Associated Environmental Group, LLC

August 9, 2021

Mr. Steve Teel
Washington State Department of Ecology
Toxics Cleanup Program, Southwest Regional Office
P.O. Box 47775
Olympia, Washington 98504-7775
stee461@ecy.wa.gov

RE: ***June 2021 Seep Monitoring Report***
Former Olympia Dry Cleaners
606 Union Avenue SE
Olympia, Washington 98501-1430
AEG Project No. 19-222

Dear Mr. Teel:

Associated Environmental Group, LLC (AEG) has prepared the enclosed ***Seep Monitoring Report*** presenting results of seep sampling and analysis activities conducted on June 21, 2021 at the above-referenced site in Olympia, Washington (Site). Currently, on-Site monitoring wells are sampled on a 15-month frequency, and seep locations at the seep source (SEEP) and downgradient of the filter sock (SEEP-POST) are sampled semi-annually. However, a third location (at the downgradient catchbasin, SEEP-CB) was also sampled during this event as the catchbasin is the point of compliance for discharge into surface water. The location of the Site is illustrated on Figure 1, *Site Vicinity Map.* Locations of Site features, previous sample locations, and monitoring wells, and seep sample locations are detailed in Figure 2, *Site Map.* Seep sample locations are detailed in Figure 3, *Source Removal Areas and Compliance Monitoring Locations.*

WORK PERFORMED [June 2020]:

- Sampled the seep at the source (SEEP), downgradient of the filter sock (SEEP-POST), and at the catchbasin (SEEP-CB).

WORK PROPOSED [Sept 2021 – Groundwater Monitoring; Dec 2021 – Seep Monitoring]:

- Obtain depth to groundwater data in five groundwater wells (MW-06, MW-09, MW-11, MW-13, and MW-14).
- Purge and sample three groundwater monitoring wells (MW-09, MW-11, and MW-14).
- Sample the seep at the source (SEEP), downgradient of the filter sock (SEEP-POST), and at the downgradient catchbasin (SEEP-CB).

DISCUSSION:

Constituents of concern (COCs) were detected in seep samples SEEP and SEEP-POST below MTCA cleanup levels for surface water, which have been established for comparison of seep data. Detected concentrations are summarized below. Analytical results for this sampling event, and historical analytical results, are presented in the attached Table 1, *Summary of Groundwater Seep Analytical Results*.

	June 2021				
Sample ID	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl chloride
SEEP	**1.6**	**1.4**	**29**	<1.0	**2.3**
SEEP-POST	<1.0	<0.4	**5.1**	<1.0	**0.44**
SEEP-CB	<1.0	<0.4	<1.0	<1.0	<0.2
Surface Water Cleanup Levels	3.3	30	NA	10,000	2.4

µg/L = micrograms per liter
PCE = Tetrachloroethylene
TCE = Trichloroethylene
DCE = Dichloroethylene
NA = Not Applicable; no cleanup level has been established for this constituent.

SEEP: PCE, TCE, cis-1-2-DCE, and vinyl chloride were detected **below** their respective surface water cleanup levels.

SEEP-POST: cis-1-2-DCE and vinyl chloride were detected **below** their respective surface water cleanup levels.

SEEP-CB: All COCs were non-detect.

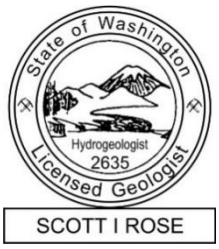
CLOSING:

AEG would appreciate the opportunity to discuss the above recommendations with Ecology at your convenience. Should you have questions or require additional information, please contact our office at 360-352-9835.

Sincerely,

Associated Environmental Group, LLC

Scott Rose, L.H.G.
Senior Hydrogeologist



Attachments: Figure 1, *Site Vicinity Map*
Figure 2, *Site Map*
Figure 3, *Source Removal Areas and Compliance Monitoring Locations*

Table 1 – *Summary of Groundwater Seep Analytical Results*

Appendix A – Laboratory Datasheets

FIGURES

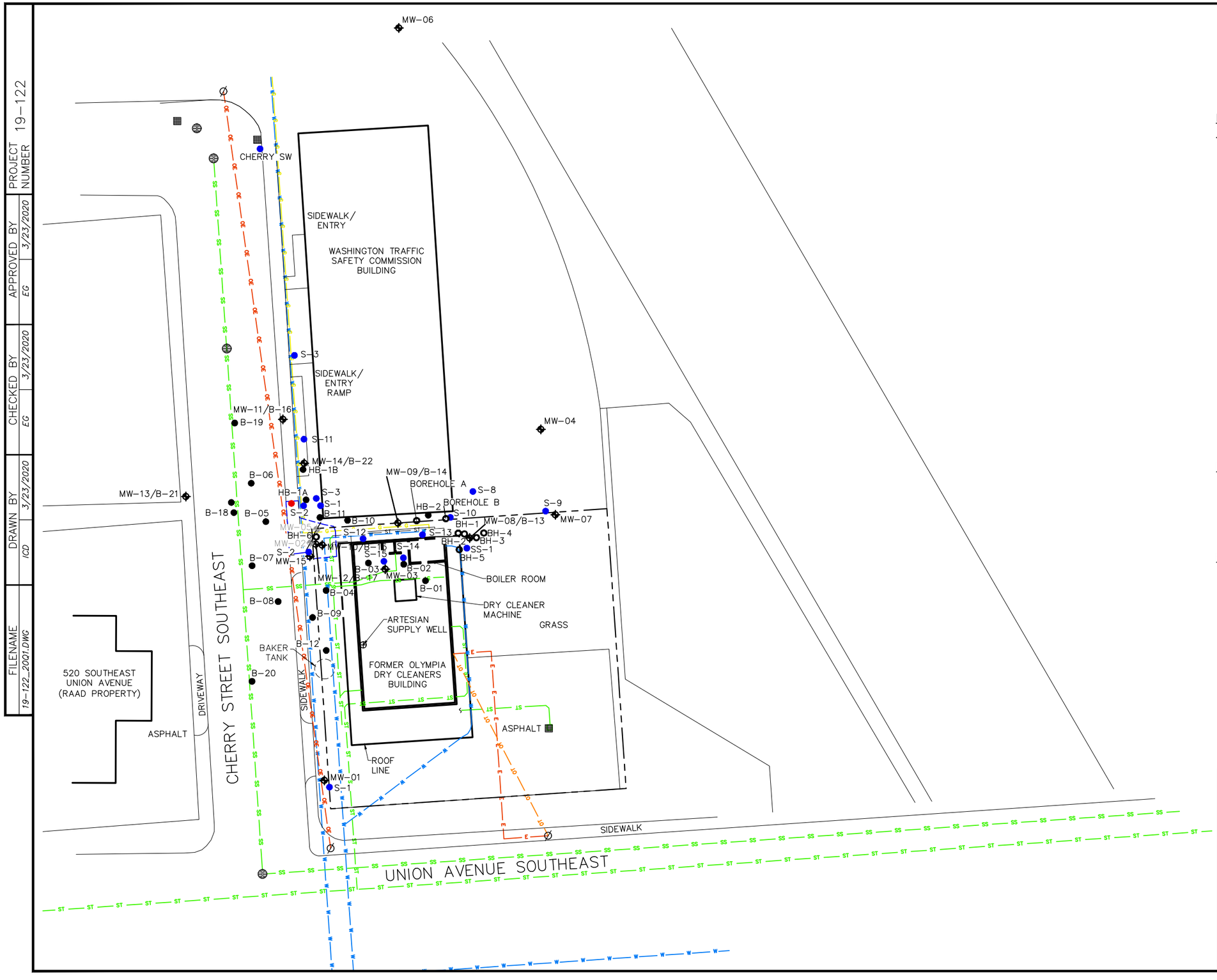
2633 Parkmont Lane SW, Suite A • Olympia, WA • 98502
Phone: 360-352-9835 • Fax: 360-352-8164 • Email: admin@aegwa.com

Associated Environmental Group, LLC

Former Olympia Dry Cleaners Site
Olympia, Washington

Figure 1
Site Vicinity Map

PROJECT NUMBER	19-122
APPROVED BY	EG 3/23/2020
CHECKED BY	EG 3/23/2020
DRAWN BY	ICD 3/23/2020
FILENAME	19-122_2001.DWG



N
W E
S

LEGEND

- PROPERTY BOUNDARY
- MW-08/B-13 — MONITORING WELL LOCATION
- MW-02 — FORMER MONITORING WELL LOCATION (ABANDONED SEPTEMBER 2006)
- B-11 — SOIL BORING LOCATION (SES, 2008)
- BH-1 — SOIL BORING LOCATION (CONREX, 1995)
- S-1 — BORING OR SURFACE SAMPLE LOCATION (STEMEN, 2001-2002)
- SEEP LOCATION
- W — WATER LINE
- E — ELECTRIC LINE
- SS — SANITARY SEWER
- ST — STORM SEWER
- OE — OVERHEAD ELECTRIC LINE
- G — GAS LINE
- OT — OVERHEAD TELEPHONE LINE
- EXCAVATION
- STORM SEWER MANHOLE
- STORM DRAIN/CATCH BASIN
- POWER/UTILITY POLE

NOTES

1. THE LOCATIONS OF ALL FEATURES SHOWN ARE APPROXIMATE
2. THIS DRAWING IS FOR INFORMATION PURPOSES. IT INTENDED TO ASSIST IN SHOWING FEATURES DISCUSSED IN AN ATTACHED DOCUMENT.

REFERENCE

DRAWING CREATED FROM AERIAL PHOTOGRAPH AND NOTES PROVIDED BY AEG, LLC.

0 20 40
SCALE IN FEET

AEG Associated Environmental Group, LLC

FIGURE 2

SITE MAP

OLYMPIA DRY CLEANERS
606 UNION AVE
OLYMPIA, WASHINGTON

Legend

- Compliance Monitoring Well
- Seep Sample Location

Utilities

- E — Underground Electric Line
- GAS — Underground Gas Line
- OE — Overhead Electric Line
- SW — Underground Stormwater Line
- T — Overhead Telephone Line
- W — Underground Water Line
- SS — Underground Sanitary Sewer Line

- Sidewalk
- Concrete Pad
- Building Outline
- Property Boundary
- Building Awning
- Soil Excavation Limits (2015)
- Shrubs/Trees
- Filter Sock

ASPHALT LOT

GRASSY AREA

ASPHALT LOT

UNION AVE SOUTHEAST

MW-06

Cherry Street Q-Tip Trust Building

Boiler Room

Dry Cleaner Machine

MW-09

Former Olympia Dry Cleaners Building

Roof Line

ARTESIAN SUPPLY WELL

MW-14

MW-11

FORMER SEEP AREA

CATCHBASIN

SEEP-CB

SEEP-POST

SEEP

MANHOLE

MANHOLE

MANHOLE

CHERRY STREET SOUTHEAST

MW-13

N

0 12.5 25 50

Scale in Feet

Associated Environmental Group, LLC

Former Olympia Dry Cleaners Site
Olympia, Washington

Figure 3
Source Removal Areas and
Compliance Monitoring Locations

TABLES

2633 Parkmont Lane SW, Suite A • Olympia, WA • 98502
Phone: 360-352-9835 • Fax: 360-352-8164 • Email: admin@aegwa.com

Table 1 - Summary of Groundwater Seep Analytical Results
Olympia Dry Cleaners
Olympia, Washington

Sample Location	Status	Date Collected	Halogenated Volatile Organic Compounds				
			PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
SEEP	Pre-Remediation[1]	7/10/2008	**390**	**580**	**2,500**	**12**	**190**
	Post-Remediation	3/8/2016	**33**	**15**	**110**	<1.0	**15**
		3/30/2016	**23**	**17**	**160**	<1.0	**22**
		6/9/2016	**16**	**18**	**170**	**1.3**	**20**
		9/29/2016	**16**	**30**	**180**	<1.0	**16**
		12/20/2016	**56**	**44**	**110**	<1.0	**10**
		3/10/2017	**13**	**7.6**	**19**	<1.0	**1.8 J**
		6/21/2017	**12**	**8.5**	**57**	<1.0	**6.2**
		10/31/2017	**14**	**19**	**74**	<1.0	**12**
		1/4/2018	**20**	**34**	**138**	<1.0	**7.6**
		3/22/2018	**23**	**17**	**52**	<1.0	**2.45**
		3/30/2018	**19**	**16**	**60**	<1.0	**1.9**
		6/23/2018	**5.4**	**5.4**	**34**	<1.0	**4.7**
		9/30/2018	**1.7**	**5.3**	**45.7**	<1.0	**3.6**
		3/20/2019	**0.96 J**	**3.4**	**48**	<1.0	**1.4**
		7/3/2019	<1.0	**0.68**	**8.5**	<1.0	**0.89**
		12/7/2019	**2.8**	**4.0**	**49.3**	<1.0	**1.6**
		3/3/2020	**2.6**	**2.8**	**37.1**	<1.0	**1.2**
		6/2/2020	**0.63 J**	**1.3**	**26**	<1.0	**4.8**
		12/18/2020	**3.0**	**2.6**	**40**	<1.0	**3.8**
		6/21/2021	**1.6**	**1.4**	**29**	<1.0	**2.3**
SEEP-CB[2]	Pre-Remediation	10/15/2008	<2.0	<1.0	<1.0	<1.0	<1.0
	Post-Remediation	6/9/2016	<1.0	<0.5	**1.8**	<1.0	<0.2
		3/22/2017	<1.0	**0.72**	**1.3**	<1.0	<0.2
		3/30/2018	<1.0	<0.5	<1.0	<1.0	<0.2
		6/21/2021	<1.0	<0.4	<1.0	<1.0	<0.2
SEEP-POST[3]	Post-Remediation	9/29/2016	<1.0	**0.55**	**2.3**	<1.0	**0.62**
		12/20/2016	**10**	**8.0**	**19**	<1.0	**2.2**
		3/10/2017	**3.4 J**	**2.5**	**6.3**	<1.0	**1.3**
		3/22/2017	**4.8**	**4.1**	**10**	<1.0	**1.3**
		3/30/2017	<1.0	<0.50	<1.0	<1.0	<0.20
		6/21/2017	<1.0	<0.50	<1.0	<1.0	<0.20
		10/31/2017	<1.0	**0.58**	**2.5**	<1.0	<0.20
		1/8/2018	<1.0	**0.76**	**2.8**	<1.0	<0.20
		3/22/2018	<1.0	**0.6**	**2.6**	<1.0	<0.20
		3/30/2018	<1.0	<0.50	<1.0	<1.0	<0.20
		6/23/2018	<1.0	<0.50	**2.0**	<1.0	<0.20
		9/30/2018	<1.0	**1.6**	**14.4**	<1.0	**1.5**
		3/20/2019	**4.8**	**12**	**112**	<1.0	**3.6**
		7/3/2019	<1.0	**0.45**	**6.8**	<1.0	**0.61**
		12/7/2019	**0.55 J**	**1.1**	**14.5**	<1.0	**0.43**
		3/3/2020	<1.0	**0.77**	**12.1**	<1.0	**0.48**
		6/2/2020	<1.0	**0.41**	**12**	<1.0	**1.3**
		12/18/2020	<1.0	<1.0	**5.8**	<1.0	<0.20
		6/21/2021	<1.0	<0.4	**5.1**	<1.0	**0.44**
PQL			1.0	1.0	1.0	1.0	0.2
Surface Water Cleanup Levels			3.3	30	NA	10,000	2.4

Notes:

All values reported in micrograms per liter (µg/L)

-- = Not analyzed for constituent

< = Not detected at the listed laboratory detection limits

PQL = Practical Quantification Limit (laboratory detection limit)

Red Bold indicates the detected concentration exceeds Ecology MTCA Method A cleanup level

Bold indicates the detected concentration is below Ecology MTCA Method A cleanup levels

* MTCA Method B cleanup level; Method A cleanup level not established

PCE = Tetrachloroethylene

TCE = Trichloroethylene

DCE = Dichloroethylene

[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.

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

NA = Not Applicable; no cleanup level has been established for this constituent.

APPENDIX A

LABORATORY DATASHEETS

2633 Parkmont Lane SW, Suite A • Olympia, WA • 98502
Phone: 360-352-9835 • Fax: 360-352-8164 • Email: admin@aegwa.com

Libby Environmental, Inc.
3322 South Bay Road NE • Olympia, WA 98506-2957

June 24, 2021

Scott Rose
Associated Environmental Group, LLC
2633 Parkmont Lane SW, Suite A
Olympia, WA 98502

Dear Mr. Rose:

Please find enclosed the analytical data report for the Former Olympia Dry Cleaners Project located in Olympia, Washington.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. The sample(s) will be disposed of within 30 days unless we are contacted to arrange long term storage.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry L. Chilcutt
Senior Chemist
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@gmail.com

Libby Environmental, Inc.

3322 South Bay Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@gmail.com

FORMER OLYMPIA DRY CLEANERS PROJECT
AEG, LLC
Olympia, Washington
Libby Project # L210621-1
Client Project # 19-222

Volatile Organic Compounds by EPA Method 8260D in Water

Sample Description		Method Blank	SEEP-CATCH	SEEP-POST	SEEP-1
Date Sampled		N/A	6/21/2021	6/21/2021	6/21/2021
Date Analyzed	PQL (µg/L)	6/23/2021 (µg/L)	6/23/2021 (µg/L)	6/23/2021 (µg/L)	6/23/2021 (µg/L)
Vinyl Chloride (VC)	0.2	nd	nd	0.44	2.3
1,1-Dichloroethene	0.5	nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd	nd	5.1	29
Trichloroethene (TCE)	0.4	nd	nd	nd	1.4
Tetrachloroethene (PCE)	1.0	nd	nd	nd	1.6
Surrogate Recovery					
Dibromofluoromethane		82	82	79	77
1,2-Dichloroethane-d4		95	112	110	114
Toluene-d8		111	100	100	100
4-Bromofluorobenzene		108	97	98	97

"nd" Indicates not detected at listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 65% TO 135%

ANALYSES PERFORMED BY: Melissa Harrington

Libby Environmental, Inc.

3322 South Bay Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@gmail.com

FORMER OLYMPIA DRY CLEANERS PROJECT
AEG, LLC
Olympia, Washington
Libby Project # L210621-1
Client Project # 19-222

QA/QC for Volatile Organic Compounds by EPA Method 8260D in Water

Matrix Spike Sample Identification: L210618-2

Date Analysed: 6/23/2021

	Spiked Conc. (µg/L)	MS Response (µg/L)	MSD Response (µg/L)	MS Recovery (%)	MSD Recovery (%)	RPD (%)	Limits Recovery (%)	Data Flag
Vinyl Chloride (VC)	5.0	4.9	5.0	99	99	0.5	65-135	
1,1-Dichloroethene	5.0	5.5	5.8	110	116	5.3	65-135	
trans-1,2-Dichloroethene	5.0	5.4	4.9	108	98	9.2	65-135	
cis-1,2-Dichloroethene	5.0	5.3	5.1	105	102	2.9	65-135	
Trichloroethene (TCE)	5.0	5.1	6.0	102	120	16.1	65-135	
Tetrachloroethene (PCE)	5.0	5.5	5.8	110	116	4.7	65-135	

Surrogate Recovery (%)	MS	MSD	
Dibromofluoromethane	74	79	65-135
1,2-Dichloroethane-d4	99	102	65-135
Toluene-d8	105	106	65-135
4-Bromofluorobenzene	104	103	65-135

ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Melissa Harrington

Laboratory Control Sample

Date Analyzed: 6/23/2021

	Spiked Conc. (µg/L)	LCS Response (µg/L)	LCS Recovery (%)	LCS Recovery Limits (%)	Data Flag
Vinyl Chloride (VC)	5.0	5.0	100	80-120	
1,1-Dichloroethene	5.0	5.9	119	80-120	
trans-1,2-Dichloroethene	5.0	5.7	114	80-120	
cis-1,2-Dichloroethene	5.0	5.8	115	80-120	
Trichloroethene (TCE)	5.0	5.6	111	80-120	
Tetrachloroethene (PCE)	5.0	6.0	119	80-120	

Surrogate Recovery			
Dibromofluoromethane	85	65-135	
1,2-Dichloroethane-d4	96	65-135	
Toluene-d8	114	65-135	
4-Bromofluorobenzene	105	65-135	

ANALYSES PERFORMED BY: Melissa Harrington

Libby Environmental, Inc.

3322 South Bay Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@gmail.com

FORMER OLYMPIA DRY CLEANERS PROJECT
AEG, LLC
Libby Project # L210621-1
Date Received 6/21/21 10:22

Received By KD

Sample Receipt Checklist

Chain of Custody

1. Is the Chain of Custody complete?	☑ Yes	☐ No	
2. How was the sample delivered?	☑ Hand Delivered	☐ Picked Up	☐ Shipped

Log In

3. Cooler or Shipping Container is present.	☑ Yes	☐ No	☐ N/A
4. Cooler or Shipping Container is in good condition.	☑ Yes	☐ No	☐ N/A
5. Cooler or Shipping Container has Custody Seals present.	☐ Yes	☑ No	☐ N/A
6. Was an attempt made to cool the samples?	☑ Yes	☐ No	☐ N/A
7. Temperature of cooler (0°C to 8°C recommended)	0.8 °C		
8. Temperature of sample(s) (0°C to 8°C recommended)	5.6 °C		
9. Did all containers arrive in good condition (unbroken)?	☑ Yes	☐ No	
10. Is it clear what analyses were requested?	☑ Yes	☐ No	
11. Did container labels match Chain of Custody?	☑ Yes	☐ No	
12. Are matrices correctly identified on Chain of Custody?	☑ Yes	☐ No	
13. Are correct containers used for the analysis indicated?	☑ Yes	☐ No	
14. Is there sufficient sample volume for indicated analysis?	☑ Yes	☐ No	
15. Were all containers properly preserved per each analysis?	☑ Yes	☐ No	
16. Were VOA vials collected correctly (no headspace)?	☑ Yes	☐ No	☐ N/A
17. Were all holding times able to be met?	☑ Yes	☐ No	

Discrepancies/ Notes

18. Was client notified of all discrepancies? ☐ Yes ☐ No ☑ N/A

Person Notified: _____ Date: _____

By Whom: _____ Via: _____

Regarding: _____

19. Comments. _____

Libby Environmental, Inc.

3322 South Bay Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

www.LibbyEnvironmental.com

Date: 6/21/21 Page: 1 of 1

Client: AEG
Project Manager: Scott Rose
Address: 2633 Parkmont Lane SW, Suite A
Project Name: Former Olympia Dry Cleaners
City: Olympia State: WA Zip: 98502
Location: 606 Union Ave SE City, State: Olympia, WA
Phone: 360-352-4835 Fax: 360-352-8164
Collector: Andrew Laser Date of Collection: 6/21/21
Client Project # 19-222
Email: SROSE@AEGWA.com

Sample Number	Depth	Time	Sample Type	Container Type	VOC 8260	PCE & Daughter Prod.	NWTPH-Gx	BTEX (8260) / (8021)	NWTPH-HCID	NWTPH-Dx / Dx	PCB 8082	MTCA 5 Metals	RCRA 8 Metals	c PAH 8270	PAH 8270	Semi Vol 8270			Field Notes
1 SEEP-CATCH	-	0914	Grab	VOA		X													
2 SEEP-POST	-	0932	Grab	VOA		X													
3 SEEP-1	-	0947	Grab	VOA		X													
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	6/21/21 1022	[signature]	6/21/21 1022
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt

Good Condition?	Y	N
Cooler Temp.		°C
Sample Temp.		°C
Total Number of Containers		

Remarks:

TAT: 24HR 48HR 5-DAY

LEGAL ACTION CLAUSE: *In the event of default of payment and/or failure to pay, Client agrees to pay the costs of collection including court costs and reasonable attorney fees to be determined by a court of law.*

Distribution: White - Lab, Yellow - Originator