Groundwater Sampling Report

November 15, 2022

SITE INFORMATION
Yarrow Bay Marina
5207 Lake Washington Boulevard NE
Kirkland, King County, Washington 98033

PROJECT INFORMATION
Washington Department of Ecology Facility No.: 2486
Washington Department of Ecology VCP No.: NW1791
Washington Department of Ecology Cleanup Site No.: 8780
AEI Project No. 469497

PREPARED FOR
Mr. Dale Myers
Toxics Cleanup Program
Washington State Department of Ecology – NW Regional Office
3169 160th Avenue SE
Bellevue, WA 98008-5452

PREPARED BY
AEI Consultants
2500 Camino Diablo
Walnut Creek, California

1.800.801.3224
www.aeiconsultants.com

TABLE OF CONTENTS

November 15, 2022

Mr. Dale Myers
Toxics Cleanup Program
Washington State Department of Ecology – Northwest Regional Office
3169 160th Avenue SE
Bellevue, Washington 98008-5452

Subject: **Groundwater Sampling Report**
5207 Lake Washington Boulevard NE
Kirkland, Washington 98033
AEI Project No. 469497
Washington Department of Ecology Facility No.: 2486
Washington Department of Ecology VCP No.: NW1791
Washington Department of Ecology Cleanup Site No.: 8780

Dear Mr. Myers,

On behalf of Kirkland Yarrow Bay, LLC, AEI Consultants (AEI) has prepared this report to document the groundwater monitoring well sampling activities for the property located at 5207 Lake Washington Boulevard NE, in the city of Kirkland, King County, Washington (the "Site"). In a letter dated January 24, 2017, a *Restrictive Covenant No Further Action (*Restrictive Covenant) was granted by the Washington Department of Ecology that requested three consecutive years of groundwater sampling at the Site. The recent sampling was performed in an effort to satisfy the confirmation groundwater sampling activities as required in the Restrictive Covenant.

AEI appreciates the opportunity to support this important project. If you have any questions, please do not hesitate to contact me.

Sincerely,

Jeremy Smith
Senior Project Manager

AEI Consultants
2500 Camino Diablo
Walnut Creek, California 94597
Phone: 925.746.6000
Email: jasmith@aeiconsultants.com

1.0 BACKGROUND

A release of petroleum hydrocarbons was discovered at the Site in 2006. After the completion of investigation activities, a *Restrictive Covenant No Further Action* was granted by the Washington State Department of Ecology (WDOE) in their letter dated January 24, 2017, in which three consecutive years of sampling were requested. The first groundwater sampling event was completed on December 8, 2017 by ATC Group Services, LLC (ATC), as documented in their January 9, 2018 *Groundwater Monitoring Report – 2017 Annual Event*. Following the 2017 sampling event, a change of ownership resulted in the unintentional lapse of continued consecutive annual sampling activities. Upon discovery of the oversight during 2022, a sampling event was immediately scheduled in accordance with the no further action letter. The field activities outlined in the below report document the 2022 sampling event and are intended to satisfy the second sampling event required by WDOE in their 2017 letter.

2.0 FIELD ACTIVITIES

AEI performed the second groundwater monitoring event, including groundwater level gauging measurements and groundwater sampling. Table 1 summarizes the analytical results.

2.1 Monitoring Well Condition Assessment

Prior to conducting gauging and sampling activities on October 7, 2022, a monitoring well condition assessment of well MW-1 was completed. This assessment consisted of observing the condition of the casing, well box, well plug, bolts, and lid for indications of wear or failure. The inspection found that one bolt needed replacement as the bolt did not fit properly to secure the well box. Additional issues were not observed and the bolt fitting does not pose a condition that would impact the integrity the planned testing, thus sampling was completed as planned. Well condition report is included in field notes, presented in Appendix A.

2.2 Groundwater Elevation Gauging

Prior to the groundwater sampling activities, a depth-to-groundwater measurement was obtained at monitoring well MW-1 on October 7, 2022. Before the depth to water was measured, the well cap was removed from the well and the well was allowed to equilibrate for 10 minutes. Depth to groundwater was measured from the top of the well casing using an electric water level indicator calibrated to within 0.01 foot, and recorded on field sampling forms, presented in Appendix A.

2.3 Groundwater Sampling Activities

Following groundwater elevation gauging activities, a groundwater sample was obtained from the well. Prior to collection of the sample, the well was purged using low-flow sampling techniques with a peristaltic pump at a rate of approximately 200 milliliters per minute. During purging and sampling, groundwater quality parameters [e.g., temperature, pH, specific conductivity, dissolved oxygen, turbidity, and oxidation-reduction potential] were collected.

After the groundwater parameters had stabilized, a groundwater sample was collected from the well using the peristaltic pump. The groundwater sample was decanted into laboratory supplied, 40-milliliter (mL), hydrochloric acid-preserved, volatile organic analysis vials, and 1-liter amber bottles. Upon filling and capping each bottle, the bottles were checked for the

presence of air bubbles to ensure there was no visible headspace. The sample was labeled and placed in an insulated, ice-chilled cooler for transport under chain-of-custody protocol to Pace Analytical in Mount Juliet, Tennessee. The groundwater sample was analyzed for volatile organic compounds (VOCs) using United States Environmental Protection Agency (US EPA) Testing Method 8260B, total petroleum hydrocarbons (TPH) Gasoline Range Organics (GRO) using Testing Method NWTPH-Gx and TPH Diesel Range Organics (DRO) and TPH Residual Range Organics (RRO) using Testing Method NWTPH-Dx.

Appendix B contains the laboratory analytical report and chain-of-custody documentation.

No notable anomalies or variations to sampling methods are reported during the October 7, 2022, sampling activities.

3.0 FINDINGS

The findings from the groundwater gauging and sampling activities is summarized below.

3.1 Depth to Groundwater Observations

Depth to groundwater was recorded to be 3.92 feet below the top of well casing in the October 7, 2022, event.

3.2 Groundwater Analytical Results

For purposes of providing context to the data generated during this investigation, analytical results were compared to the WDOE Method Toxic Control Act (MTCA) Method A (unrestrictive land use) and Method B (common method for setting clean-up levels), Cleanup Levels and Risk Calculation (CLARC), as referenced in Ecology's CLARC Tables, revised July 2022. The presence of a chemical at concentrations below applicable cleanup levels can generally be assumed to not pose a significant threat to human health or the environment.

Table 1 presents the groundwater analytical results for monitoring event at the Site and the comparative screening levels. The groundwater analytical results from the October 2022 groundwater monitoring event can be summarized as follows (Note: J: The identification of the analyte is acceptable; however, the reported value is an estimate):

- TPH-GRO was not detected above the laboratory reporting limit (RL) in the groundwater sample collected and analyzed.
- TPH-DRO and TPH-RRO were detected at concentrations of 278 micrograms per liter (µg/L) and 312 µg/L, respectively. The detected concentrations are below the MTCA Method A cleanup levels of 500 µg/L.
- Benzene, toluene, ethylbenzene, and total xylenes (collectively "BTEX") were detected at concentrations of 0.0540, 0.407, 0.0470 J, and 0.288 µg/L, respectively. The detected concentrations are below the respective BTEX MTCA Method A cleanup levels of 5.0, 1,000, 700, and 1,000 µg/L. In addition, the detected concentrations are below the MTCA Method B cancer screening level for benzene of 0.8 µg/L and below the MTCA Method B non-cancer screening levels for toluene, ethylbenzene, and total xylenes of 640, 800, and 1,600 µg/L, respectively.

- Other VOCs were detected either below their respective Method A/B screening levels or below the laboratory RLs in the groundwater sample collected and analyzed as shown on Table 1.

4.0 SUMMARY AND CONCLUSIONS

AEI has performed groundwater monitoring and sampling at the Site as described above. The sampling activities were completed to meet the requirement in the *Restrictive Covenant No Further Action,* that was granted by the WDOE in their letter dated January 24, 2017. Results from the second round of the groundwater monitoring collected from well MW-1 indicates that the concentrations of TPH and VOCs were below their respective MTCA Methods A and B levels.

Based on the results, AEI recommends no further assessment beyond the third and final groundwater monitoring event to be conducted in October 2023.

5.0 REFERENCES

ATC Group Services Inc, 2018, *Groundwater Monitoring Report-2017 Annual Event. 5207 Lake Washington Boulevard NE, Kirkland, Washington 98033.* Dated January 9.

Washington State Department of Ecology, 2017, *Environmental Covenant. 5207 Lake Washington Boulevard NE, Kirkland, Washington 98033.* Dated January 24.

Washington State Department of Ecology, 2022, *Method Toxic Control Act (MTCA) Cleanup Levels and Risk Calculation (CLARC) Master Table.* July.

6.0 SIGNATURES

This document was prepared by, or under the direction, of the undersigned.

Natasha Budimirovic
Project Geologist

Jacqueline C. Day, L.G. 3011
Senior Geologist
(858) 531-6297

JACQUELINE CHRISTINE DAY

expires: 12/20/2023

Figures

LEGEND

Approximate Site Boundary

Map: Kirkland Quadrangle, Washington
Date: 2020
Source: USGS

N

SITE LOCATION MAP

AEI

5207 Lake Washington Blvd. NE
Kirkland, Washington

FIGURE 1
Project No. 469497

LEGEND

- Approximate Property Boundary
- Groundwater Monitoring Well Location

0 30 60
SCALE: 1″ = 60′
Scale is Approximate

N

SITE MAP

AEI

5207 Lake Washington Blvd. NE
Kirkland, Washington

FIGURE 2
Project No. 469497

Tables

Table 1: GROUNDWATER SAMPLE DATA SUMMARY
5207 Lake Washington Boulevard, Kirkland, Washington 98033
AEI Project Number: 469497

Location ID	Date	TPH			VOCs							
		TPH-GRO (µg/L)	TPH-DRO (µg/L)	TPH-RRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Acetone (µg/L)	2-Butanone (MEK) (µg/L)	Methyl tert-butyl ether (µg/L)	Remaining VOCs (µg/L)
MW-1	12/8/2017*	ND<50.0	ND<49.9	ND<99.8	ND<1.0	ND<1.0	ND<1.0	ND<2.0	NA	NA	NA	ND<RDL
	10/7/2022	ND<100	278	312	0.0540	0.407	0.0470 J	0.288	21.1	2.36	0.0940	ND<RDL
Comparison Values:												
WDOE CLARC Method A unrestricted land use		800	500	500	5.0	1,000	700	1,000	--	--	20	Various
WDOE CLARC Method B non cancer		--	--	--	32	640	800	1,600	7,200	4,800	--	Various
WDOE CLARC Method B cancer		--	--	--	0.8	--	--	--	--	--	24	Various
WA or Federal Maximum Contaminant Limit (MCL)		--	--	--	5.0	1,000	700	10,000	--	--	--	Various

Notes:

µg/L	micrograms per liter
ND<RDL	not detected above the laboratory reported detection limit
NA	not analyzed
TPH-GRO	total petroleum hydrocarbons as gasoline
TPH-DRO	total petroleum hydrocarbons as diesel
TPH-RRO	total petroleum hydrocarbons as motor oil (residual range organics)
VOCs	volatile organic compounds
--	no comparison value established
J	The identification of the analyte is acceptable; the reported value is an estimate.
*	Sampled by ATC Group Services Inc.

Comparison Values:

WDOE CLARC	Washington Department of Ecology Cleanup Levels and Risk Calculation for cancer and noncancer risk drivers for individual chemicals (WDOE, July 2022)

Appendix A
Field Data Sheets

Water Level Field Data Sheet
ADDRESS
CITY, California

Project Name: Yarrow Bay Yacht Basin and Marina
Project No.: 468497
Site Location: 5207 Lake WA Blvd NE, Kirkland, WA

Field Personnel: N. BUD, M. IRONS
Date: 10/7/22

Well ID	Screen Interval (ft BTOC)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Casing Diameter (in.)	LNAPL Observed (Y/N)[1]	Time	Depth to Water (ft BTOC)	Depth to Bottom (ft BTOC)	Condition G = Good N = Needs Replaced R = Replaced during event			Comments
									Well Cap	Bolts	Well Lid	
MW-1	—	8.34	3.92	2	N	1220	3.92	8.34	G	N	G	

Note: BTOC = below top of casing
N/A = not available
NM = not measured

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Standard Purge Sampling

Monitoring Well ID:	MW-1

Project Name:	Yarrow Bay Yacht Basin & Marina	Date of Sampling:	10/7/22
Job Number:	468497	Name of Sampler:	N. BUD / M IRONE
Project Address:	5207 Lake WA Blvd NE, Kirkland, WA		

MONITORING WELL DATA

Well Casing Diameter (inches)	2"		
Static Depth to Groundwater (feet below top of casing)	3.92		
Total Well Depth (feet below top of casing)	8.34		
Screened Interval (feet below top of casing)	–		
Calculated Purge Volume (gallons), 3-5 casing volumes	~~1 PV = [illegible] (1" well) 5 gal/ft (4" well)~~ 3,600 mL		
Free Product Present?	NO	Thickness (ft):	–

GROUNDWATER EQUILIBRATION

Time	Flow rate (ml/min)	Cumulative Volume Purged	Temperature (deg C)	Conductivity (µg/cm)	DO (mg/L)	pH	ORP (meV)	Turbidity (NTU)	Comments
		Depth to Water							
12:34	200	3.92	21.27	602	4.82	10.70	-85.5	92.3	
12:37	200	4.12	20.97	540	0.83	9.27	-72.6	54.4	
12:40	200	4.19	20.75	420	0.71	8.76	-70.2	55.4	
12:43	200	4.28	20.62	417	0.74	8.79	-65.3	56.7	
12:46	200	4.35	20.72	410	0.72	8.73	-63.4	55.9	
12:49	200	4.41	20.71	403	0.72	8.70	-62.3	55.2	

SAMPLING

Sample Time	DTW (>90% Static)	Sample ID	Containers	Analysis	TAT	Total Purge Volume (gal)
1310		MW-1	10	TPH-GRO, DRO VOCs	5 day	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

collected 8 VOAs, 2 1-L amber bottles

Appendix B

Laboratory Analytical Reports

ANALYTICAL REPORT

October 19, 2022

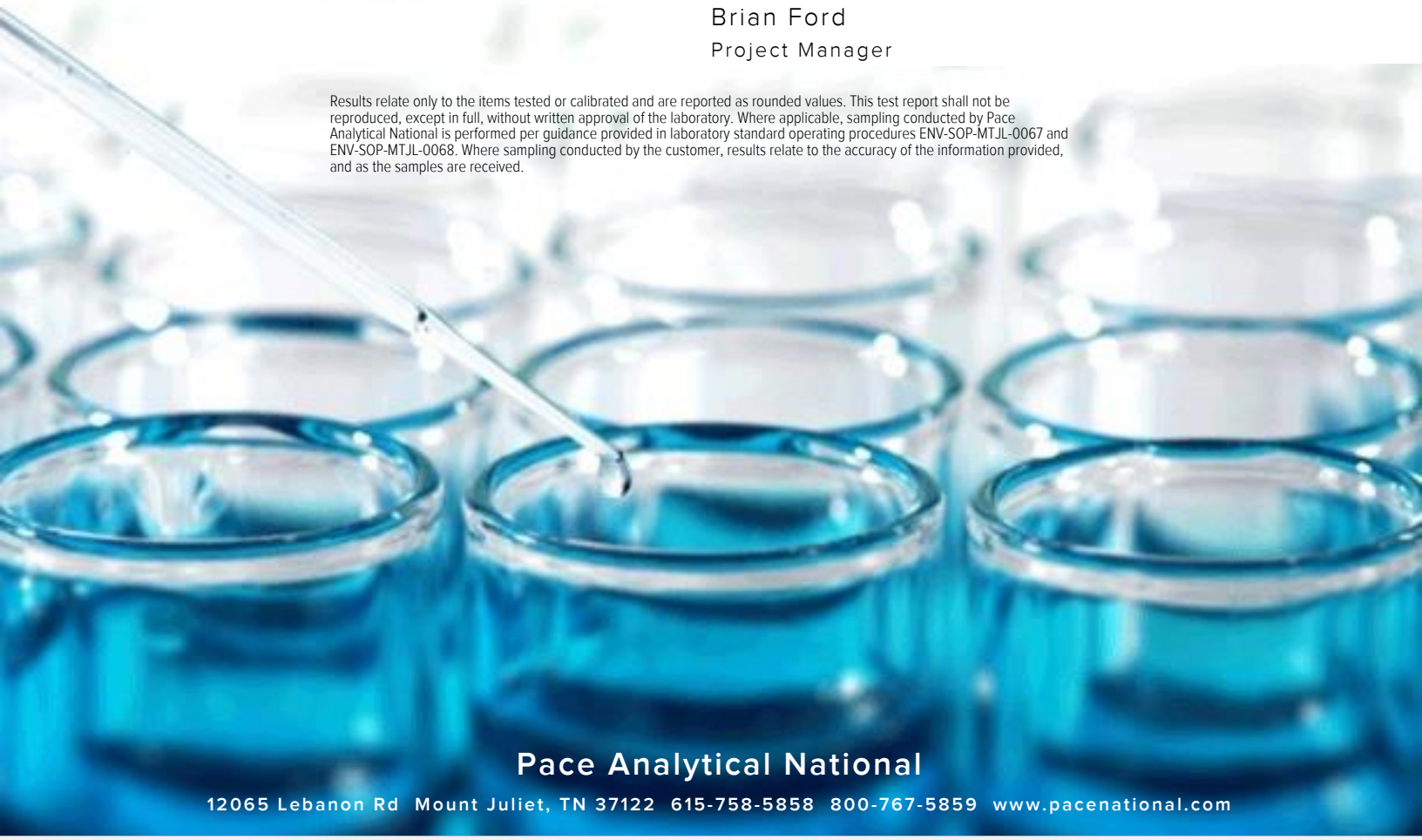
AEI Consultants - CA

Sample Delivery Group:	L1544628
Samples Received:	10/08/2022
Project Number:	468497
Description:	Yarrow Bay Yacht Basin and Marina

Report To: Natasha Budimirovic
2500 Camino Diablo
Walnut Creek, CA 94597

Entire Report Reviewed By:

Brian Ford
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

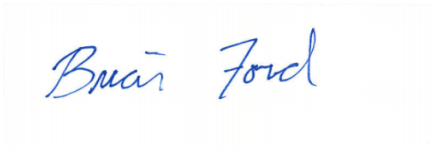
MW-1 L1544628-01 GW

Collected by: N Budimirovic
Collected date/time: 10/07/22 13:10
Received date/time: 10/08/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1943931	1	10/17/22 14:51	10/17/22 14:51	BAM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1942414	1	10/13/22 22:23	10/13/22 22:23	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1941859	1	10/13/22 13:00	10/15/22 01:58	MWS	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager

Sample Delivery Group (SDG) Narrative

pH outside of method requirement.

Lab Sample ID	Project Sample ID	Method
L1544628-01	MW-1	NWTPHGX

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	10/17/2022 14:51	WG1943931
(S) a,a,a-Trifluorotoluene(FID)	*107*			*78.0-120*		*10/17/2022 14:51*	WG1943931

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	21.1		0.548	1.00	1	10/13/2022 22:23	WG1942414
Acrylonitrile	U		0.0760	0.500	1	10/13/2022 22:23	WG1942414
Acrolein	U		0.758	50.0	1	10/13/2022 22:23	WG1942414
Benzene	0.0540		0.0160	0.0400	1	10/13/2022 22:23	WG1942414
Bromobenzene	U		0.0420	0.500	1	10/13/2022 22:23	WG1942414
Bromodichloromethane	U		0.0315	0.100	1	10/13/2022 22:23	WG1942414
Bromoform	U		0.239	1.00	1	10/13/2022 22:23	WG1942414
Bromomethane	U		0.148	0.500	1	10/13/2022 22:23	WG1942414
n-Butylbenzene	U		0.153	0.500	1	10/13/2022 22:23	WG1942414
sec-Butylbenzene	U		0.101	0.500	1	10/13/2022 22:23	WG1942414
tert-Butylbenzene	U		0.0620	0.200	1	10/13/2022 22:23	WG1942414
Carbon tetrachloride	U		0.0432	0.200	1	10/13/2022 22:23	WG1942414
Chlorobenzene	U		0.0229	0.100	1	10/13/2022 22:23	WG1942414
Chlorodibromomethane	U		0.0180	0.100	1	10/13/2022 22:23	WG1942414
Chloroethane	U		0.0432	0.200	1	10/13/2022 22:23	WG1942414
Chloroform	U		0.0166	0.100	1	10/13/2022 22:23	WG1942414
Chloromethane	U		0.0556	0.500	1	10/13/2022 22:23	WG1942414
2-Chlorotoluene	U		0.0368	0.100	1	10/13/2022 22:23	WG1942414
4-Chlorotoluene	U		0.0452	0.200	1	10/13/2022 22:23	WG1942414
1,2-Dibromo-3-Chloropropane	U		0.204	1.00	1	10/13/2022 22:23	WG1942414
1,2-Dibromoethane	U		0.0210	0.100	1	10/13/2022 22:23	WG1942414
Dibromomethane	U		0.0400	0.200	1	10/13/2022 22:23	WG1942414
1,2-Dichlorobenzene	U		0.0580	0.200	1	10/13/2022 22:23	WG1942414
1,3-Dichlorobenzene	U		0.0680	0.200	1	10/13/2022 22:23	WG1942414
1,4-Dichlorobenzene	U		0.0788	0.200	1	10/13/2022 22:23	WG1942414
Dichlorodifluoromethane	U		0.0327	0.100	1	10/13/2022 22:23	WG1942414
1,1-Dichloroethane	U		0.0230	0.100	1	10/13/2022 22:23	WG1942414
1,2-Dichloroethane	U		0.0190	0.100	1	10/13/2022 22:23	WG1942414
1,1-Dichloroethene	U		0.0200	0.100	1	10/13/2022 22:23	WG1942414
cis-1,2-Dichloroethene	U		0.0276	0.100	1	10/13/2022 22:23	WG1942414
trans-1,2-Dichloroethene	U		0.0572	0.200	1	10/13/2022 22:23	WG1942414
1,2-Dichloropropane	U		0.0508	0.200	1	10/13/2022 22:23	WG1942414
1,1-Dichloropropene	U		0.0280	0.100	1	10/13/2022 22:23	WG1942414
1,3-Dichloropropane	U		0.0700	0.200	1	10/13/2022 22:23	WG1942414
cis-1,3-Dichloropropene	U		0.0271	0.100	1	10/13/2022 22:23	WG1942414
trans-1,3-Dichloropropene	U		0.0612	0.200	1	10/13/2022 22:23	WG1942414
2,2-Dichloropropane	U		0.0317	0.100	1	10/13/2022 22:23	WG1942414
Di-isopropyl ether	U		0.0140	0.0400	1	10/13/2022 22:23	WG1942414
Ethylbenzene	0.0470	J	0.0212	0.100	1	10/13/2022 22:23	WG1942414
Hexachloro-1,3-butadiene	U		0.508	1.00	1	10/13/2022 22:23	WG1942414
Isopropylbenzene	U		0.0345	0.100	1	10/13/2022 22:23	WG1942414
p-Isopropyltoluene	U		0.0932	0.200	1	10/13/2022 22:23	WG1942414
2-Butanone (MEK)	2.36		0.500	1.00	1	10/13/2022 22:23	WG1942414
Methylene Chloride	U		0.265	1.00	1	10/13/2022 22:23	WG1942414
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00	1	10/13/2022 22:23	WG1942414
Methyl tert-butyl ether	0.0940		0.0118	0.0400	1	10/13/2022 22:23	WG1942414
Naphthalene	U		0.124	0.500	1	10/13/2022 22:23	WG1942414
n-Propylbenzene	U		0.0472	0.200	1	10/13/2022 22:23	WG1942414

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Styrene	U		0.109	0.500	1	10/13/2022 22:23	WG1942414
1,1,1,2-Tetrachloroethane	U		0.0200	0.100	1	10/13/2022 22:23	WG1942414
1,1,2,2-Tetrachloroethane	U		0.0156	0.100	1	10/13/2022 22:23	WG1942414
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100	1	10/13/2022 22:23	WG1942414
Tetrachloroethene	U		0.0280	0.100	1	10/13/2022 22:23	WG1942414
Toluene	0.407		0.0500	0.200	1	10/13/2022 22:23	WG1942414
1,2,3-Trichlorobenzene	U		0.0250	0.500	1	10/13/2022 22:23	WG1942414
1,2,4-Trichlorobenzene	U		0.193	0.500	1	10/13/2022 22:23	WG1942414
1,1,1-Trichloroethane	U		0.0110	0.100	1	10/13/2022 22:23	WG1942414
1,1,2-Trichloroethane	U		0.0353	0.100	1	10/13/2022 22:23	WG1942414
Trichloroethene	U		0.0160	0.0400	1	10/13/2022 22:23	WG1942414
Trichlorofluoromethane	U		0.0200	0.100	1	10/13/2022 22:23	WG1942414
1,2,3-Trichloropropane	U		0.204	0.500	1	10/13/2022 22:23	WG1942414
1,2,4-Trimethylbenzene	U		0.0464	0.200	1	10/13/2022 22:23	WG1942414
1,2,3-Trimethylbenzene	U		0.0460	0.200	1	10/13/2022 22:23	WG1942414
1,3,5-Trimethylbenzene	U		0.0432	0.200	1	10/13/2022 22:23	WG1942414
Vinyl chloride	U		0.0273	0.100	1	10/13/2022 22:23	WG1942414
Xylenes, Total	0.288		0.191	0.260	1	10/13/2022 22:23	WG1942414
(S) Toluene-d8	*97.4*			*75.0-131*		*10/13/2022 22:23*	WG1942414
(S) 4-Bromofluorobenzene	*103*			*67.0-138*		*10/13/2022 22:23*	WG1942414
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*10/13/2022 22:23*	WG1942414

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Diesel Range Organics (DRO)	278		66.7	200	1	10/15/2022 01:58	WG1941859
Residual Range Organics (RRO)	312		83.3	250	1	10/15/2022 01:58	WG1941859
(S) o-Terphenyl	*96.3*			*52.0-156*		*10/15/2022 01:58*	WG1941859

Method Blank (MB)

(MB) R3849375-2 10/17/22 09:56

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*107*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3849375-1 10/17/22 08:58

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5070	92.2	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*101*	*78.0-120*	

Method Blank (MB)

(MB) R3848459-3 10/13/22 16:38

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		0.548	1.00
Acrylonitrile	U		0.0760	0.500
Acrolein	U		0.758	50.0
Benzene	U		0.0160	0.0400
Bromobenzene	U		0.0420	0.500
Bromodichloromethane	U		0.0315	0.100
Bromoform	U		0.239	1.00
Bromomethane	U		0.148	0.500
n-Butylbenzene	U		0.153	0.500
sec-Butylbenzene	U		0.101	0.500
tert-Butylbenzene	U		0.0620	0.200
Carbon tetrachloride	U		0.0432	0.200
Chlorobenzene	U		0.0229	0.100
Chlorodibromomethane	U		0.0180	0.100
Chloroethane	U		0.0432	0.200
Chloroform	U		0.0166	0.100
Chloromethane	U		0.0556	0.500
2-Chlorotoluene	U		0.0368	0.100
4-Chlorotoluene	U		0.0452	0.200
1,2-Dibromo-3-Chloropropane	U		0.204	1.00
1,2-Dibromoethane	U		0.0210	0.100
Dibromomethane	U		0.0400	0.200
1,2-Dichlorobenzene	U		0.0580	0.200
1,3-Dichlorobenzene	U		0.0680	0.200
1,4-Dichlorobenzene	U		0.0788	0.200
Dichlorodifluoromethane	U		0.0327	0.100
1,1-Dichloroethane	U		0.0230	0.100
1,2-Dichloroethane	U		0.0190	0.100
1,1-Dichloroethene	U		0.0200	0.100
cis-1,2-Dichloroethene	U		0.0276	0.100
trans-1,2-Dichloroethene	U		0.0572	0.200
1,2-Dichloropropane	U		0.0508	0.200
1,1-Dichloropropene	U		0.0280	0.100
1,3-Dichloropropane	U		0.0700	0.200
cis-1,3-Dichloropropene	U		0.0271	0.100
trans-1,3-Dichloropropene	U		0.0612	0.200
2,2-Dichloropropane	U		0.0317	0.100
Di-isopropyl ether	U		0.0140	0.0400
Ethylbenzene	U		0.0212	0.100
Hexachloro-1,3-butadiene	U		0.508	1.00

Method Blank (MB)

(MB) R3848459-3 10/13/22 16:38

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Isopropylbenzene	U		0.0345	0.100
p-Isopropyltoluene	U		0.0932	0.200
2-Butanone (MEK)	U		0.500	1.00
Methylene Chloride	U		0.265	1.00
4-Methyl-2-pentanone (MIBK)	U		0.400	1.00
Methyl tert-butyl ether	U		0.0118	0.0400
Naphthalene	U		0.124	0.500
n-Propylbenzene	U		0.0472	0.200
Styrene	U		0.109	0.500
1,1,1,2-Tetrachloroethane	U		0.0200	0.100
1,1,2,2-Tetrachloroethane	U		0.0156	0.100
1,1,2-Trichlorotrifluoroethane	U		0.0270	0.100
Tetrachloroethene	U		0.0280	0.100
Toluene	U		0.0500	0.200
1,2,3-Trichlorobenzene	U		0.0250	0.500
1,2,4-Trichlorobenzene	U		0.193	0.500
1,1,1-Trichloroethane	U		0.0110	0.100
1,1,2-Trichloroethane	U		0.0353	0.100
Trichloroethene	U		0.0160	0.0400
Trichlorofluoromethane	U		0.0200	0.100
1,2,3-Trichloropropane	U		0.204	0.500
1,2,4-Trimethylbenzene	U		0.0464	0.200
1,2,3-Trimethylbenzene	U		0.0460	0.200
1,3,5-Trimethylbenzene	U		0.0432	0.200
Vinyl chloride	U		0.0273	0.100
Xylenes, Total	U		0.191	0.260
(S) Toluene-d8	*101*			*75.0-131*
(S) 4-Bromofluorobenzene	*98.3*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3848459-1 10/13/22 15:23 • (LCSD) R3848459-2 10/13/22 15:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	29.0	32.5	116	130	10.0-160			11.4	31
Acrylonitrile	25.0	27.6	25.3	110	101	45.0-153			8.70	22
Acrolein	25.0	27.4	31.1	110	124	10.0-160			12.6	31
Benzene	5.00	5.72	5.31	114	106	70.0-123			7.43	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3848459-1 10/13/22 15:23 • (LCSD) R3848459-2 10/13/22 15:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromobenzene	5.00	5.49	5.04	110	101	73.0-121			8.55	20
Bromodichloromethane	5.00	6.00	5.38	120	108	73.0-121			10.9	20
Bromoform	5.00	6.52	6.01	130	120	64.0-132			8.14	20
Bromomethane	5.00	4.31	4.39	86.2	87.8	56.0-147			1.84	20
n-Butylbenzene	5.00	5.55	5.30	111	106	68.0-135			4.61	20
sec-Butylbenzene	5.00	5.29	5.02	106	100	74.0-130			5.24	20
tert-Butylbenzene	5.00	5.67	5.29	113	106	75.0-127			6.93	20
Carbon tetrachloride	5.00	4.85	5.38	97.0	108	66.0-128			10.4	20
Chlorobenzene	5.00	5.30	5.10	106	102	76.0-128			3.85	20
Chlorodibromomethane	5.00	5.74	5.29	115	106	74.0-127			8.16	20
Chloroethane	5.00	4.84	4.92	96.8	98.4	61.0-134			1.64	20
Chloroform	5.00	5.04	4.70	101	94.0	72.0-123			6.98	20
Chloromethane	5.00	5.01	4.77	100	95.4	51.0-138			4.91	20
2-Chlorotoluene	5.00	5.70	5.20	114	104	75.0-124			9.17	20
4-Chlorotoluene	5.00	5.28	4.89	106	97.8	75.0-124			7.67	20
1,2-Dibromo-3-Chloropropane	5.00	4.95	5.15	99.0	103	59.0-130			3.96	20
1,2-Dibromoethane	5.00	5.36	4.94	107	98.8	74.0-128			8.16	20
Dibromomethane	5.00	5.84	4.96	117	99.2	75.0-122			16.3	20
1,2-Dichlorobenzene	5.00	5.04	4.99	101	99.8	76.0-124			0.997	20
1,3-Dichlorobenzene	5.00	5.29	5.29	106	106	76.0-125			0.000	20
1,4-Dichlorobenzene	5.00	5.24	4.96	105	99.2	77.0-121			5.49	20
Dichlorodifluoromethane	5.00	5.84	5.14	117	103	43.0-156			12.8	20
1,1-Dichloroethane	5.00	5.27	5.03	105	101	70.0-127			4.66	20
1,2-Dichloroethane	5.00	5.33	5.00	107	100	65.0-131			6.39	20
1,1-Dichloroethene	5.00	5.27	4.91	105	98.2	65.0-131			7.07	20
cis-1,2-Dichloroethene	5.00	5.11	5.14	102	103	73.0-125			0.585	20
trans-1,2-Dichloroethene	5.00	4.90	4.58	98.0	91.6	71.0-125			6.75	20
1,2-Dichloropropane	5.00	5.62	5.19	112	104	74.0-125			7.96	20
1,1-Dichloropropene	5.00	5.42	5.24	108	105	73.0-125			3.38	20
1,3-Dichloropropane	5.00	5.77	5.25	115	105	80.0-125			9.44	20
cis-1,3-Dichloropropene	5.00	5.68	5.16	114	103	76.0-127			9.59	20
trans-1,3-Dichloropropene	5.00	5.69	5.37	114	107	73.0-127			5.79	20
2,2-Dichloropropane	5.00	5.71	5.61	114	112	59.0-135			1.77	20
Di-isopropyl ether	5.00	4.83	4.63	96.6	92.6	60.0-136			4.23	20
Ethylbenzene	5.00	5.31	5.12	106	102	74.0-126			3.64	20
Hexachloro-1,3-butadiene	5.00	6.07	5.15	121	103	57.0-150			16.4	20
Isopropylbenzene	5.00	4.91	5.11	98.2	102	72.0-127			3.99	20
p-Isopropyltoluene	5.00	5.34	5.26	107	105	72.0-133			1.51	20
2-Butanone (MEK)	25.0	25.0	24.2	100	96.8	30.0-160			3.25	24
Methylene Chloride	5.00	5.11	5.00	102	100	68.0-123			2.18	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3848459-1 10/13/22 15:23 • (LCSD) R3848459-2 10/13/22 15:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	25.0	26.4	26.1	106	104	56.0-143			1.14	20
Methyl tert-butyl ether	5.00	4.41	4.42	88.2	88.4	66.0-132			0.227	20
Naphthalene	5.00	4.98	5.71	99.6	114	59.0-130			13.7	20
n-Propylbenzene	5.00	5.49	5.21	110	104	74.0-126			5.23	20
Styrene	5.00	4.86	4.75	97.2	95.0	72.0-127			2.29	20
1,1,1,2-Tetrachloroethane	5.00	5.16	4.94	103	98.8	74.0-129			4.36	20
1,1,2,2-Tetrachloroethane	5.00	5.20	4.70	104	94.0	68.0-128			10.1	20
1,1,2-Trichlorotrifluoroethane	5.00	6.81	6.02	136	120	61.0-139			12.3	20
Tetrachloroethene	5.00	5.02	5.16	100	103	70.0-136			2.75	20
Toluene	5.00	5.16	4.88	103	97.6	75.0-121			5.58	20
1,2,3-Trichlorobenzene	5.00	4.90	5.76	98.0	115	59.0-139			16.1	20
1,2,4-Trichlorobenzene	5.00	4.71	5.33	94.2	107	62.0-137			12.4	20
1,1,1-Trichloroethane	5.00	4.62	4.75	92.4	95.0	69.0-126			2.77	20
1,1,2-Trichloroethane	5.00	5.97	5.46	119	109	78.0-123			8.92	20
Trichloroethene	5.00	5.39	5.21	108	104	76.0-126			3.40	20
Trichlorofluoromethane	5.00	5.90	5.82	118	116	61.0-142			1.37	20
1,2,3-Trichloropropane	5.00	4.85	4.48	97.0	89.6	67.0-129			7.93	20
1,2,4-Trimethylbenzene	5.00	5.09	4.92	102	98.4	70.0-126			3.40	20
1,2,3-Trimethylbenzene	5.00	5.10	4.83	102	96.6	74.0-124			5.44	20
1,3,5-Trimethylbenzene	5.00	5.31	5.27	106	105	73.0-127			0.756	20
Vinyl chloride	5.00	5.93	5.45	119	109	63.0-134			8.44	20
Xylenes, Total	15.0	15.9	15.9	106	106	72.0-127			0.000	20
(S) Toluene-d8				*99.4*	*95.9*	*75.0-131*				
(S) 4-Bromofluorobenzene				*97.1*	*101*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*97.4*	*98.6*	*70.0-130*				

L1543992-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1543992-12 10/13/22 18:20 • (MS) R3848459-4 10/13/22 22:41 • (MSD) R3848459-5 10/13/22 23:00

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	U	40.3	35.3	161	141	1	10.0-160	J5		13.2	40
Acrylonitrile	25.0	U	27.2	29.5	109	118	1	10.0-160			8.11	40
Acrolein	25.0	U	24.2	25.9	96.8	104	1	10.0-160			6.79	40
Benzene	5.00	U	3.68	3.76	73.6	75.2	1	10.0-149			2.15	37
Bromobenzene	5.00	U	3.93	4.46	78.6	89.2	1	10.0-156			12.6	38
Bromodichloromethane	5.00	U	4.75	5.06	95.0	101	1	10.0-143			6.32	37
Bromoform	5.00	U	5.98	6.00	120	120	1	10.0-146			0.334	36
Bromomethane	5.00	U	2.98	2.86	59.6	57.2	1	10.0-149			4.11	38

L1543992-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1543992-12 10/13/22 18:20 • (MS) R3848459-4 10/13/22 22:41 • (MSD) R3848459-5 10/13/22 23:00

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
n-Butylbenzene	5.00	U	3.80	4.01	76.0	80.2	1	10.0-160			5.38	40
sec-Butylbenzene	5.00	U	3.70	3.56	74.0	71.2	1	10.0-159			3.86	39
tert-Butylbenzene	5.00	U	3.66	3.68	73.2	73.6	1	10.0-156			0.545	39
Carbon tetrachloride	5.00	U	3.73	3.61	74.6	72.2	1	10.0-145			3.27	37
Chlorobenzene	5.00	U	3.55	3.66	71.0	73.2	1	10.0-152			3.05	39
Chlorodibromomethane	5.00	U	5.06	5.23	101	105	1	10.0-146			3.30	37
Chloroethane	5.00	U	3.40	2.68	68.0	53.6	1	10.0-146			23.7	40
Chloroform	5.00	U	3.81	3.62	76.2	72.4	1	10.0-146			5.11	37
Chloromethane	5.00	U	3.25	3.03	65.0	60.6	1	10.0-159			7.01	37
2-Chlorotoluene	5.00	U	3.69	3.94	73.8	78.8	1	10.0-159			6.55	38
4-Chlorotoluene	5.00	U	3.58	3.84	71.6	76.8	1	10.0-155			7.01	39
1,2-Dibromo-3-Chloropropane	5.00	U	4.35	6.48	87.0	130	1	10.0-151		J3	39.3	39
1,2-Dibromoethane	5.00	U	4.54	4.55	90.8	91.0	1	10.0-148			0.220	34
Dibromomethane	5.00	U	5.25	5.11	105	102	1	10.0-147			2.70	35
1,2-Dichlorobenzene	5.00	U	3.93	4.23	78.6	84.6	1	10.0-155			7.35	37
1,3-Dichlorobenzene	5.00	U	3.72	4.13	74.4	82.6	1	10.0-153			10.4	38
1,4-Dichlorobenzene	5.00	U	3.95	4.20	79.0	84.0	1	10.0-151			6.13	38
Dichlorodifluoromethane	5.00	U	3.95	3.25	79.0	65.0	1	10.0-160			19.4	35
1,1-Dichloroethane	5.00	U	3.53	3.47	70.6	69.4	1	10.0-147			1.71	37
1,2-Dichloroethane	5.00	U	5.10	5.27	102	105	1	10.0-148			3.28	35
1,1-Dichloroethene	5.00	U	3.39	3.08	67.8	61.6	1	10.0-155			9.58	37
cis-1,2-Dichloroethene	5.00	U	3.70	3.52	74.0	70.4	1	10.0-149			4.99	37
trans-1,2-Dichloroethene	5.00	U	2.96	2.98	59.2	59.6	1	10.0-150			0.673	37
1,2-Dichloropropane	5.00	U	4.08	4.27	81.6	85.4	1	10.0-148			4.55	37
1,1-Dichloropropene	5.00	U	3.39	3.19	67.8	63.8	1	10.0-153			6.08	35
1,3-Dichloropropane	5.00	U	4.51	4.87	90.2	97.4	1	10.0-154			7.68	35
cis-1,3-Dichloropropene	5.00	U	4.15	4.66	83.0	93.2	1	10.0-151			11.6	37
trans-1,3-Dichloropropene	5.00	U	4.63	5.05	92.6	101	1	10.0-148			8.68	37
2,2-Dichloropropane	5.00	U	4.35	4.24	87.0	84.8	1	10.0-138			2.56	36
Di-isopropyl ether	5.00	U	4.34	4.82	86.8	96.4	1	10.0-147			10.5	36
Ethylbenzene	5.00	U	3.26	3.61	65.2	72.2	1	10.0-160			10.2	38
Hexachloro-1,3-butadiene	5.00	U	4.74	5.13	94.8	103	1	10.0-160			7.90	40
Isopropylbenzene	5.00	U	3.49	3.56	69.8	71.2	1	10.0-155			1.99	38
p-Isopropyltoluene	5.00	U	3.76	3.72	75.2	74.4	1	10.0-160			1.07	40
2-Butanone (MEK)	25.0	U	31.4	28.3	126	113	1	10.0-160			10.4	40
Methylene Chloride	5.00	U	3.20	3.56	64.0	71.2	1	10.0-141			10.7	37
4-Methyl-2-pentanone (MIBK)	25.0	U	29.2	29.5	117	118	1	10.0-160			1.02	35
Methyl tert-butyl ether	5.00	U	4.22	5.24	84.4	105	1	11.0-147			21.6	35
Naphthalene	5.00	U	4.48	5.51	89.6	110	1	10.0-160			20.6	36
n-Propylbenzene	5.00	U	3.45	3.55	69.0	71.0	1	10.0-158			2.86	38

L1543992-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1543992-12 10/13/22 18:20 • (MS) R3848459-4 10/13/22 22:41 • (MSD) R3848459-5 10/13/22 23:00

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Styrene	5.00	U	3.45	3.61	69.0	72.2	1	10.0-160			4.53	40
1,1,1,2-Tetrachloroethane	5.00	U	3.90	4.45	78.0	89.0	1	10.0-149			13.2	39
1,1,2,2-Tetrachloroethane	5.00	U	4.51	5.22	90.2	104	1	10.0-160			14.6	35
1,1,2-Trichlorotrifluoroethane	5.00	U	3.99	3.60	79.8	72.0	1	10.0-160			10.3	36
Tetrachloroethene	5.00	U	3.39	3.14	67.8	62.8	1	10.0-156			7.66	39
Toluene	5.00	U	3.27	3.11	65.4	62.2	1	10.0-156			5.02	38
1,2,3-Trichlorobenzene	5.00	U	4.40	5.40	88.0	108	1	10.0-160			20.4	40
1,2,4-Trichlorobenzene	5.00	U	4.11	5.19	82.2	104	1	10.0-160			23.2	40
1,1,1-Trichloroethane	5.00	U	3.56	3.52	71.2	70.4	1	10.0-144			1.13	35
1,1,2-Trichloroethane	5.00	U	5.01	5.05	100	101	1	10.0-160			0.795	35
Trichloroethene	5.00	U	3.49	3.28	69.8	65.6	1	10.0-156			6.20	38
Trichlorofluoromethane	5.00	U	3.94	3.57	78.8	71.4	1	10.0-160			9.85	40
1,2,3-Trichloropropane	5.00	U	4.93	5.01	98.6	100	1	10.0-156			1.61	35
1,2,4-Trimethylbenzene	5.00	U	3.64	3.84	72.8	76.8	1	10.0-160			5.35	36
1,2,3-Trimethylbenzene	5.00	U	3.70	3.98	74.0	79.6	1	10.0-160			7.29	36
1,3,5-Trimethylbenzene	5.00	U	3.59	3.90	71.8	78.0	1	10.0-160			8.28	38
Vinyl chloride	5.00	U	3.37	2.77	67.4	55.4	1	10.0-160			19.5	37
Xylenes, Total	15.0	U	10.9	10.9	72.7	72.7	1	10.0-160			0.000	38
(S) Toluene-d8					*98.1*	*93.3*		*75.0-131*				
(S) 4-Bromofluorobenzene					*98.9*	*101*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*117*	*111*		*70.0-130*				

Method Blank (MB)

(MB) R3848828-1 10/14/22 19:26

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	*96.0*			*52.0-156*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3848828-2 10/14/22 19:55 • (LCSD) R3848828-3 10/14/22 20:18

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1830	1630	122	109	50.0-150			11.6	20
(S) o-Terphenyl				*92.0*	*90.5*	*52.0-156*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
AEI Consultants - CA

2500 Camino Diablo
Walnut Creek, CA 94597

Billing Information:
Accounts Payable- Jeremy Smith
2500 Camino Diablo
Walnut Creek, CA 94597

Pres Chk

Report to:
Natahsa Budimirovic ; Jeremy Smith

Email To: **nbudimirovic@aeiconsultants.com**
jasmith@aeiconsultants.com

Project Description:
Yarrow Bay Yacht Basin and Marina

City/State Collected: Kirkland, WA

Please Circle: (PT) MT CT ET

Phone: **925-746-6000**

Client Project #
468497

Lab Project #
AEICONWCCA-EVERETTWA

Collected by (print):
N. BUDIMIROVIC

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ✓ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	EPH-HOLD 1L-Amb-Add HCl	NWTPHDXLVI 40mlAmb-HCl-BT	NWTPHGX 40mlAmb HCl	NWTPHGX 40mlAmb-HCl	V8260C 40mlAmb-HCl	VPH-HOLD 40mlAmb HCl					Remarks	Sample # (lab only)
MW-1	Grab	GW	—	10/7/22	1310	10	X	X	X	X	X	X						-01

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 154628
J149

Acctnum: **AEICONWCCA**
Template: **T217672**
Prelogin: **P955782**
PM: **110 - Brian Ford**
PB: 10/5/22 cam
Shipped Via: **FedEx 2nd Day**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 0221 6053 3813 3965

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: ✓Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / (No) HCl / MeoH TBR	If preservation required by Login: Date/Time
	10/7/22	1420	Shipped via FedEX	1	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: NSM °C Bottles Received: 5.0+0=5.0 10	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/08/22 Time: 0900	Hold: / Condition: NCF / (OK)