



May 26, 2023

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: ***April 2023 Groundwater & Seep Monitoring Report***
Former Olympia Dry Cleaners
606 Union Avenue SE
Olympia, Washington 98501-1430
AEG Project No. 19-222

Dear Mr. Teel:

AEG Atlas, LLC (AEG) has prepared the enclosed ***Groundwater & Seep Monitoring Report*** presenting results of groundwater sampling and analysis activities conducted on April 7, 2023, at the above-referenced site in Olympia, Washington (Site). Currently, selected on-Site monitoring wells (MW-9, MW-11, and MW-14) and two locations at the seep (SEEP and SEEP-POST) are sampled on a 15-month frequency. The location of the Site is illustrated on Figure 1, *Site Vicinity Map*. Locations of Site features, previous sample locations, monitoring wells, and seep sample locations are detailed in Figure 2, *Site Map*.

WORK PERFORMED [April 2023]:

- Obtained depth to groundwater data from five groundwater wells (MW-6, MW-9, MW-11, MW-13, and MW-14).
- Purged and sampled three groundwater monitoring wells (MW-9, MW-11, and MW-14).
- Sampled the seep at the source (SEEP) and downgradient of the filter sock (SEEP-POST).

WORK PROPOSED [July 2024]:

- 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) and downgradient of the filter sock (SEEP-POST).

April 2023 Seep Monitoring Report

Olympia Dry Cleaners (Former), Olympia Washington

AEG Project No. 19-222

May 26, 2023

SUMMARY:

Sampling Event:	April 7, 2023	Values
Range of Depths to Groundwater:	0.00 to 3.23	Feet below top of well casing (Table 1, <i>Summary of Groundwater Elevations</i>)
Range of Groundwater Elevations:	19.76 to 27.33	Feet above Mean Sea Level (Table 1, <i>Summary of Groundwater Elevations</i>)
Groundwater Gradient: (Direction / Magnitude)	North	Determined using data from MW-06, MW-09, MW-11, MW-13, and MW-14. Contour Map to be included in next report.
Measurable NAPL Detected:	No	
Measurable NAPL Thickness:	N/A	
Current Remedial Action:	Compliance Monitoring	

DISCUSSION:

Constituents of concern (COCs) were detected in monitoring well MW-09. Detected concentrations are summarized below. Analytical results for this sampling event, and historical analytical results, are presented in the attached Table 2, *Summary of Groundwater Monitoring Analytical Results*.

	April 2023				
Well ID	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl chloride
MW-09	<1.0	<0.4	3.0	<1.0	1.7
MTCA Method A Cleanup Levels	5	5	16*	160*	0.2

µg/L = micrograms per liter

PCE = Tetrachloroethylene

TCE = Trichloroethylene

DCE = Dichloroethylene

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

No COCs were detected above the laboratory detection limits for monitoring wells MW-11 or MW-14.

April 2023 Seep Monitoring Report

Olympia Dry Cleaners (Former), Olympia Washington

AEG Project No. 19-222

May 26, 2023

SEEP DISCUSSION:

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 3, *Summary of Groundwater Seep Analytical Results*.

	April 2023				
Sample ID	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl chloride
SEEP	1.1	0.93	11	<1.0	<0.2
SEEP-POST	<1.0	<0.4	2.9	<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.

CLOSING:

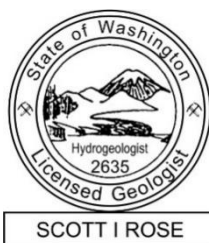
AEG appreciates the opportunity to provide environmental consulting services for this Site. Should you have questions or require additional information, please contact our office at 360-352-9835.

Sincerely,

AEG Atlas, LLC



Scott Rose, L.H.G.
Director of Technical Services



Attachments: Figure 1, *Site Vicinity Map*
Figure 2, *Site Map*

Table 1 – *Summary of Groundwater Elevations*

Table 2 – *Summary of Groundwater Monitoring Analytical Results*

Table 3 – *Summary of Groundwater Seep Analytical Results*

Appendix A – Laboratory Datasheets

FIGURES



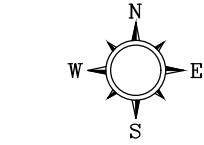
**Former Olympia
Dry Cleaners Site
Olympia, Washington**

**Figure 1
Site Vicinity Map**

FILENAME	DRAWN BY	CHECKED BY	APPROVED BY	PROJECT NUMBER
19-222-2103-1.DWG	ICD	JS	JS	19-222
	9/02/2021	9/02/2021	9/02/2021	



SOURCE: 2020 AERIAL PHOTOGRAPHY; É GOOGLE



LEGEND

- PARCEL BOUNDARY
- MW-11 MONITORING WELL
- MW-07 ABANDONED MONITORING WELL
- ABSORBENT SOCK
- SEEP LOCATION
- APPROXIMATE LOCATION OF ARTESIAN WELL

NOTES

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

REFERENCE

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

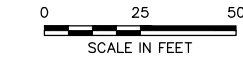


FIGURE 2

SITE MAP

FORMER OLYMPIA DRY CLEANERS
606 UNION AVE
OLYMPIA, WASHINGTON

TABLES

Table 1 - Summary of Groundwater Elevations

Olympia Dry Cleaners

Olympia, Washington

Well No./ TOC Elevation ^{1, 2}	Date	Depth to Water	Actual Groundwater Elevation	Change in Elevation
MW-06*	3/12/2016	1.46	18.66	--
20.12	6/9/2016	0.86	19.26	0.60
	9/29/2016	0.20	19.92	0.66
	12/20/2016	1.38	18.74	-1.18
	3/10/2017	0.65	19.47	0.73
	10/31/2017	3.83	16.29	-3.18
	3/30/2018	1.62	18.50	2.21
	3/3/2020	0.76	19.36	0.86
	9/10/2021	0.12	20.00	0.64
	4/7/2023	0.36	19.76	-0.24
MW-09	3/12/2016	2.32	17.80	--
30.56	6/9/2016	3.41	27.15	9.35
	9/29/2016	3.44	27.12	-0.03
	12/20/2016	3.40	27.16	0.04
	3/10/2017	3.22	27.34	0.18
	10/31/2017	3.34	27.22	-0.12
	3/30/2018	3.31	27.25	0.03
	3/3/2020	3.31	27.25	0.00
	6/11/2020	4.28	26.28	-0.97
	9/10/2021	3.50	27.06	0.78
	4/7/2023	3.23	27.33	0.27
MW-11 ³	3/12/2016	0.00	20.12	--
24.66	6/9/2016	0.00	20.12	0.00
	9/29/2016	0.00	24.66	4.54
	12/20/2016	0.50	24.16	-0.50
	3/10/2017	0.38	24.28	0.12
	10/31/2017	0.34	24.32	0.04
	3/30/2018	0.39	24.27	-0.05
	3/3/2020	0.00	24.66	0.39
	6/11/2020	0.00	24.66	0.00
	9/10/2021	0.00	24.66	0.00
	4/7/2023	0.60	24.06	-0.60

Table 1 - Summary of Groundwater Elevations
Olympia Dry Cleaners
Olympia, Washington

Well No./ TOC Elevation ^{1, 2}	Date	Depth to Water	Actual Groundwater Elevation	Change in Elevation
MW-13*	3/12/2016	0.07	20.05	--
26.38	6/9/2016	0.17	19.95	-0.10
	9/29/2016	0.42	25.96	6.01
	12/20/2016	0.20	26.18	0.22
	3/10/2017	0.16	26.22	0.04
	10/31/2017	1.33	25.05	-1.17
	3/30/2018	0.18	26.20	1.15
	3/3/2020	0.10	26.28	0.08
	9/10/2021	0.07	26.31	0.03
	4/7/2023	0.12	26.26	-0.05
MW-14 ³	3/12/2016	0.00	26.00	--
26.00	6/9/2016	0.00	26.00	0.00
	9/29/2016	0.00	26.00	0.00
	12/20/2016	0.00	26.00	0.00
	3/10/2017	0.00	26.00	0.00
	10/31/2017	0.00	26.00	0.00
	3/30/2018	0.00	26.00	0.00
	3/3/2020	0.00	26.00	0.00
	6/11/2020	0.00	26.00	0.00
	9/10/2021	0.00	26.00	0.00
	4/7/2023	0.00	26.00	0.00

Notes:

All values reported in feet

TOC = Top of casing elevation relative to assigned benchmark.

-- = Not measured, not available, or not applicable

* Ceased monitoring of this well as of 6/2/20.

¹ Top of well casing survey information from SoundEarth Strategies, Inc.

² Elevations reported in North American Vertical Datum of 1988.

³ Depth to water values of 0.00 indicate a location with artesian groundwater; reported groundwater elevations are considered estimates.

Table 2 - Summary of Groundwater Monitoring Analytical Results

Olympia Dry Cleaners

Olympia, Washington

Sample Location	Status ¹	Date Collected	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	Vinyl Chloride
MW-06 ³	Pre-Remediation ¹	8/13/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20
	Post-Remediation	3/12/2016	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		6/9/2016	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		9/29/2016	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		12/20/2016	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		3/10/2017	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		10/31/2017	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		3/30/2018	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		3/3/2020	<1.0	<0.4	<1.0	<1.0	<0.5	<0.20
MW-09	Pre-Remediation	8/13/2013	<1.0	<1.0	4.1	<1.0	<1.0	2.7
	Post-Remediation	3/12/2016	<1.0	2.2	11	<1.0	<1.0	5.0
		6/9/2016	<1.0	3.2	26	<1.0	<1.0	9.8
		9/29/2016	<1.0	2.8	27	<1.0	<1.0	11
		12/20/2016	<1.0	0.69	10	<1.0	<1.0	6.9
		3/10/2017	<1.0	0.61	6.2	<1.0	<1.0	2.6
		10/31/2017	<1.0	1.7	12	<1.0	<1.0	6.0
		3/30/2018	<1.0	2.1	6.2	<1.0	<1.0	<0.20
		3/3/2020	<1.0	1.8	15.0	<1.0	<1.0	6.7
		6/11/2020	<1.0	<0.4	3.9	<1.0	<0.5	4.8
		9/10/2021	<1.0	<0.4	1.2	<1.0	<0.5	7.0
		4/7/2023	<1.0	<0.4	3.0	<1.0	<0.5	1.7
MW-11	Pre-Remediation	8/13/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20
	Post-Remediation	3/12/2016	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		6/9/2016	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		9/29/2016	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		12/20/2016	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		3/10/2017	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		10/31/2017	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		3/30/2018	<1.0	0.60	<1.0	<1.0	<1.0	<0.20
		3/3/2020	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		6/11/2020	<1.0	<0.4	<1.0	<1.0	<0.5	<0.20
		9/10/2021	<1.0	<0.4	<1.0	<1.0	<0.5	<0.20
		4/7/2023	<1.0	<0.4	<1.0	<1.0	<0.5	<0.20
MW-13 ³	Pre-Remediation	8/13/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20
	Post-Remediation	3/12/2016	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		6/9/2016	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		9/29/2016	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		12/20/2016	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		3/10/2017	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		10/31/2017	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		3/30/2018	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		3/3/2020	<1.0	<0.4	<1.0	<1.0	<0.5	<0.20

Table 2 - Summary of Groundwater Monitoring Analytical Results
Olympia Dry Cleaners
Olympia, Washington

Sample Location	Status ¹	Date Collected	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	Vinyl Chloride
MW-14	Pre-Remediation	8/13/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20
	Post-Remediation	3/8/2016	52	17	23	<1.0	<1.0	2.4
		6/9/2016 ²	99	34	33	<1.0	<1.0	2.8
		9/29/2016	96	40	42	<1.0	<1.0	<0.20
		12/20/2016 ²	23	11	7.3	<1.0	<1.0	0.79
		3/10/2017	38	24	14	<1.0	<1.0	<0.20
		10/31/2017	32	24	15	<1.0	<1.0	2.2
		3/30/2018	1.2	2.0	2.2	<1.0	<1.0	<0.20
		3/3/2020	<1.0	<0.50	<1.0	<1.0	<1.0	<0.20
		6/11/2020	<1.0	<0.4	<1.0	<1.0	<0.5	<0.20
		9/10/2021	<1.0	<0.4	3.8	<1.0	<0.5	0.58
		4/7/2023	<1.0	<0.4	<1.0	<1.0	<0.5	<0.20
Artesian Well		8/26/2022	<1.0	<0.4	<1.0	<1.0	<0.5	<0.20
PQL			1.0	0.4/0.5	1.0	1.0	0.5/1.0	0.20
MTCA Method A Cleanup Level			5	5	16*	160*	7.7*	0.2

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

¹Pre-remediation groundwater monitoring data collected by SoundEarth Strategies, Inc.

² Field duplicate taken at this location on this date; the greatest concentration between the two samples is shown.

³Ceased monitoring of this well as of 6/2/20.

Data collected between 2016-2018 collected by Floyd Snider.

PCE = Tetrachloroethylene

TCE = Trichloroethylene

DCE = Dichloroethylene

Table 3 - 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
		4/7/2023	1.1	0.93	11	<1.0	<0.2
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

Table 3 - 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-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
		4/7/2023	<1.0	<0.4	2.9	<1.0	<0.2
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

¹Pre-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.

²Sample 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."

³Sample 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.

PCE = Tetrachloroethylene

TCE = Trichloroethylene

DCE = Dichloroethylene

APPENDIX A

LABORATORY DATASHEETS



Libby Environmental, Inc.

3322 South Bay Road NE • Olympia, WA 98506-2957

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

April 12, 2023

Scott Rose

AEG an Atlas Geosciences NW Company

2633 Parkmont Lane SW, Suite A

Olympia, WA 98502

RE: Former Olympia Dry Cleaners

Work Order Number: L23D032

Enclosed are the results of analyses for samples received by our laboratory on 4/7/2023.

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 feel free to contact us. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

A handwritten signature in black ink, appearing to read "Sherry Chilcutt", is written over a light gray rectangular background.

Sherry Chilcutt
Senior Chemist

Libby Environmental, Inc.

Chain of Custody Record

www.LibbyEnvironmental.com

3322 South Bay Rd NE
Olympia, WA 98506

Ph: 360-352-2110
Fax: 360-352-4154

Client: AEG

Address: 2633 Parkmount Lane SW, Suite A

City: Olympia State: WA Zip: 98502

Phone: (360) 352-9835 Fax: (360) 352-8164

Client Project # 19-222

Date: 4/7/23

Page: 1 of 1

Project Manager: Scott Rose

Project Name: Former Olympia Dry Cleaners

Location: 606 Union Ave City, State: Olympia, WA

Collector: Diana Ojeda Date of Collection: 4/7/23

Email: Srose@AEGWA.com

Page 2 of 12

Sample Number	Depth	Time	Sample Type	Container Type	PCE w/ Daughter Product												Field Notes
1 SEEP-1	-	1015	GW	VOA	X												
2 SEEP-POST	-	1010	↓	↓	X												
3 MW-9	-	1223	↓	↓	X												
4 MW-11	-	1106	↓	↓	X												
5 MW-14	-	1142	↓	↓	X												
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	

Relinquished by: <u>Diana Ojeda</u>	Date / Time: <u>4/7/23 1311</u>	Received by: <u>Scott Rose</u>	Date / Time: <u>4.7.23 1311</u>	Sample Receipt Good Condition? <u>Y</u> <u>N</u> Temp. <u> </u> °C Seals Intact? <u>Y</u> <u>N</u> <u>N/A</u> Total Number of Containers <u> </u>	Remarks: TAT: 24HR 48HR 5-DAY
Relinquished by:	Date / Time:	Received by:	Date / Time:		
Relinquished by:	Date / Time:	Received by:	Date / Time:		
Relinquished by:	Date / Time:	Received by:	Date / Time:		



Libby Environmental, Inc.

AEG an Atlas Geosciences NW Company
2633 Parkmont Lane SW, Suite A
Olympia, WA 98502

Project: Former Olympia Dry Cleaners
Project Number: 19-222
Project Manager: Scott Rose

City/State: Olympia, Washington
Work Order: L23D032
Reported: 04/12/2023 16:46

Notes and Definitions

Item	Definition
RL	Reporting Limit
ND	Analyte NOT DETECTED at or above the reporting limit
DET	Analyte DETECTED at or above the reporting limit
Qual	Qualifier
	All results reported on an "as received" basis unless indicated by "Dry"

Work Order Sample Summary

Lab ID	Sample	Matrix	Date Sampled	Date Received
L23D032-01	SEEP-1	Water	04/07/2023	04/07/2023
L23D032-02	SEEP-POST	Water	04/07/2023	04/07/2023
L23D032-03	MW-9	Water	04/07/2023	04/07/2023
L23D032-04	MW-11	Water	04/07/2023	04/07/2023
L23D032-05	MW-14	Water	04/07/2023	04/07/2023



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Project: Former Olympia Dry Cleaners
Project Number: 19-222
Project Manager: Scott Rose

City/State: Olympia, Washington
Work Order: L23D032
Reported: 04/12/2023 16:46

Libby Environmental Sample Detection Summary

Analyte	Result	Qual	Units	RL	Method
Sample: SEEP-1			Lab#: L23D032-01		
cis-1,2-Dichloroethene	11		ug/L	1.0	8260D
Trichloroethene	0.93		ug/L	0.40	8260D
Tetrachloroethene	1.1		ug/L	1.0	8260D
Sample: SEEP-POST			Lab#: L23D032-02		
cis-1,2-Dichloroethene	2.9		ug/L	1.0	8260D
Sample: MW-9			Lab#: L23D032-03		
Vinyl Chloride	1.7		ug/L	0.20	8260D
cis-1,2-Dichloroethene	3.0		ug/L	1.0	8260D

Note: If no entry is made, then no target compounds were detected.



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Project: Former Olympia Dry Cleaners
Project Number: 19-222
Project Manager: Scott Rose

City/State: Olympia, Washington
Work Order: L23D032
Reported: 04/12/2023 16:46

Sample Results

Client Sample ID: SEEP-1

Lab ID: L23D032-01 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
<u>Volatile Organic Compounds by EPA Method 8260D</u>						
Vinyl Chloride (SIM)	ND		0.20	ug/L	04/09/2023	SC
1,1-Dichloroethene	ND		0.50	ug/L	04/09/2023	SC
trans-1,2-Dichloroethene	ND		1.0	ug/L	04/09/2023	SC
cis-1,2-Dichloroethene	11		1.0	ug/L	04/09/2023	SC
Trichloroethene (SIM)	0.93		0.40	ug/L	04/09/2023	SC
Tetrachloroethene (SIM)	1.1		1.0	ug/L	04/09/2023	SC
Surrogate: Dibromofluoromethane	73.3%		27-188		04/09/2023	SC
Surrogate: 1,2-Dichloroethane-d4	49.1%		17-212		04/09/2023	SC
Surrogate: Toluene-d8	100%		41-142		04/09/2023	SC
Surrogate: 4-Bromofluorobenzene	65.2%		47-167		04/09/2023	SC



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2633 Parkmont Lane SW, Suite A
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Project: Former Olympia Dry Cleaners
Project Number: 19-222
Project Manager: Scott Rose

City/State: Olympia, Washington
Work Order: L23D032
Reported: 04/12/2023 16:46

Sample Results (Continued)

Client Sample ID: SEEP-POST

Lab ID: L23D032-02 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
<u>Volatile Organic Compounds by EPA Method 8260D</u>						
Vinyl Chloride (SIM)	ND		0.20	ug/L	04/09/2023	SC
1,1-Dichloroethene	ND		0.50	ug/L	04/09/2023	SC
trans-1,2-Dichloroethene	ND		1.0	ug/L	04/09/2023	SC
cis-1,2-Dichloroethene	2.9		1.0	ug/L	04/09/2023	SC
Trichloroethene (SIM)	ND		0.40	ug/L	04/09/2023	SC
Tetrachloroethene (SIM)	ND		1.0	ug/L	04/09/2023	SC
Surrogate: Dibromofluoromethane	78.3%		27-188		04/09/2023	SC
Surrogate: 1,2-Dichloroethane-d4	50.0%		17-212		04/09/2023	SC
Surrogate: Toluene-d8	101%		41-142		04/09/2023	SC
Surrogate: 4-Bromofluorobenzene	64.3%		47-167		04/09/2023	SC



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Project Number: 19-222
Project Manager: Scott Rose

City/State: Olympia, Washington
Work Order: L23D032
Reported: 04/12/2023 16:46

Sample Results (Continued)

Client Sample ID: MW-9

Lab ID: L23D032-03 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
<u>Volatile Organic Compounds by EPA Method 8260D</u>						
Vinyl Chloride (SIM)	1.7		0.20	ug/L	04/09/2023	SC
1,1-Dichloroethene	ND		0.50	ug/L	04/09/2023	SC
trans-1,2-Dichloroethene	ND		1.0	ug/L	04/09/2023	SC
cis-1,2-Dichloroethene	3.0		1.0	ug/L	04/09/2023	SC
Trichloroethene (SIM)	ND		0.40	ug/L	04/09/2023	SC
Tetrachloroethene (SIM)	ND		1.0	ug/L	04/09/2023	SC
Surrogate: Dibromofluoromethane	73.0%		27-188		04/09/2023	SC
Surrogate: 1,2-Dichloroethane-d4	50.1%		17-212		04/09/2023	SC
Surrogate: Toluene-d8	97.0%		41-142		04/09/2023	SC
Surrogate: 4-Bromofluorobenzene	63.6%		47-167		04/09/2023	SC



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2633 Parkmont Lane SW, Suite A
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Project: Former Olympia Dry Cleaners
Project Number: 19-222
Project Manager: Scott Rose

City/State: Olympia, Washington
Work Order: L23D032
Reported: 04/12/2023 16:46

Sample Results (Continued)

Client Sample ID: MW-11

Lab ID: L23D032-04 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
<u>Volatile Organic Compounds by EPA Method 8260D</u>						
Vinyl Chloride (SIM)	ND		0.20	ug/L	04/09/2023	SC
1,1-Dichloroethene	ND		0.50	ug/L	04/09/2023	SC
trans-1,2-Dichloroethene	ND		1.0	ug/L	04/09/2023	SC
cis-1,2-Dichloroethene	ND		1.0	ug/L	04/09/2023	SC
Trichloroethene (SIM)	ND		0.40	ug/L	04/09/2023	SC
Tetrachloroethene (SIM)	ND		1.0	ug/L	04/09/2023	SC
Surrogate: Dibromofluoromethane	73.2%		27-188		04/09/2023	SC
Surrogate: 1,2-Dichloroethane-d4	49.4%		17-212		04/09/2023	SC
Surrogate: Toluene-d8	98.7%		41-142		04/09/2023	SC
Surrogate: 4-Bromofluorobenzene	62.5%		47-167		04/09/2023	SC



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Project: Former Olympia Dry Cleaners
Project Number: 19-222
Project Manager: Scott Rose

City/State: Olympia, Washington
Work Order: L23D032
Reported: 04/12/2023 16:46

Sample Results (Continued)

Client Sample ID: MW-14

Lab ID: L23D032-05 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
<u>Volatile Organic Compounds by EPA Method 8260D</u>						
Vinyl Chloride (SIM)	ND		0.20	ug/L	04/09/2023	SC
1,1-Dichloroethene	ND		0.50	ug/L	04/09/2023	SC
trans-1,2-Dichloroethene	ND		1.0	ug/L	04/09/2023	SC
cis-1,2-Dichloroethene	ND		1.0	ug/L	04/09/2023	SC
Trichloroethene (SIM)	ND		0.40	ug/L	04/09/2023	SC
Tetrachloroethene (SIM)	ND		1.0	ug/L	04/09/2023	SC
Surrogate: Dibromofluoromethane	73.0%		27-188		04/09/2023	SC
Surrogate: 1,2-Dichloroethane-d4	48.5%		17-212		04/09/2023	SC
Surrogate: Toluene-d8	97.6%		41-142		04/09/2023	SC
Surrogate: 4-Bromofluorobenzene	63.4%		47-167		04/09/2023	SC



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2633 Parkmont Lane SW, Suite A
Olympia, WA 98502

Project: Former Olympia Dry Cleaners
Project Number: 19-222
Project Manager: Scott Rose

City/State: Olympia, Washington
Work Order: L23D032
Reported: 04/12/2023 16:46

Quality Control

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
---------	--------	------	----	-------	-------------	---------------	------	-------------	-----	-----------

Batch: BXD0059 - VOA

Blank (BXD0059-BLK1)

Prepared & Analyzed: 4/9/2023

Vinyl Chloride (SIM)	ND		0.20	ug/L						
1,1-Dichloroethene	ND		0.50	ug/L						
trans-1,2-Dichloroethene	ND		1.0	ug/L						
cis-1,2-Dichloroethene	ND		1.0	ug/L						
Trichloroethene (SIM)	ND		0.40	ug/L						
Tetrachloroethene (PCE)	ND		1.0	ug/L						
Surrogate: Dibromofluoromethane			14.0	ug/L	20.0		69.9	27-188		
Surrogate: 1,2-Dichloroethane-d4			9.36	ug/L	20.0		46.8	17-212		
Surrogate: Toluene-d8			19.8	ug/L	20.0		99.0	41-142		
Surrogate: 4-Bromofluorobenzene			12.8	ug/L	20.0		64.2	47-167		

LCS (BXD0059-BS1)

Prepared & Analyzed: 4/9/2023

Vinyl Chloride (VC)	4.25			ug/L	5.00		85.0	15-226		
1,1-Dichloroethene	2.28			ug/L	5.00		45.6	38-193		
trans-1,2-Dichloroethene	4.00			ug/L	5.00		80.0	53-156		
cis-1,2-Dichloroethene	4.44			ug/L	5.00		88.8	10-219		
Trichloroethene (TCE)	4.81			ug/L	5.00		96.2	37-121		
Tetrachloroethene (PCE)	4.97			ug/L	5.00		99.4	46-159		
Surrogate: Dibromofluoromethane			14.8	ug/L	20.0		74.0	27-188		
Surrogate: 1,2-Dichloroethane-d4			10.6	ug/L	20.0		53.2	17-212		
Surrogate: Toluene-d8			20.0	ug/L	20.0		99.8	41-142		
Surrogate: 4-Bromofluorobenzene			12.8	ug/L	20.0		64.0	47-167		

Duplicate (BXD0059-DUP1)

Parent: L23D021-10

Prepared & Analyzed: 4/9/2023

Vinyl Chloride (SIM)	ND		0.20	ug/L		ND				35
1,1-Dichloroethene	ND		0.50	ug/L		ND				35
trans-1,2-Dichloroethene	ND		1.0	ug/L		ND				35
cis-1,2-Dichloroethene	ND		1.0	ug/L		ND				35
Trichloroethene (SIM)	ND		0.40	ug/L		ND				35
Tetrachloroethene (PCE)	5.46		1.0	ug/L		6.34			14.8	35
Surrogate: Dibromofluoromethane			14.6	ug/L	20.0		73.2	27-188		
Surrogate: 1,2-Dichloroethane-d4			10.1	ug/L	20.0		50.4	17-212		
Surrogate: Toluene-d8			19.4	ug/L	20.0		97.0	41-142		
Surrogate: 4-Bromofluorobenzene			12.9	ug/L	20.0		64.4	47-167		



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Olympia, WA 98502

Project: Former Olympia Dry Cleaners
Project Number: 19-222
Project Manager: Scott Rose

City/State: Olympia, Washington
Work Order: L23D032
Reported: 04/12/2023 16:46

Quality Control (Continued)

Volatile Organic Compounds by EPA Method 8260D (Continued)

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Duplicate (BXD0059-DUP2)		Parent: L23D032-05			Prepared & Analyzed: 4/9/2023					
Vinyl Chloride (SIM)	0.126		0.20	ug/L		0.129			2.35	35
1,1-Dichloroethene	ND		0.50	ug/L		ND				35
trans-1,2-Dichloroethene	ND		1.0	ug/L		ND				35
cis-1,2-Dichloroethene	ND		1.0	ug/L		ND				35
Trichloroethene (SIM)	ND		0.40	ug/L		ND				35
Tetrachloroethene (PCE)	ND		1.0	ug/L		ND				35
Surrogate: Dibromofluoromethane			15.0	ug/L	20.0		74.9	27-188		
Surrogate: 1,2-Dichloroethane-d4			9.91	ug/L	20.0		49.6	17-212		
Surrogate: Toluene-d8			19.8	ug/L	20.0		99.2	41-142		
Surrogate: 4-Bromofluorobenzene			12.6	ug/L	20.0		62.8	47-167		
Matrix Spike (BXD0059-MS1)		Parent: L23D021-10			Prepared & Analyzed: 4/9/2023					
Vinyl Chloride (VC)	3.91			ug/L	5.00	0.00	78.2	10-234		
1,1-Dichloroethene	2.24			ug/L	5.00	0.00	44.7	15-233		
trans-1,2-Dichloroethene	3.97			ug/L	5.00	0.00	79.4	54-165		
cis-1,2-Dichloroethene	4.40			ug/L	5.00	0.00	88.0	35-167		
Trichloroethene (TCE)	4.91			ug/L	5.00	0.00	98.2	64-141		
Tetrachloroethene (PCE)	10.2			ug/L	5.00	6.34	77.8	42-173		
Surrogate: Dibromofluoromethane			15.6	ug/L	20.0		77.9	27-188		
Surrogate: 1,2-Dichloroethane-d4			10.3	ug/L	20.0		51.6	17-212		
Surrogate: Toluene-d8			20.2	ug/L	20.0		101	41-142		
Surrogate: 4-Bromofluorobenzene			12.9	ug/L	20.0		64.6	47-167		
Matrix Spike Dup (BXD0059-MSD1)		Parent: L23D021-10			Prepared & Analyzed: 4/9/2023					
Vinyl Chloride (VC)	4.01			ug/L	5.00	0.00	80.2	10-234	2.55	35
1,1-Dichloroethene	2.21			ug/L	5.00	0.00	44.1	15-233	1.26	35
trans-1,2-Dichloroethene	3.97			ug/L	5.00	0.00	79.4	54-165	0.00	35
cis-1,2-Dichloroethene	4.60			ug/L	5.00	0.00	91.9	35-167	4.33	35
Trichloroethene (TCE)	4.76			ug/L	5.00	0.00	95.1	64-141	3.15	35
Tetrachloroethene (PCE)	10.6			ug/L	5.00	6.34	86.2	42-173	4.01	35
Surrogate: Dibromofluoromethane			15.0	ug/L	20.0		75.2	27-188		
Surrogate: 1,2-Dichloroethane-d4			9.96	ug/L	20.0		49.8	17-212		
Surrogate: Toluene-d8			20.0	ug/L	20.0		99.8	41-142		
Surrogate: 4-Bromofluorobenzene			12.8	ug/L	20.0		64.0	47-167		

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 an Atlas Geosciences NW Company

Libby Project # L23D032

Date Received 4/7/2023

Time Received 13:11

Received By JA

Sample Receipt Checklist

Chain of Custody

- | | | | |
|---|--|------------------------------------|----------------------------------|
| 1. Is the Chain of Custody is 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) | <u>5.9 °C</u> | | |
| 8. Temperature of sample(s) (0°C to 8°C recommended) | <u>5.9 °C</u> | | |
| 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. _____

