	0	110	60.4	134	18.26	18.9	30	
Tetrachloroethene (PCE)	22.9	1.00	20.00	0	115	50.3	133	18.29	22.6	30	
Surr: Dibromofluoromethane	24.7		25.00		98.9	45.4	152		0		
Surr: Toluene-d8	24.5		25.00		98.0	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	24.6		25.00		98.4	64.2	128		0		

Sample ID	1703089-004CDUP	SampType:	DUP	Units:	µg/L	Prep Date:	4/3/2017	RunNo:	35304		
Client ID:	BATCH	Batch ID:	16679			Analysis Date:	4/4/2017	SeqNo:	675655		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200						0		30	H
1,1-Dichloroethene	ND	1.00						0		30	H
trans-1,2-Dichloroethene	ND	1.00						0		30	H
cis-1,2-Dichloroethene	ND	1.00						0		30	H
Trichloroethene (TCE)	ND	0.500						0		30	H
Tetrachloroethene (PCE)	ND	1.00						0		30	H
Surr: Dibromofluoromethane	24.6		25.00		98.5	45.4	152		0		H
Surr: Toluene-d8	24.5		25.00		98.2	40.1	139		0		H
Surr: 1-Bromo-4-fluorobenzene	24.0		25.00		96.0	64.2	128		0		H

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

Work Order Number: **1703346**
 Date Received: **3/30/2017 3:12:00 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 ☐

Samples received straight from field

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 ☒

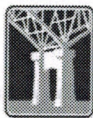
Person Notified: Date
 By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
 Regarding:
 Client Instructions:

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	8.8
Sample	13.2
Temp Blank	10.8

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



Fremont
Analytical

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

Chain of Custody Record & Laboratory Services Agreement

Date: 3/30/17 Page: 1 of: 1

Laboratory Project No (internal): 1703346

Page 10 of 10

Client: Floyd / Snider
Address: 601 Union St, Ste 600
City, State, Zip: Seattle, WA 98101
Telephone: 206-292-2078

Project Name: GTH - Olympia
Project No: task 11
Collected by: K. Anderson
Location: 606 Union Ave SE
Report To (PM): Lynn Grochala
PM Email: lynn.grochala@floydsnider.com

Special Remarks:
Sample Disposal: ☐ Return to client ☒ Disposal by lab (after 30 days)

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 (DH)														SVOCs (EPA 8270 / 625)														PAHs (EPA 8270 - SIM)														PCBs (EPA 8082 / 608)														Metals** (EPA 6020 / 200.8)														Total (T) Dissolved (D)														Anions (IC)**														EDB (8011)														*CVOL list:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
				PCE, TCE, CB - + trans 1,2-DCB, 1,1-DCB, vinyl chloride																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

**Metals (Circle): 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

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

Relinquished [Signature] Date/Time 3/30/17 1512

Received [Signature] Date/Time 3/30/17 1512

Relinquished [Signature] Date/Time

Received [Signature] Date/Time

Turn-around Time:

- ☒ Standard
☐ 3 Day
☐ 2 Day
☐ Next Day
Same Day _____ (specify)

Attachment 2
Field Forms

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: GTH - Olympia
Project Number: 4.10

Date of Collection: 3/10/17
Field Personnel: K. Anderson

Purge Data

Well ID: MW-06 Secure: ☒ Yes ☐ No Well Condition/Damage Description: non-standard 1/2"

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): ~4 gal
Depth of water (from top of well casing): 0.65 ft Well Casing Type/Diameter/Screened Interval: 3/4" PVC, 10-20 ft

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

Begin purge (time): 1505

End purge (time): 1525

Volume purged: 1 liter

Purge water disposal method: ground

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 °C	ORP mV	Comments
1510	X	0.25	6.67	1.86	277.5	11.1	11.4	-33.5	on-productive well -
1515	X	0.5	6.51	1.39	245.6	17.9	12.0	-55.4	pumping v.
1520	X	0.75	6.52	1.11	365.1	33.8	12.7	-79.4	slowly to avoid
1525	X	1.0	6.52	1.06	404.8	40.6	13.0	-85.4	drawdown
	(3/4" well)								

Sampling Data

Sample No: MW-06-031017 Location and Depth: MW-06, 15 ft

Date Collected (mo/dy/yr): 3/10/17 Time Collected: 1530 Weather: cool, clear

Type: ☒ Ground Water ☐ Surface Water Other: ————— Sample: ☐ Filtered ☒ Unfiltered Other: —————

Sample Collected with: ☐ Bailor ☒ Pump Other: ————— Type: peri.

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI probss

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 vial w/ HCL	3	N/A	

Signature: [Signature] Date: 3/10/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: 6TH - Olympia

Date of Collection: 3/10/12

Project Number: 6-10

Field Personnel: K. Anderson

Purge Data

Well ID: MW-01 Secure: ☒ Yes ☐ No

Well Condition/Damage Description: good, new lock

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

One Casing Volume (gal): ~0.5 gal

Depth of water (from top of well casing): 3.22

Well Casing Type/Diameter/Screened Interval: 2" PVC, 3-6 ft

After 5 minutes of purging (from top of casing): 3.33 ft

Begin purge (time): 1223

End purge (time): 1248

Volume purged: 5 L

Purge water disposal method: french drain

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 ft	Vol. Purged L	pH	DO mg/L	Conductivity $\mu S/cm$	Turbidity NTU	Temp $^{\circ}C$	ORP mV	Comments
1228	3.33	1	7.16	1.95	210.6	26.6	12.0	-98.1	air bubbles
1233	3.35	2	7.16	1.40	213.5	25.3	12.1	-110.4	may be affecting
1238	3.35	3	7.11	1.14	229.6	17.6	12.5	-115.1	turb. meas
1243	3.38	4	7.08	1.05	242.6	23.7	12.4	-117.7	
1248	3.38	5	7.05	1.09	248.1	23.4	12.1	-118.0	

Sampling Data

Sample No: MW-09-031017

Location and Depth: MW-09, 4.5 ft

Date Collected (mo/dy/yr): 3/10/12 Time Collected: 1250

Weather: cool, breezy

Type: ☒ Ground Water ☐ Surface Water Other: _____

Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: peri

Type: _____

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI pro DSS

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): yellow tint, 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 40mL VOA w/HCl		none	

Signature: [Signature]

Date: 3/10/12

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: GTH-Olympic
Project Number: 10

Date of Collection: 3/10/17
Field Personnel: K. Anderson

Purge Data

Well ID: MW-11 Secure: ☒ Yes ☐ No Well Condition/Damage Description: Good, missing 1 bolt

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): ~ 2 gallons
Depth of water (from top of well casing): 4 9/16" (used tape measure) Well Casing Type/Diameter/Screened Interval: 2" PVC, 5 - 10 ft

After 5 minutes of purging (from top of casing): 9 1/8"

Begin purge (time): 1345

End purge (time): 1405

Volume purged: 4L

Purge water disposal method: ground

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 inches	Vol. Purged L	pH	DO mg/L	Conductivity $\mu S/cm$	Turbidity NTU	Temp $^{\circ}C$	ORP mV	Comments
1350	9 1/8	1	7.36	2.13	154.4	-0.9	9.7	-84.0	
1355	9 5/8	2	7.27	1.49	159.8	-0.7	9.7	-96.3	
1400	9 5/8	3	7.24	1.26	160.7	-0.3	9.7	-100.3	
1405	9 5/8	4	7.23	1.14	164.7	-0.5	9.6	-103.6	

Sampling Data

Sample No: MW-11-031617 Location and Depth: MW-11, 7.5 ft

Date Collected (mo/dy/yr): 3/10/17 Time Collected: 1410 Weather: cool, clear

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

Sample Collected with: ☐ Bailer ☒ Pump Other: Type: puri.

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI pro DSS

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>40mL VOA w/HCl</u>	<u>3</u>	<u>none</u>	

Signature: [Signature] Date: 3/10/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: GT4 - Olympia
Project Number: t-10

Date of Collection: 3/10/17
Field Personnel: K. Anderson

Purge Data

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

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): ~2 gal
Depth of water (from top of well casing): 1 7/8" (approx) Well Casing Type/Diameter/Screened Interval: 2" PVC, 4.5 - 9.5 ft

After 5 minutes of purging (from top of casing): 1.52 ft

Begin purge (time): 1420

End purge (time): 1445

Volume purged: 5 L

Purge water disposal method: ground

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 <u>ft</u>	Vol. Purged <u>L</u>	pH	DO <u>mg/L</u>	Conductivity <u>uS/cm</u>	Turbidity <u>NTU</u>	Temp <u>°C</u>	ORP <u>mV</u>	Comments
<u>1425</u>	<u>1.52</u>	<u>1</u>	<u>7.95</u>	<u>1.77</u>	<u>182.1</u>	<u>-1.5</u>	<u>9.9</u>	<u>-109.9</u>	
<u>1430</u>	<u>1.97</u>	<u>2</u>	<u>8.09</u>	<u>1.29</u>	<u>182.0</u>	<u>-1.7</u>	<u>9.9</u>	<u>-125.9</u>	
<u>1435</u>	<u>2.08</u>	<u>3</u>	<u>8.14</u>	<u>1.13</u>	<u>181.8</u>	<u>-1.8</u>	<u>10.0</u>	<u>-132.1</u>	
<u>1440</u>	<u>2.08</u>	<u>4</u>	<u>8.17</u>	<u>1.01</u>	<u>182.2</u>	<u>-1.7</u>	<u>10.0</u>	<u>-138.3</u>	
<u>1445</u>	<u>2.06</u>	<u>5</u>	<u>8.14</u>	<u>0.97</u>	<u>182.4</u>	<u>-1.7</u>	<u>9.9</u>	<u>-140.4</u>	

Sampling Data

Sample No: MW-13-031017 Location and Depth: MW-13, 7 ft

Date Collected (mo/dy/yr): 3/10/17 Time Collected: 1450 Weather: cool, clear

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

Sample Collected with: ☐ Bailor ☒ Pump Other: Type: per

Water Quality Instrument Data Collected with: Type: ☐ Horiba U-22 ☐ Horiba U-50 Other: YSI prodSS

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) ☐ CVOCs (HCl) ☒

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
<u>40 mL VOA w/HCl</u>	<u>3</u>	<u>none</u>	

Signature: [Signature] Date: 3/10/17

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project Name: GTH- Olympia
Project Number: 1-10

Date of Collection: 3/10/17
Field Personnel: K. Anderson

Purge Data

Well ID: MW-14 Secure: ☒ Yes ☐ No Well Condition/Damage Description: good

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☒ No NA One Casing Volume (gal): ~3 gal

Depth of water (from top of well casing): artesian Well Casing Type/Diameter/Screened Interval: 2" PVC, 10-15 ft (angled)

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

Begin purge (time): 1305

End purge (time): 1325

Volume purged: 4 L

Purge water disposal method: french drain

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	pH	DO mg/L	Conductivity us/cm	Turbidity NTU	Temp °C	ORP MV	Comments
1310	artesian	1	7.48	1.86	168.3	8.6	11.4	-89.0	
1315	↓	2	7.37	1.38	169.6	1.5	11.4	-109.6	
1320	↓	3	7.36	1.08	172.8	1.4	11.5	-116.8	
1325	↓	4	7.37	0.99	177.3	7.5	11.6	-122.8	

Sampling Data

Sample No: MW-14-031017 Location and Depth: MW-14, 12.5 ft

Date Collected (mo/dy/yr): 3/10/17 Time Collected: 1330 Weather: cool, clear

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

Sample Collected with: ☐ Bailer ☒ Pump Other: pri Type: YSI pro DSS

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:
40mL VOA w/ HCl	3	NA	

Signature: [Signature] Date: 3/10/17



Fremont

Analytical

3600 Fremont Ave N.
Seattle, WA 98103

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

Chain of Custody Record and Laboratory Services Agreement

Date: 3/10/17

Laboratory Project No (internal): _____

Page: 1 of: 1

Client: Floyd Snider
Address: 601 Union St, Ste 600
City, State, Zip: Seattle, WA 98101
Telephone: 206-242-7078 Fax: 206-682-7867

Project Name: Olympia Dry Cleaner
Project No: 6711-Olympia-1-10 Collected by: K. Anderson
Location: 606 Union Ave SE, Olympia, WA
Report To (PM): Lynn Grochala
PM Email: lynn.grochala@floydsnider.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	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	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)	Comments
1 SEEP-PRE - 03/10/17	3/10/17	1135	W												★ PCE, TCE, CIS- + trans-1,2-DCE, 1,1-DCE, vinyl chloride
2 MW-09-03/10/17		1250													
3 MW-14-03/10/17		1330													
4 MW-11-03/10/17		1410													
5 MW-13-03/10/17		1450													
6 MW-06-03/10/17		1530													
7 SEEP-POST - 03/10/17		1438	↓												
8 CARRIN - 03/10/17		1433	SL												
9 TRIP-BLANK			W												
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 O-Phosphate Fluoride Nitrate+Nitrite Turn-around times for samples received after 4:00pm will begin on the following business day. Special Remarks:

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.)

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 <u>[Signature]</u>	<u>3/10/17 1743</u>	x <u>[Signature]</u>	<u>3/10/17 1743</u>
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day STD

^Please coordinate with the lab in advance