Associated Environmental Group, LLC

January 3, 2022

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: ***December 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 December 9, 2021 at the above-referenced address 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 [December 2021]:

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

WORK PROPOSED [March 2023]:

- Obtain depth to groundwater data from five groundwater wells (MW-6, MW-9, MW-11, MW-13, and MW-14).
- Purge and sample three groundwater monitoring wells (MW-9, 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).

SEEP DISCUSSION:

Site contaminants of concern (COCs) were detected in seep samples SEEP and SEEP-POST. 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*.

	December 2021				
Sample ID	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl chloride
SEEP	**2.4**	**1.5**	**37**	<1.0	**8.1**
SEEP-POST	<1.0	**0.54**	**16**	<1.0	**2.3**
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: Vinyl chloride was detected above the surface water cleanup level. PCE, TCE, and cis-1,2-DCE were detected below their respective surface water cleanup levels.

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

SEEP-CB: All COCs were non-detect.

RECOMMENDATIONS:

Based on the analytical results collected to date, AEG respectfully requests Ecology reconsider discontinuing seep monitoring for this Site. Ecology has indicated that the point of compliance for the seep is and has been where it discharges into the catchbasin located at the corner of Cherry Street SE and 10th Avenue SE. Analytical results of the seep samples collected from this location have been either non-detect or below MTCA cleanup levels throughout the life of this project, and have been non-detect since 2018.

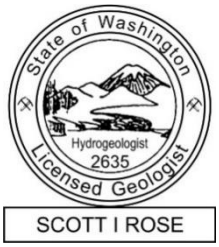
Cleanup actions have been completed as proposed and documented in the Consent Decree and, once environmental covenants for the former dry cleaner and Q-Tip properties are in place, no exposure pathways will be considered complete.

CLOSING:

AEG appreciates the opportunity to provide environmental consulting services for this Site. 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

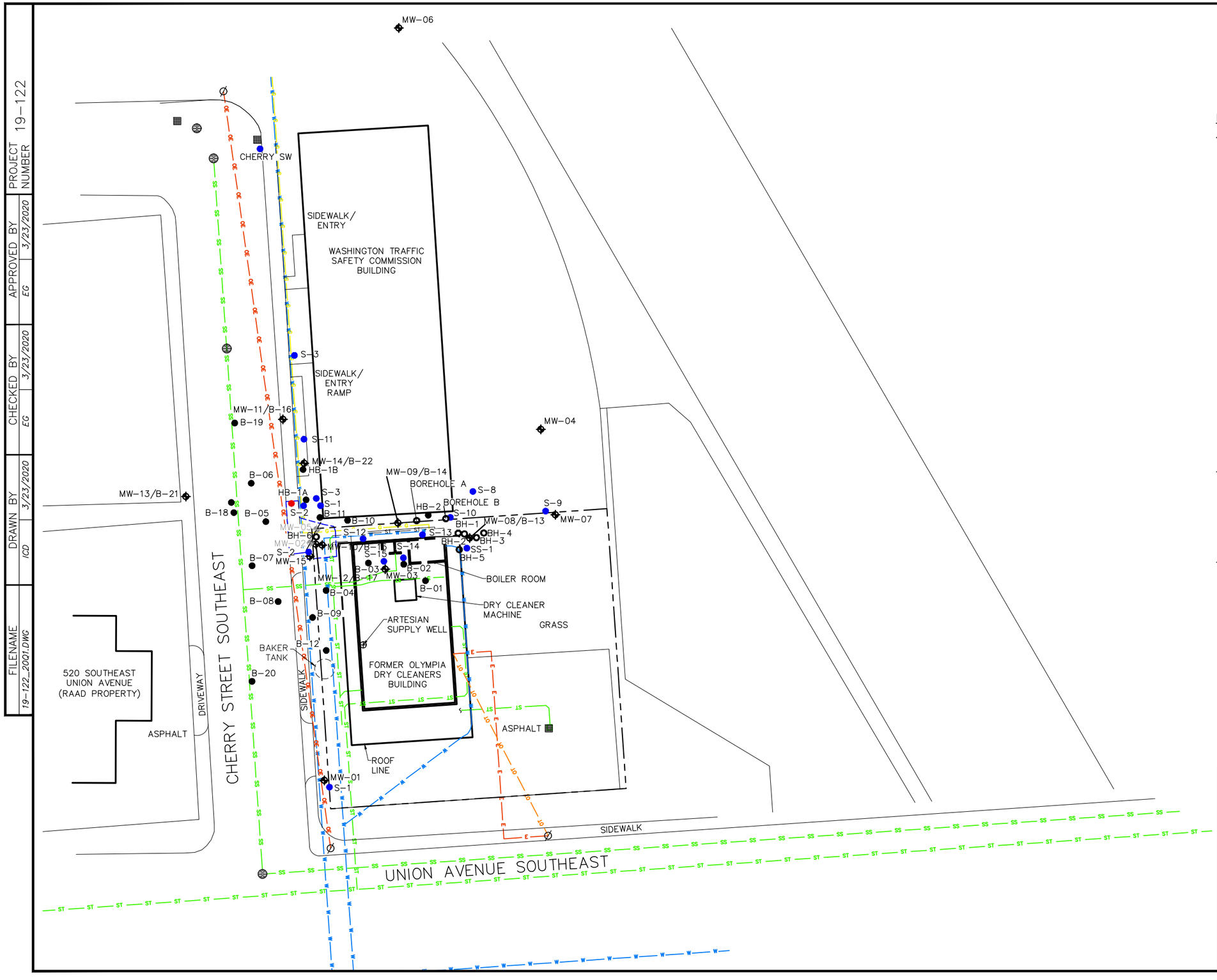
2633 Parkmont Lane SW, Suite A • Olympia, WA • 98502
Phone: 360-352-9835 • Fax: 360-352-8164 • Email: admin@aegwa.com

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**
		9/10/2021	<1.0	**1.2**	**20**	<1.0	**5.2**
		12/9/2021	**2.4**	**1.5**	**37**	<1.0	**8.1**
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
		9/10/2021	<1.0	<0.4	<1.0	<1.0	<0.2
		12/9/2021	<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**
		9/10/2021	<1.0	<0.4	**3.9**	<1.0	**1.6**
		12/9/2021	<1.0	**0.54**	**16**	<1.0	**2.3**
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)

PCE = Tetrachloroethylene

TCE = Trichloroethylene

DCE = Dichloroethylene

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

[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

December 14, 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 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 # L211210-2
Client Project # 19-222

Volatile Organic Compounds by EPA Method 8260D in Water

Sample Description		Method Blank	Seep-1	Seep-1 Dup	Seep-post	Seep-catch
Date Sampled		N/A	12/9/2021	12/9/2021	12/9/2021	12/9/2021
Date Analyzed	PQL (µg/L)	12/10/2021 (µg/L)	12/10/2021 (µg/L)	12/10/2021 (µg/L)	12/10/2021 (µg/L)	12/10/2021 (µg/L)
Vinyl Chloride (VC)	0.2	nd	8.1	7.8	2.3	nd
1,1-Dichloroethene	0.5	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd	nd	nd	nd	nd
cis -1,2-Dichloroethene	1.0	nd	37	36	16	nd
Trichloroethene (TCE)	0.4	nd	1.5	1.5	0.54	nd
Tetrachloroethene (PCE)	1.0	nd	2.4	1.9	nd	nd
Surrogate Recovery						
Dibromofluoromethane		99	90	101	101	103
1,2-Dichloroethane-d4		103	99	102	97	97
Toluene-d8		97	106	100	98	95
4-Bromofluorobenzene		94	89	89	90	95

"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: Sherry Chilcutt

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 # L211210-2
Client Project # 19-222

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

Matrix Spike Sample Identification: L211210-2
Date Analyzed: 12/10/2021

	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	3.2	3.4	64	68	6.6	65-135	S
1,1-Dichloroethene	5.0	3.4	3.3	68	65	3.9	65-135	
trans-1,2-Dichloroethene	5.0	3.5	3.5	70	70	0.0	65-135	
cis-1,2-Dichloroethene	5.0	4.4	4.3	88	86	2.3	65-135	
Trichloroethene (TCE)	5.0	4.9	4.2	98	83	16.6	65-135	
Tetrachloroethene (PCE)	5.0	4.1	3.9	81	78	3.8	65-135	

Surrogate Recovery (%)	MS	MSD	
Dibromofluoromethane	92	98	65-135
1,2-Dichloroethane-d4	99	99	65-135
Toluene-d8	98	91	65-135
4-Bromofluorobenzene	110	107	65-135

ACCEPTABLE RPD IS 35%

"S" Spike compound recovery is outside acceptance limits. A duplicate analysis was performed with acceptable recovery.

ANALYSES PERFORMED BY: Sherry Chilcutt

Laboratory Control Sample

Date Analyzed: 12/10/2021

	Spiked Conc. (µg/L)	LCS Response (µg/L)	LCS Recovery (%)	LCS Recovery Limits (%)	Data Flag
Vinyl Chloride (VC)	5.0	4.5	90	80-120	
1,1-Dichloroethene	5.0	4.2	84	80-120	
trans-1,2-Dichloroethene	5.0	4.0	80	80-120	
cis-1,2-Dichloroethene	5.0	5.2	105	80-120	
Trichloroethene (TCE)	5.0	4.7	94	80-120	
Tetrachloroethene (PCE)	5.0	5.3	106	80-120	

Surrogate Recovery			
Dibromofluoromethane	113	65-135	
1,2-Dichloroethane-d4	108	65-135	
Toluene-d8	107	65-135	
4-Bromofluorobenzene	106	65-135	

ANALYSES PERFORMED BY: Sherry Chilcutt

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 # L211210-2
Date Received 12/10/21 10:00

Received By RJK

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)	1.3 °C		
8. Temperature of sample(s) (0°C to 8°C recommended)	0.4 °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.

Chain of Custody Record

www.LibbyEnvironmental.com

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 12/9/21 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) 352-9835 Fax: (360) 352-8164

Collector: Tanner Seidel Date of Collection: 12/9/21

Client Project # 19-222

Email: SROSE@AEGWA.COM

	Sample Number	Depth	Time	Sample Type	Container Type	VOC 8260	NWTPH-Gx	BTEX 8021	NWTPH-HCID	NWTPH-Dx	NWTPH-Dx/Dx	c PAH 8270	PAH 8270	Semi Vol 8270	PCB 8082	MTCA 5 Metals	RCRA 8 Metals	PCE w/ DAUGHTER PRODUCTS		Field Notes
1	Seep-1	—	1430	W	40A												X			
2	Seep-post	—	1501	↓	↓												X			
3	Seep-catch	—	1529	↓	↓												X			
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				
16																				
17																				

Relinquished by:	Date / Time	Received by:	Date / Time
Tanner Seidel	12/9/21 1548		12/9/21 1548
	12/10/21 1000		12/10/21 1000

Sample Receipt

Good Condition?	Y	N	
Temp.	1.3	°C	
Seals Intact?	Y	N	N/A
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 cout of law.*

Distribution: White - Lab, Yellow - File, Pink - Originator