SEMIANNUAL MONITORING REPORT
March 25, 2024
Semiannual Sampling Event

Hamilton Street Bridge Site
Spokane, Washington

May 17, 2024

Prepared for

Avista Corporation
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Spokane, Washington

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Semiannual Monitoring Report
March 25, 2024 Semiannual Sampling Event
Hamilton Street Bridge Site
Spokane, Washington

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TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

LIST OF ABBREVIATIONS AND ACRONYMS

Avista ..... Avista Corporation
BNSF ..... BNSF Railway Company
CMP ..... compliance monitoring plan
cPAH ..... carcinogenic polycyclic aromatic hydrocarbon
Ecology ..... Washington State Department of Ecology
EPA ..... US Environmental Protection Agency
Eurofins ..... Eurofins Environment Testing Northwest, LLC
FCAP ..... Final Cleanup Action Plan
ft ..... feet, foot
Landau ..... Landau Associates, Inc.
µg/L ..... micrograms per liter
mg/L ..... milligrams per liter
MS ..... matrix spike
MSD ..... matrix spike duplicate
NAVD88 ..... North American Vertical Datum of 1988
PAH ..... polycyclic aromatic hydrocarbon
PVC ..... polyvinyl chloride
QA/QC ..... quality assurance/quality control
RL ..... reporting limit
SIM ..... selected ion monitoring
Site ..... Hamilton Street Bridge Site
WAC ..... Washington Administrative Code
WAD ..... weak acid dissociable

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1.0 INTRODUCTION

On behalf of the Avista Corporation (Avista) and BNSF Railway Company (BNSF), Landau Associates, Inc. (Landau) prepared this semiannual report summarizing the results of the first quarter 2024 semiannual compliance groundwater monitoring event conducted on March 25, 2024 at the Hamilton Street Bridge Site (Washington State Department of Ecology [Ecology] cleanup site ID 3509; facility site ID 84461527) in Spokane, Washington (Site; Figure 1). The Site is adjacent to the Spokane River and overlies the Spokane Valley-Rathdrum Prairie aquifer. Compliance monitoring activities completed during this reporting period were conducted in accordance with the Site compliance monitoring plan (CMP; Landau 2003), Final Cleanup Action Plan (FCAP; Ecology 2001), and Washington Administrative Code (WAC) 173-340-410 and included depth-to-groundwater and river stage measurements, groundwater sampling, and laboratory analysis.

2.0 COMPLIANCE MONITORING PROGRAM

In accordance with the CMP, water-level monitoring and groundwater sampling is completed semiannually, generally in the first and third quarters of the calendar year. Compliance monitoring activities outlined in the CMP include:

- Measuring depth-to-groundwater at shallow (completed at 20-foot [-ft] depth) monitoring wells MW02-20, MW04-20, MW08-20, MW09-20, and ATC7-20, and at deep (completed at 90- to 100-ft depth) monitoring wells MW07-90, MW08-90, and MW09-100.
- Recording Spokane River stage level from a fixed, surveyed staff gauge attached to a pier of the James A. Keefe Bridge (Table 1; Appendix A).
- Collecting groundwater samples from shallow monitoring wells MW02-20, MW04-20, and ATC7-20, intermediate monitoring well MW02-40, and deep monitoring well MW07-90. Monitoring well locations and other pertinent Site features are shown on Figure 2.

In 2010, 2015, and 2023, Ecology completed periodic reviews of Site conditions in accordance with WAC 173-340-420(2) (Ecology 2010, 2015, 2023). In its 2010 review, Ecology recommended adding dissolved arsenic to the list of groundwater analytes. In a comment letter dated December 1, 2010, Avista agreed that future monitoring events would include analysis for dissolved arsenic (Avista 2010).

In a letter to Avista dated August 6, 2018 (Ecology 2018), Ecology outlined recommended changes to the groundwater monitoring program, which included collecting sample matrix from the Site for matrix spike/matrix spike duplicate (MS/MSD) analyses for laboratory quality assurance/quality control (QA/QC) and, due to the potential for sulfide in groundwater to cause matrix interferences resulting in weak acid dissociable (WAD) cyanide analytical results with negative bias, that total sulfide analysis be performed on samples collected from all monitoring wells. MS/MSD samples have been collected from the Site since the March 12, 2018 sampling event. In accordance with an email communication between Landau and Ecology (Ecology 2022), total sulfide analysis is no longer required.

2.1 First Quarter 2024 Semiannual Compliance Monitoring Field Activities

The first quarter 2024 semiannual compliance groundwater monitoring event was conducted on March 25, 2024. The following sections outline the methods used to conduct this compliance monitoring event.

2.1.1 Groundwater and River Stage Elevation Measurements

Groundwater and river stage elevation measurements were completed on March 25, 2024 in conjunction with semiannual groundwater sampling. The Spokane River stage was recorded from the staff gauge, and depth-to-groundwater was measured at select shallow and deep monitoring wells (MW02-20, MW04-20, MW08-20, MW09-20, ATC7-20, MW07-90, MW08-90, and MW09-100) in accordance with the CMP. Depth-to-groundwater was also measured at intermediate monitoring well MW02-40 for informational purposes only. At each monitoring well, a decontaminated electronic water-level indicator was used to measure depth-to-water from the survey mark at the top of the polyvinyl

chloride (PVC) casing to the nearest 0.01 ft; river stage was also measured to the nearest 0.01 ft. River stage and depth-to-water levels were recorded on a field-data sheet and converted to elevations referenced to the North American Vertical Datum of 1988 (NAVD88).

On November 29, 2023, all Site monitoring wells and the Spokane River staff gauge were resurveyed to develop an updated and consistent datum for the Site. Table 1 presents groundwater and river stage elevations for the first quarter 2024 groundwater monitoring event based on the updated reference elevations. Groundwater and river stage elevations from previous semiannual monitoring events dating back to 2006 are also provided in Table 1.

2.1.2 Semiannual Groundwater Sampling

Semiannual groundwater samples were collected on March 25, 2024 from monitoring wells MW02-20, MW02-40, MW04-20, MW07-90, and ATC7-20. For quality assurance, a blind field duplicate sample (MW20-60) was collected from monitoring well MW07-90, and MS/MSD samples were collected from monitoring well ATC7-20.

Prior to collecting groundwater samples, a decontaminated submersible pump or a peristaltic pump and dedicated polyethylene tubing were used to purge three well-casing volumes from each monitoring well. Water-quality field parameters (pH, temperature, conductivity, dissolved oxygen, oxidation reduction potential, and turbidity) and depth-to-water were recorded immediately following each well-casing volume purged. Lead acetate test strips were used to field-screen purged groundwater for sulfide following each volume purged. All non-disposable and non-dedicated monitoring and sampling equipment were decontaminated prior to use in each well. Field measurements and screening observations were recorded on groundwater sample collection forms and are included in Appendix A. Water-quality field parameters collected during well purging are provided in Table 2.

Groundwater samples were collected into laboratory-supplied sample containers labeled with a unique sample identification, logged on a chain-of-custody form, and immediately placed in an iced cooler for transport to the laboratory. The chain-of-custody forms are included with the analytical laboratory report in Appendix B.

2.2 Laboratory Analysis

Groundwater samples were analyzed by the Eurofins Spokane laboratory of Eurofins Environment Testing Northwest, LLC (Eurofins) in Spokane, Washington. Groundwater samples were analyzed for polycyclic aromatic hydrocarbons/carcinogenic polycyclic aromatic hydrocarbons (PAHs/cPAHs) by US Environmental Protection Agency (EPA) Method 8270E-SIM (selected ion monitoring), total and dissolved arsenic by EPA Method 200.8, total mercury by EPA Method 245.1, and WAD cyanide by SM 4500-CN-I. Eurofins is accredited by Ecology for these analytes and methods for non-potable water analysis. All samples submitted for WAD cyanide analysis are screened by the laboratory for sulfide using lead acetate paper, and if sulfide is detected, the samples are treated with bismuth nitrate to precipitate sulfide from thiocyanate, freeing cyanide for detection prior to WAD cyanide analysis.

3.0 MONITORING RESULTS

Groundwater elevation and laboratory analytical results for the semiannual groundwater monitoring event are discussed in the following sections.

3.1 Groundwater Elevation

The March 25, 2024 depth-to-groundwater measurements and calculated groundwater elevations for the monitoring wells outlined in the CMP, and the Spokane River stage, are presented in Table 1. The elevation of the Spokane River was 1,872.80 ft, and groundwater elevations in shallow monitoring wells MW02-20, MW04-20, MW08-20, MW09-20, and ATC7-20 and in deep monitoring wells MW07-90, MW08-90, and MW09-100 ranged from 1,872.51 ft (MW08-90) to 1,872.68 ft (MW02-20). The groundwater elevation in all monitoring wells was below the river stage elevation.

3.2 Groundwater Analytical Results

The following describes groundwater analytical results for the first quarter 2024 semiannual compliance monitoring event.

Groundwater samples were received by Eurofins in good condition and were prepared and analyzed within allowable holding times. Landau conducted an EPA Level IIA-equivalent validation and verification on all laboratory analytical data. Validation of the data was performed in accordance with guidance from applicable portions of the *National Functional Guidelines for Inorganic Superfund Methods Data Review* (EPA 2020a), the *National Functional Guidelines for Organic Superfund Methods Data Review* (EPA 2020b), analytical methods, and Landau data-validation standard operating procedures. All laboratory data were deemed acceptable for project use. Groundwater analytical results were compared to the final Site cleanup levels presented in the Final Cleanup Action Plan (Ecology 2001).

A copy of the laboratory analytical report is included in Appendix B, and the analytical results are presented in Tables 3 and 4. The groundwater analytical results are summarized as follows:

- **Total Mercury.** Total mercury was not detected at a concentration greater than the laboratory reporting limit (RL) in any samples; the RL is 0.00020 milligrams per liter (mg/L). The Site cleanup level is 0.0002 mg/L.
- **Total Arsenic.** Total arsenic was detected at concentrations greater than the RL in groundwater samples collected from MW02-40, MW04-20, ATC7-20, MW07-90, and in the duplicate sample collected from MW07-90. Concentrations ranged from 0.0012 mg/L (MW02-40) to 0.0053 mg/L (ATC7-20). None of the reported concentrations exceeded the 0.006 mg/L Site cleanup level.
- **Dissolved Arsenic**. Dissolved arsenic was detected at a concentration greater than the RL in groundwater samples collected from MW02-40, MW04-20, ATC7-20, MW07-90 and in the duplicate sample collected from MW07-90. Detected concentrations ranged from 0.0011 mg/L (MW02-40) to 0.0048 mg/L (ATC7-20). None of the reported concentrations exceeded the Site cleanup level (0.006 mg/L).
- **WAD Cyanide.** WAD cyanide was not detected at a concentration greater than the RL in any samples. The RL is 0.010 mg/L and the Site cleanup level is 0.01 mg/L.

- **PAHs/cPAHs.** PAHs or cPAHs were not detected at concentrations greater than the respective RLs in any sample. All RLs are below the applicable site cleanup levels.

4.0 SUMMARY

The first quarter 2024 semiannual compliance groundwater monitoring event was conducted on March 25, 2024 in accordance with the CMP, FCAP, and WAC 173-340-410. Groundwater analytical results indicate all concentrations of total and dissolved arsenic, WAD cyanide, PAHs/cPAHs, and total mercury were less than Site cleanup levels. Results of compliance monitoring demonstrate that the Site remains in compliance with Site cleanup standards.

5.0 USE OF THIS REPORT

This report has been prepared for the exclusive use of the Avista Corporation and BNSF Railway Company for specific application to the Hamilton Street Bridge Site in Spokane, Washington. The reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project without review and authorization by Landau shall be at the user's sole risk. Landau warrants that within the limitations of scope, schedule, and budget, its services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. Landau makes no other warranty, either express or implied.

6.0 REFERENCES

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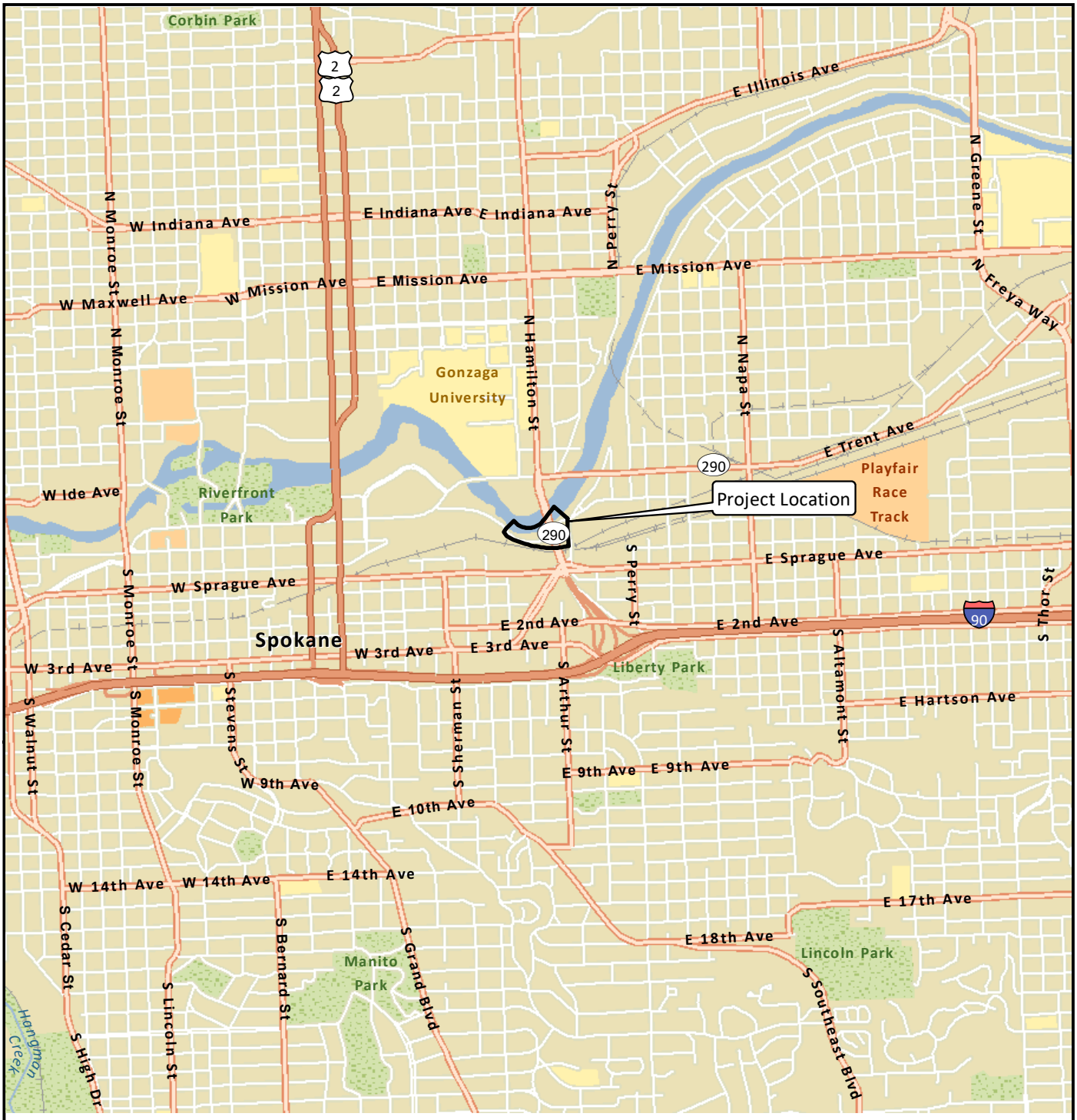

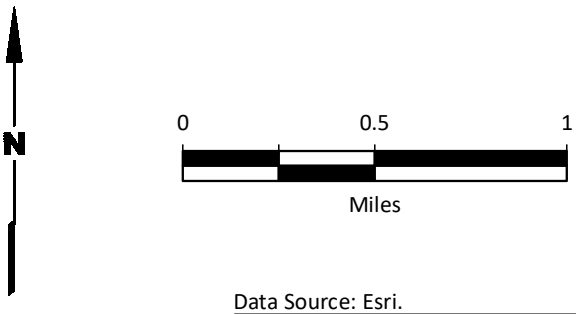

Data Source: Esri.

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Hamilton Street Bridge Site Spokane, Washington	**Vicinity Map**	Figure 1

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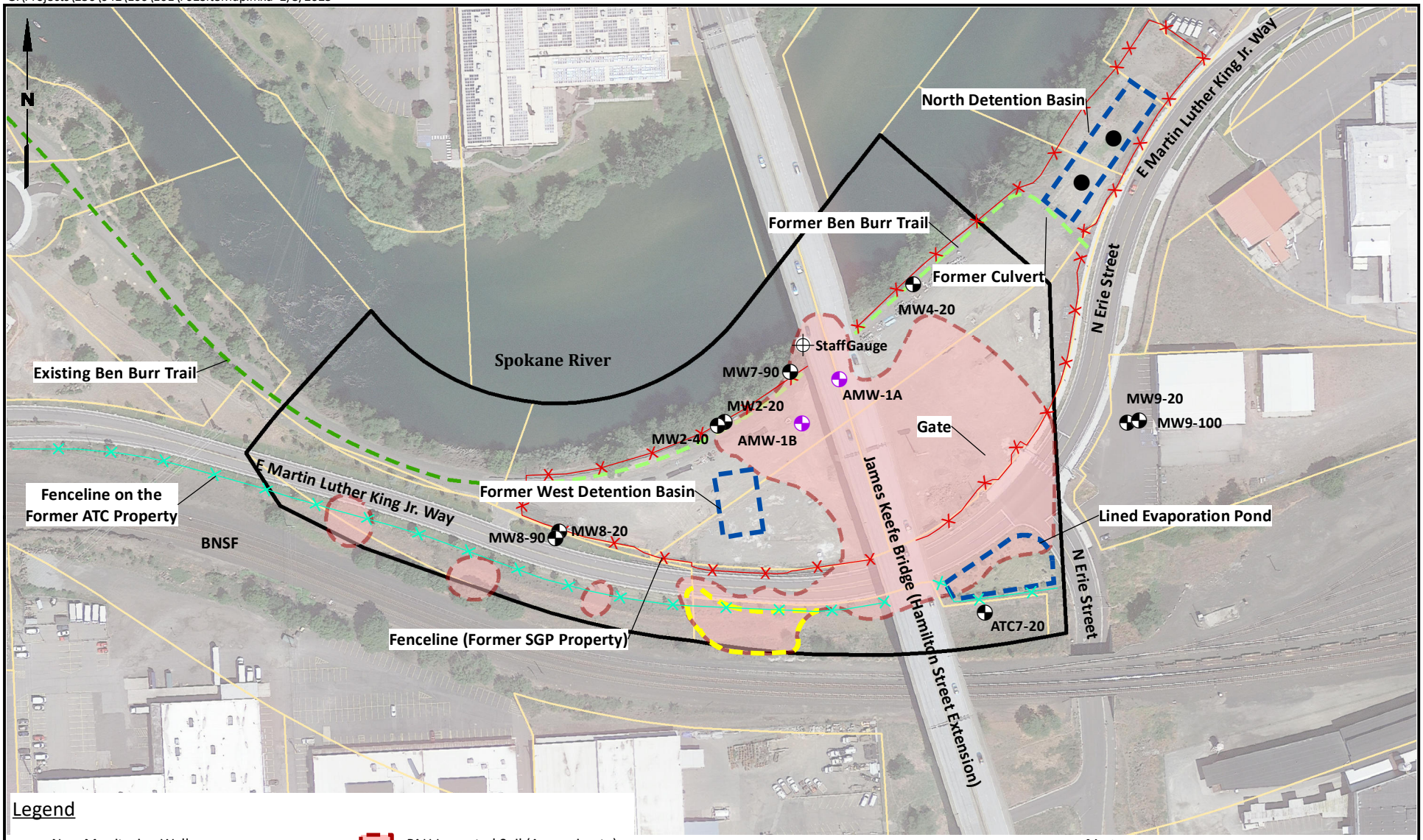

Legend

- New Monitoring Well (Installed by Prospective Purchaser in 2021)
- Existing Monitoring Well
- Drywell
- Staff Guage
- cPAH Impacted Soil (Approximate)
- ATC Property Soil Cap (Approximate)
- Hamilton Street Bridge Site
- Stormwater Facilities
- Tax Parcels
- Existing Ben Burr Trail
- Former Ben Burr Trail

0 200 400

Scale in Feet

Source: Google Earth Pro, July 2022; Spokane County GIS

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

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Hamilton Street Bridge Site
Spokane, Washington

Site Map

Figure 2

Table 1
Cumulative Groundwater Level Measurements
Hamilton Street Bridge Site
Spokane, Washington

	Shallow Monitoring Wells										Deep Monitoring Wells							
Monitoring Well	**MW02-20 (a, e)**		**MW04-20 (a, e)**		**MW08-20 (e)**		**MW09-20 (b, e)**		**ATC7-20 (e)**		**MW07-90 (a, e)**		**MW08-90 (c, e)**		**MW09-100 (b, e)**		**Spokane River (d, e)**	
TOC Elevation (ft)	**1,884.92**		**1,884.34**		**1,892.09**		**1,886.08**		**1,886.97**		**1,884.44**		**1,895.27**		**1,886.81**		**1,877.00**	
Date Measured	**Depth**	**Elevation**	**Depth**	**Elevation**	**Depth**	**Elevation**	**Depth**	**Elevation**	**Depth**	**Elevation**	**Depth**	**Elevation**	**Depth**	**Elevation**	**Depth**	**Elevation**	**Staff Gauge Reading**	**Elevation (g)**
1/31/2006	16.08	1,872.34	14.57	1,872.87	19.64	1,872.42	12.91	1,873.15	13.68	1,873.08	14.24	1,872.97	19.12	1,872.95	13.63	1,873.14	4.58	1,870.65
8/8/2006	17.92	1,870.50	18.61	1,868.83	21.22	1,870.84	NM	NM	18.09	1,868.67	18.43	1,868.78	23.26	1,868.81	NM	NM	2.68	1,872.55
2/12/2007	17.56	1,870.86	17.01	1,870.43	21.05	1,871.01	15.55	1,870.51	16.33	1,870.43	16.74	1,870.47	21.62	1,870.45	16.24	1,870.53	3.32	1,871.91
9/6/2007	18.03	1,870.39	19.08	1,868.36	21.51	1,870.55	17.85	1,868.21	18.60	1,868.16	18.92	1,868.29	23.76	1,868.31	18.59	1,868.18	2.60	1,872.63
2/13/2008	17.56	1,870.86	17.72	1,869.72	21.03	1,871.03	16.31	1,869.75	17.09	1,869.67	17.48	1,869.73	22.34	1,869.73	17.02	1,869.75	3.15	1,872.08
9/10/2008	17.76	1,870.66	18.16	1,869.28	21.26	1,870.80	16.95	1,869.11	17.73	1,869.03	18.00	1,869.21	22.87	1,869.20	17.70	1,869.07	2.85	1,872.38
2/5/2009	17.55	1,870.87	16.14	1,871.30	20.96	1,871.10	15.27	1,870.79	15.39	1,871.37	15.86	1,871.35	20.86	1,871.21	14.56	1,872.21	3.40	1,871.83
8/19/2009	17.96	1,870.46	18.10	1,869.34	21.40	1,870.66	16.85	1,869.21	17.62	1,869.14	17.91	1,869.30	22.80	1,869.27	17.59	1,869.18	2.73	1,872.50
3/25/2010	17.55	1,870.87	17.42	1,870.02	21.03	1,871.03	15.95	1,870.11	16.73	1,870.03	17.16	1,870.05	22.04	1,870.03	16.66	1,870.11	3.18	1,872.05
8/17/2010	19.92	1868.50	19.25	1,868.19	21.75	1,870.31	17.87	1,868.19	18.67	1,868.09	19.04	1,868.17	23.88	1,868.19	18.59	1,868.18	12.42	1,862.81
2/3/2011	15.14	1873.28	13.05	1,874.39	18.56	1,873.50	11.22	1,874.84	12.15	1,874.61	12.81	1,874.40	17.74	1,874.33	11.94	1,874.83	5.81	1,869.42
9/22/2011	18.54	1869.88	18.26	1,869.18	21.73	1,870.33	16.9	1,869.16	17.71	1,869.05	18.20	1,869.01	22.87	1,869.20	17.61	1,869.16	2.45	1,872.78
2/28/2012	17.39	1870.03	17.38	1,870.06	20.8	1,871.26	15.83	1,870.23	16.51	1,870.25	16.94	1,870.27	21.77	1,870.30	16.48	1,870.29	3.40	1,871.83
9/5/2012	18.09	1870.33	18.13	1,869.31	21.5	1,870.56	16.9	1,869.16	17.70	1,869.06	17.96	1,869.25	22.81	1,869.26	17.62	1,869.15	2.60	1,872.63
2/20/2013	17.38	1871.04	16.48	1,870.96	20.74	1,871.32	15.18	1,870.88	15.82	1,870.94	16.23	1,870.98	21.11	1,870.96	15.70	1,871.07	3.41	1,871.82
9/5/2013	18.07	1870.35	18.59	1,868.85	21.43	1,870.63	17.29	1,868.77	18.08	1,868.68	18.37	1,868.84	23.21	1,868.86	18.00	1,868.77	2.68	1,872.55
3/20/2014	13.08	1875.34	11.72	1,875.72	16.43	1,875.63	10.12	1,875.94	10.98	1,875.78	11.48	1,875.73	16.40	1,875.67	10.81	1,875.96	7.80	1,867.43
9/10/2014	18.00	1870.42	18.35	1,869.09	21.35	1,870.71	17.13	1,868.93	17.90	1,868.86	18.17	1,869.04	23.03	1,869.04	17.81	1,868.96	2.75	1,872.48
3/2/2015	16.23	1872.19	14.13	1,873.31	19.58	1,872.48	12.33	1,873.73	13.20	1,873.56	13.75	1,873.46	18.68	1,873.39	13.01	1,873.76	4.62	1,872.59
9/28/2015	18.08	1870.34	19.02	1,868.42	21.42	1,870.64	17.82	1,868.24	18.60	1,868.16	18.87	1,868.34	23.74	1,868.33	18.52	1,868.25	2.70	1,870.67
3/3/2016	15.63	1872.79	13.96	1,873.48	19.01	1,873.05	12.31	1,873.75	13.16	1,873.60	13.65	1,873.56	18.56	1,873.51	12.44	1,874.33	5.28	1,873.25
9/13/2016	19.34	1869.08	--	--	22.05	1,870.01	17.97	1,868.09	18.76	1,868.00	19.09	1,868.12	27.15	1,868.11	18.67	1,868.10	1.42	1,869.39
3/23/2017	8.03	1880.39	7.30	1,880.14	11.34	1,880.72	5.83	1,880.23	6.64	1,880.12	7.16	1,880.05	15.24	1,880.02	6.52	1,880.25	NM	(f)
9/6/2017	18.01	1870.41	18.30	1,869.14	21.34	1,870.72	17.13	1,868.93	17.90	1,868.86	18.15	1,869.06	26.19	1,869.07	17.84	1,868.93	2.77	1,870.74
3/12/2018	17.02	1871.40	15.48	1,871.96	20.38	1,871.68	13.85	1,872.21	14.70	1,872.06	15.14	1,872.07	23.22	1,872.04	14.52	1,872.25	3.76	1,871.73
8/28/2018	14.26	1870.58	15.22	1,869.03	21.44	1,870.62	17.22	1,868.84	18.01	1,868.75	15.46	1,868.94	26.30	1,868.96	17.92	1,868.85	2.66	1,870.63

Table 1
Cumulative Groundwater Level Measurements
Hamilton Street Bridge Site
Spokane, Washington

	Shallow Monitoring Wells										Deep Monitoring Wells							
Monitoring Well	**MW02-20 (a, e)**		**MW04-20 (a, e)**		**MW08-20 (e)**		**MW09-20 (b, e)**		**ATC7-20 (e)**		**MW07-90 (a, e)**		**MW08-90 (c, e)**		**MW09-100 (b, e)**		**Spokane River (d, e)**	
TOC Elevation (ft)	**1,884.92**		**1,884.34**		**1,892.09**		**1,886.08**		**1,886.97**		**1,884.44**		**1,895.27**		**1,886.81**		**1,877.00**	
Date Measured	**Depth**	**Elevation**	**Depth**	**Elevation**	**Depth**	**Elevation**	**Depth**	**Elevation**	**Depth**	**Elevation**	**Depth**	**Elevation**	**Depth**	**Elevation**	**Depth**	**Elevation**	**Staff Gauge Reading**	**Elevation (g)**
3/7/2019	13.98	1870.86	14.20	1,870.05	21.16	1,870.90	16.00	1,870.06	16.78	1,869.98	14.36	1,870.04	25.20	1,870.06	16.67	1,870.10	2.97	1,870.94
9/17/2019	14.14	1870.70	15.56	1,868.69	21.38	1,870.68	17.67	1,868.39	18.45	1,868.31	15.87	1,868.53	26.70	1,868.56	18.39	1,868.38	2.77	1,870.74
3/9/2020	13.60	1871.24	13.37	1,870.88	20.80	1,871.26	15.11	1,870.95	15.92	1,870.84	13.52	1,870.88	24.37	1,870.89	15.81	1,870.96	3.36	1,871.33
9/28/2020	14.15	1870.69	15.11	1,869.14	21.34	1,870.72	17.03	1,869.03	17.84	1,868.92	15.32	1,869.08	26.16	1,869.10	17.76	1,869.01	2.79	1,870.76
3/22/2021	13.28	1871.56	13.31	1,870.94	20.50	1,871.56	15.09	1,870.97	15.90	1,870.86	13.49	1,870.91	24.33	1,870.93	15.76	1,871.01	3.70	1,871.67
9/7/2021	14.23	1870.61	16.11	1,868.14	21.45	1,870.61	18.10	1,867.96	18.89	1,867.87	16.35	1,868.05	27.18	1,868.08	18.81	1,867.96	2.68	1,870.65
3/24/2022	11.56	1873.28	10.64	1,873.61	18.80	1,873.26	12.19	1,873.87	13.05	1,873.71	10.73	1,873.67	21.62	1,873.64	12.88	1,873.89	5.48	1,873.45
9/16/2022	14.05	1870.79	14.98	1,869.27	21.28	1,870.78	16.96	1,869.10	17.77	1,868.99	15.23	1,869.17	26.05	1,869.21	17.68	1,869.09	2.83	1,870.80
3/23/2023	13.59	1871.25	14.10	1,870.15	20.85	1,871.21	15.91	1,870.15	16.72	1,870.04	14.28	1,870.12	25.11	1,870.15	16.60	1,870.17	NM	NM
9/21/2023	14.18	1870.74	15.48	1,868.86	21.37	1,870.72	17.47	1,868.61	18.28	1,868.69	15.74	1,868.70	26.57	1,868.70	18.19	1,868.62	2.77	1,870.77
3/25/2024	12.24	1872.68	11.74	1,872.60	19.51	1,872.58	13.45	1,872.63	14.30	1,872.67	11.90	1,872.54	22.76	1,872.51	14.15	1,872.66	4.80	1,872.80

Notes:

Depth measured in ft below TOC.

Elevation datum = NAVD88

-- = Dry monitoring well

Original survey by USKH, Inc. Elevations based on NGS Station U-25 at USC&GS Brass Cap Benchmark, located on North Helena Street near railroad crossing, NAVD88 Datum, elevation 1,909.50 ft.

(a) Top of casing elevation for monitoring wells MW02-20, MW04-20, and MW07-90 resurveyed by Adams & Clark, Inc. on September 12, 2018. Depth-to-water measurements recorded prior to August 28, 2018 reference pre-adjusted TOC elevations.

(b) Top of casing elevations for monitoring wells MW09-20 and MW09-100 were corrected when preparing the March 23, 2023 sampling event semiannual monitoring report based on the Wyatt Engineering survey performed on June 21, 2001. Groundwater elevations presented in this table for MW09-20 and MW09-100, from January 31, 2006 through March 23, 2023, utilize this survey information.

(c) Top of casing elevation for monitoring well MW08-90 resurveyed by Adams & Clark, Inc. on November 17, 2017. Depth-to-water measurements recorded prior to the September 13, 2016 sampling event reference a pre-adjusted TOC elevation.

(d) Reference elevation for January 31, 2006 through March 23, 2023 was a point on bridge pier (marked 7.26 ft. on staff gauge)

(e) Water elevation monitoring points were resurveyed by Adams & Clark, Inc. on November 29, 2023. The updated elevations are considered effective as of the September 21, 2023 sampling event. The Spokane River Staff Gauge surveyed reference point was moved from 7.26 ft to 9.00 ft. Prior elevations are calculated using the applicable survey data at that time.

(f) River gauge was inaccessible at the time of sampling (water level too high).

(g) River stage elevations from March 2, 2015 through September 16, 2022 were corrected when preparing the March 23, 2023 sampling event semiannual monitoring report.

Abbreviations and Acronyms:

ft = foot/feet

NAVD88 = North American Vertical Datum of 1988

NGS = National Geodetic Data Survey

NM = not measured

TOC - top of casing

USC&GS = United States Coast and Geodetic Survey

Table 2
First Quarter 2024 Groundwater
Field Parameters
Hamilton Bridge Street Site
Spokane, Washington

Location	Date Measured	Field Parameters						
		Field Screening						
		Sulfide	pH	Temp (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Turbidity (NTU)
MW02-20	3/25/2024	ND	7.52	4.1	71.9	12.16	233.8	1.24
MW04-20	3/25/2024	ND	7.04	5.0	144.8	4.22	237.7	0.20
MW02-40	3/25/2024	ND	7.12	8.4	513.7	4.74	248.6	0.15
MW07-90	3/25/2024	ND	7.67	11.2	402.7	9.33	174.1	0.27
ATC7-20	3/25/2024	ND	7.34	10.8	633.3	9.03	246.5	0.25

Notes:

Values are final measurements recorded after purging three well casing volumes.

Sulfide field screened using lead acetate test strips. Detection is positive or negative based on color change.

ND = no detection based on colorimetric response.

Abbreviations and Acronyms:

°C = degrees Celsius

µS/cm = microsiemens per centimeter

mg/L = milligrams per liter

mV = millivolts

NTU = nephelometric turbidity units

Table 3
Cumulative Groundwater Chemistry Data
Arsenic, Cyanide, Total Mercury, and Sulfide
Hamilton Street Bridge Site
Spokane, Washington

Well	Date Sampled	Total Mercury EPA 245.1 (mg/L)	Total Arsenic EPA 200.8 (mg/L)	Dissolved Arsenic EPA 200.8 (mg/L)	WAD Cyanide SM4500-CN/CN-I (mg/L)	Total Sulfide SM4500-S2-D (mg/L)
MW02-20	2/1/2006	0.0001 U (a)	0.00100 U	--	0.00500 U	--
	8/9/2006*	0.0001 U (a)	0.00100 U	--	0.0100 U	--
	2/13/2007*	0.0001 U (a)	0.00108	--	0.0100 U	--
	9/6/2007*	0.000149 J (a)	0.00105	--	0.0100 U	--
	2/13/2008*	0.0001 U (b)	0.00140	--	0.0100 U	--
	9/10/2008	0.000152 (b)	0.00957	--	0.00500 U	--
	2/6/2009	0.0002 U (b)	0.00100 U	--	0.00500 U	--
	8/20/2009	0.000201	0.00251	--	0.00500 U	--
	3/26/2010	0.0002 U	0.0001 U	--	0.00500 U	--
	8/18/2010	0.0002 U	0.001 U	--	0.00500 U	--
	2/4/2011	0.0002 U	0.001 U	0.001 U	0.00500 U	--
	9/23/2011	0.0002 U	0.00134	0.00140	0.00500 U	--
	2/29/2012	0.0002 U	0.0010 U	0.0010 U	0.00500 U	--
	9/6/2012	0.0002 U	0.0010	0.0010 U	0.00500 U	--
	2/21/2013	0.0002 U	0.0010 U	0.0010 U	0.0050 U	--
	9/6/2013	0.0002 U	0.0011	0.0010 U	0.0050 U	--
	3/21/2014	0.0002 U	0.0010 U	0.0010 U	0.0050 U	--
	9/10/2014	0.0002 U	0.0013	0.0015	0.0050 U	--
	3/3/2015	0.0002 U	0.0020 U	0.0020 U	0.010 U	--
	9/28/2015	0.0002 U	0.0020 U	0.0020 U	0.010 U	--
	3/4/2016	0.0002 U	0.0020 U	0.0020 U	0.042	--
	9/13/2016	0.0002 U	0.0011	0.0010 U	0.010 U	--
	3/23/2017	0.0002 U	0.0010 U	0.0010 U	0.010 U	--
	9/6/2017	0.0002 U	0.0019	0.0018	0.010 U	--
	3/12/2018	0.0002 U	0.0010 U	0.0010 U	0.010 U	--
	8/28/2018**	0.0002 U	0.0015	0.0017	0.010 U	0.10 U
	3/7/2019	0.0002 U	0.0014	0.0016	0.022	0.10 U
	9/17/2019	0.0002 U	0.0018	0.0018	0.010U/0.010U (d)	0.05 U
	3/9/2020	0.0002 U	0.0010 U	0.0010 U	0.010 U	0.05 U
	9/28/2020	0.0002 U	0.0018	0.0019	0.010 U	0.05 U
	3/22/2021	0.00015 U (a)	0.0010 U	0.0010 U	0.010 U	0.05 U
	9/7/2021	0.0002 U	0.0026	0.0025	0.010 U	0.05 U
	3/24/2022	0.00020 U	0.0010 U	0.0010 U	0.010 U	0.050 U
	9/16/2022	0.00020 U	0.0018	0.0018	R	R
	11/15/2022	--	--	--	0.010 U	--
	3/23/2023	0.00020 U	0.0011	0.0011	0.005 U	--
	9/21/2023	0.00020 U	0.0017	0.0018	0.010 U	0.050 U
	3/25/2024	0.00020 U	0.0010 U	0.0010 U	0.010 U	--
Site Cleanup Level (c)		0.0002	0.006	0.006	0.01	NA

Table 3
Cumulative Groundwater Chemistry Data
Arsenic, Cyanide, Total Mercury, and Sulfide
Hamilton Street Bridge Site
Spokane, Washington

Well	Date Sampled	Total Mercury EPA 245.1 (mg/L)	Total Arsenic EPA 200.8 (mg/L)	Dissolved Arsenic EPA 200.8 (mg/L)	WAD Cyanide SM4500-CN/CN-I (mg/L)	Total Sulfide SM4500-S2-D (mg/L)
MW02-40	2/1/2006	0.0001 U (a)	0.00158	--	0.00500 U	--
	8/9/2006*	0.0001 U (a)	0.00100 U	--	0.0100 U	--
	2/13/2007	0.0001 U (a)	0.00155	--	0.0100 U	--
	9/6/2007	0.000171 J (a)	0.00115	--	0.0100 U	--
	2/13/2008	0.0001 U (b)	0.00167	--	0.0100 U	--
	9/10/2008	0.0001 U (b)	0.00145	--	0.00500 U	--
	2/6/2009	0.0002 U (b)	0.00125	--	0.00500 U	--
	8/20/2009	0.0002 U	0.00121	--	0.00500 U	--
	3/26/2010	0.0002 U	0.00113	--	0.00500 U	--
	8/18/2010	0.0002 U	0.00125	--	0.00500 U	--
	2/4/2011	0.0002 U	0.00126	0.00115	0.00500 U	--
	9/23/2011	0.0002 U	0.00140	0.00143	0.00500 U	--
	2/29/2012	0.0002 U	0.0013	0.0012	0.00500 U	--
	9/6/2012	0.0002 U	0.0017	0.0016	0.00500 U	--
	2/21/2013	0.0002 U	0.0023	0.0027	0.0050 U	--
	9/6/2013	0.0002 U	0.0012	0.0011	0.0050 U	--
	3/21/2014	0.0002 U	0.0013	0.0014	0.0050 U	--
	9/10/2014	0.0002 U	0.0016	0.0015	0.0050 U	--
	3/3/2015	0.0002 U	0.0020 U	0.0020 U	0.010 U	--
	9/28/2015	0.0002 U	0.0020 U	0.0020 U	0.010 U	--
	3/3/2016	0.0002 U	0.0020 U	0.0020 U	0.013	--
	9/13/2016	0.0002 U	0.0013	0.0014	0.010 U	--
	3/23/2017	0.0002 U	0.0013	0.0014	0.010 U	--
	9/6/2017	0.0002 U	0.0016	0.0014	0.010 U	--
	3/12/2018	0.0002 U	0.0021	0.0021	0.010 U	--
	8/28/2018**	0.0002 U	0.0013	0.0013	0.010 U	0.10 U
	3/7/2019	0.0002 U	0.0014	0.0014	0.011	0.10 U
	9/17/2019	0.0002 U	0.0011	0.0012	0.010U/0.010U (d)	0.05 U
	3/9/2020	0.0002 U	0.0011	0.0011	0.010 U	0.05 U
	9/28/2020	0.0002 U	0.0013	0.0013	0.010 U	0.05 U
	3/22/2021	0.00015 U (a)	0.0012	0.0013	0.010 U	0.05 U
	9/7/2021	0.0002 U	0.0010	0.0010 U	0.010 U	0.05 U
	3/24/2022	0.00020 U	0.0013	0.0010 U	0.010 U	0.050 U
	9/16/2022	0.00020 U	0.0013	0.0013	R	R
	11/15/2022	--	--	--	0.010 U	--
	3/23/2023	0.00020 U	0.0011	0.0011	0.005 U	--
	9/21/2023	0.00020 U	0.0010	0.0011	0.010 U	0.050 U
	3/25/2024	0.00020 U	0.0012	0.0011	0.010 U	--
Site Cleanup Level (c)		0.0002	0.006	0.006	0.01	NA

Table 3
Cumulative Groundwater Chemistry Data
Arsenic, Cyanide, Total Mercury, and Sulfide
Hamilton Street Bridge Site
Spokane, Washington

Well	Date Sampled	Total Mercury EPA 245.1 (mg/L)	Total Arsenic EPA 200.8 (mg/L)	Dissolved Arsenic EPA 200.8 (mg/L)	WAD Cyanide SM4500-CN/CN-I (mg/L)	Total Sulfide SM4500-S2-D (mg/L)
MW04-20	2/1/2006	0.0001 U (a)	0.00354	--	0.0408	--
	8/10/2006*	0.0001 U (a)	0.00372	--	0.0100 U	--
	2/13/2007*	0.0001 U (a)	0.00500	--	0.0100 U	--
	9/6/2007*	0.000145 J (a)	0.00393	--	0.0100 U	--
	2/13/2008	0.000152 (b)	0.00726	--	0.0100 U	--
	9/10/2008	0.000114 (b)	0.0235	--	0.00500 U	--
	2/6/2009	0.000118 (b)	0.00580	--	0.00850	--
	8/20/2009	0.0002 U	0.0258	--	0.00500 U	--
	3/26/2010	0.0002 U	0.00211	--	0.00500 U	--
	8/18/2010	0.0002 U	0.00528	--	0.00500 U	--
	2/4/2011	0.0002 U	0.00272	0.00252	0.01920	--
	9/23/2011	0.0002 U	0.00344	0.00338	0.00500 U	--
	2/29/2012	0.0002 U	0.0025	0.0026	0.00500 U	--
	9/6/2012	0.0002 U	0.0034	0.0016	0.00500 U	--
	2/21/2013	0.0002 U	0.0025	0.0026	0.0053	--
	9/6/2013	0.0002 U	0.0034	0.0034	0.0050 U	--
	3/21/2014	0.0002 U	0.0030	0.0029	0.0050 U	--
	9/10/2014	0.0002 U	0.0035	0.0037	0.0050 U	--
	3/3/2015	0.0002 U	0.0027	0.0026	0.100 UJ	--
	9/28/2015	0.0002 U	0.0033	0.0032	0.010 U	--
	3/3/2016	0.0002 U	0.0020 U	0.0026	0.031	--
	9/13/2016(d)	--	--	--	--	--
	3/23/2017	0.0002 U	0.0030	0.0029	0.010 U	--
	9/6/2017	0.0002 U	0.0034	0.0035	0.010 U	--
	3/12/2018	0.0002 U	0.0023	0.0021	0.019	--
	8/28/2018**	0.0002 U	0.0033	0.0035	0.010 U	0.10 U
	3/7/2019	0.0002 U	0.0019	0.0019	0.010 U	0.10 U
	9/17/2019	0.0002 U	0.0024	0.0025	0.010U/0.010U (d)	0.05 U
	3/9/2020	0.0002 U	0.0015	0.0014	0.010 U	0.050 U
	9/28/2020	0.0002 U	0.0031	0.0030	0.010 U	0.050 U
	3/22/2021	0.00023 J (a)	0.0019	0.0020	0.010 U	0.050 U
	9/7/2021	0.0002 U	0.0033	0.0033	0.010 U	0.05 U
	3/24/2022	0.00020 U	0.0016	0.0013	0.016	0.13
	9/16/2022	0.00020 U	0.0032	0.0034	0.014 (e)	R
	11/15/2022	--	--	--	0.010 U	--
	3/23/2023	0.00020 U	0.0023	0.0023	0.005 U	--
	9/21/2023	0.00020 U	0.0027	0.0028	0.010 U	0.050 U
	3/25/2024	0.00020 U	0.0017	0.0016	0.010 U	--
Site Cleanup Level (c)		0.0002	0.006	0.006	0.01	NA

Table 3
Cumulative Groundwater Chemistry Data
Arsenic, Cyanide, Total Mercury, and Sulfide
Hamilton Street Bridge Site
Spokane, Washington

Well	Date Sampled	Total Mercury EPA 245.1 (mg/L)	Total Arsenic EPA 200.8 (mg/L)	Dissolved Arsenic EPA 200.8 (mg/L)	WAD Cyanide SM4500-CN/CN-I (mg/L)	Total Sulfide SM4500-S2-D (mg/L)
ATC7-20	2/1/2006	0.0001 U (a)	0.00740	--	0.00500 U	--
Duplicate	2/1/2006	0.0001 U (a)	0.00746	--	0.00500 U	--
	8/10/2006*	0.0001 U (a)	0.00481	--	0.0100 U	--
	2/13/2007	0.0001 U (a)	0.00716	--	0.0100 U	--
	9/6/2007*	0.000147 J (a)	0.00427	--	0.0100 U	--
	2/13/2008	0.0001 U (b)	0.00549	--	0.0100 U	--
	9/10/2008	0.0001 U (b)	0.00564	--	0.00500 U	--
	2/6/2009	0.000079 (b)	0.00469	--	0.00500 U	--
	8/20/2009	0.0002 U	0.00959	--	0.00500 U	--
	3/26/2010	0.0002 U	0.00423	--	0.00500 U	--
	8/18/2010	0.0002 U	0.00480	--	0.00500 U	--
	2/4/2011	0.0002 U	0.00598	0.00579	0.00500 U	--
	9/23/2011	0.0002 U	0.00523	0.00553	0.00500 U	--
	2/29/2012	0.00025 U	0.0051	0.0051	0.00500 U	--
	2/21/2013	0.0002 U	0.0053	0.0058	0.0050 U	--
	9/6/2013	0.0002 U	0.0043	0.0044	0.0050 U	--
	3/21/2014	0.0002 U	0.0052	0.0059	0.0050 U	--
	9/10/2014	0.0002 U	0.0048	0.0048	0.0050 U	--
	3/3/2015	0.0002 U	0.0067	0.0068	0.010 U	--
	9/28/2015	0.0002 U	0.0036	0.0036	0.010 U	--
	3/3/2016	0.0002 U	0.0035	0.0060	0.010 U	--
	9/13/2016	0.0002 U	0.0039	0.0039	0.010 U	--
	3/24/2017	0.0002 U	0.0060	0.0057	R	--
	9/6/2017	0.0002 U	0.0051	0.0046	0.010 U	--
	3/12/2018	0.0002 U	0.0062	0.0060	0.010 U	--
	8/28/2018**	0.0002 U	0.0050	0.0051	0.010 U	0.10 UJ
	3/7/2019	0.0002 U	0.0051	0.0050	0.010 UJ	R
	9/17/2019	0.0002 U	0.0041	0.0041	0.010U/0.010U (d)	0.05 U
	3/9/2020	0.0002 U	0.0048	0.0047	0.010 U	0.05 U
	9/28/2020	0.0002 U	0.0040	0.0039	0.010 U	0.05 U
	3/22/2021	0.00015 U (a)	0.0050	0.0050	0.010 U	0.05 U
	9/7/2021	0.0002 U	0.0037	0.0034	0.010 U	0.05 U
	3/24/2022	0.00020 U	0.0056	0.0050	0.010 U	0.050 U
	9/16/2022	0.00020 U	0.0047	0.0047	0.010 U	R
	3/23/2023	0.00020 U	0.0052	0.0048 J	0.005 UJ	--
	9/21/2023	0.00020 U	0.0034	0.0034	0.010 U	0.050 U
	3/25/2024	0.00020 U	0.0053	0.0048	0.010 U	--
Site Cleanup Level (c)		0.0002	0.006	0.006	0.01	NA

Table 3
Cumulative Groundwater Chemistry Data
Arsenic, Cyanide, Total Mercury, and Sulfide
Hamilton Street Bridge Site
Spokane, Washington

Well	Date Sampled	Total Mercury EPA 245.1 (mg/L)	Total Arsenic EPA 200.8 (mg/L)	Dissolved Arsenic EPA 200.8 (mg/L)	WAD Cyanide SM4500-CN/CN-I (mg/L)	Total Sulfide SM4500-S2-D (mg/L)
MW07-90	2/1/2006	0.0001 U (a)	0.00703	--	0.00500 U	--
	8/9/2006	0.0001 U (a)	0.00571	--	0.0100 U	--
Duplicate	8/9/2006	0.0001 U (a)	0.00600	--	0.0100 U	--
	2/13/2007	0.0001 U (a)	0.00547	--	0.0100 U	--
Duplicate	2/13/2007	0.0001 U (a)	0.00517	--	0.0100 U	--
	9/6/2007	0.000152 J (a)	0.00796	--	0.0100 U	--
Duplicate	9/6/2007	0.000173 J (a)	0.00815	--	0.0100 U	--
	2/13/2008	0.0001 U (b)	0.00725	--	0.0100 U	--
Duplicate	2/13/2008	0.0001 U (b)	0.00907	--	0.0100 U	--
	9/10/2008	0.0001 U (b)	0.00508	--	0.0051	--
Duplicate	9/10/2008	0.0001 U (b)	0.00530	--	0.0058	--
	2/6/2009	0.0002 U (b)	0.00477	--	0.00500 U	--
Duplicate	2/6/2009	0.0002 U (b)	0.00484	--	0.00500 U	--
	8/20/2009	0.0002 U	0.00469	--	0.00500 U	--
Duplicate	8/20/2009	0.0002 U	0.00466	--	0.00670	--
	3/26/2010	0.0002 U	0.00443	--	0.00500 U	--
Duplicate	3/26/2010	0.0002 U	0.00443	--	0.00500 U	--
	8/18/2010	0.0002 U	0.00492	--	0.00500 U	--
Duplicate	8/18/2010	0.0002 U	0.00474	--	0.00500 U	--
	2/4/2011	0.0002 U	0.00490	0.00489	0.00500 U	--
Duplicate	2/4/2011	0.0002 U	0.00524	0.00498	0.00500 U	--
	9/23/2011	0.0002 U	0.00479	0.00530	0.00500 U	--
Duplicate	9/23/2011	0.0002 U	0.00503	0.00515	0.00500 U	--
	2/29/2012	0.0002 U	0.0048	0.0050	0.00500 U	--
Duplicate	2/29/2012	0.0002 U	0.0047	0.0049	0.00500 U	--
	9/6/2012	0.0002 U	0.0057	0.0055	0.00500 UJ	--
Duplicate	9/6/2012	0.0002 U	0.0052	0.0054	0.03000 J	--
	2/21/2013	0.0002 U	0.0049	0.0045	0.0050 U	--
Duplicate	2/21/2013	0.0002 U	0.0046	0.0049	0.0050 U	--
	9/6/2013	0.0002 U	0.0055	0.0057	0.0050 U	--
Duplicate	9/6/2013	0.0002 U	0.0055	0.0054	0.0050 U	--
	3/21/2014	0.0002 U	0.0051	0.0055	0.0050 U	--
Duplicate	3/21/2014	0.0002 U	0.0049	0.0055	0.0050 U	--
	9/10/2014	0.0002 U	0.0065	0.0060	0.0050 U	--
Duplicate	9/10/2014	0.0002 U	0.0060	0.0062	0.0050 U	--
	3/3/2015	0.0002 U	0.0058	0.0055	0.010 U	--
Duplicate	3/3/2015	0.0002 U	0.0061	0.0055	0.010 U	--
	9/28/2015	0.0002 U	0.0045	0.0042	0.010 U	--
Duplicate	9/28/2015	0.0002 U	0.0046	0.0039	0.010 U	--
	3/4/2016	0.0002 U	0.0028	0.0051	0.010 U	--
Duplicate	3/4/2016	0.0002 U	0.0026	0.0120	0.010 U	--
	9/13/2016	0.0002 U	0.0048	0.0047	0.010 U	--
Duplicate	9/13/2016	0.0002 U	0.0044	0.0046	0.010 U	--
	3/24/2017	0.0002 U	0.0046	0.0044	0.010 U	--
Duplicate	3/24/2017	0.0002 U	0.0047	0.0045	0.010 U	--
	9/6/2017	0.0002 U	0.0047	0.0044	0.010 U	--
Duplicate	9/6/2017	0.0002 U	0.0048	0.0043	0.010 U	--
Site Cleanup Level (c)		0.0002	0.006	0.006	0.01	NA

Table 3
Cumulative Groundwater Chemistry Data
Arsenic, Cyanide, Total Mercury, and Sulfide
Hamilton Street Bridge Site
Spokane, Washington

Well	Date Sampled	Total Mercury EPA 245.1 (mg/L)	Total Arsenic EPA 200.8 (mg/L)	Dissolved Arsenic EPA 200.8 (mg/L)	WAD Cyanide SM4500-CN/CN-I (mg/L)	Total Sulfide SM4500-S2-D (mg/L)
MW07-90 (cont.)	3/12/2018	0.0002 U	0.0047	0.0045	0.010 U	--
Duplicate	3/12/2018	0.0002 U	0.0049	0.0045	0.010 U	--
	8/28/2018**	0.0002 U	0.0043	0.0049	0.010 U	0.10 U
Duplicate	8/28/2018**	0.0002 U	0.0043	0.0047	0.010 U	0.10 U
	3/7/2019	0.0002 U	0.0045	0.0048	0.027 J	0.10 U
Duplicate	3/7/2019	0.0002 U	0.0043	0.0048	0.010 UJ	0.10 U
	9/17/2019	0.0002 U	0.0042	0.0042	0.010U/0.010U (d)	0.05 U
Duplicate	9/17/2019	0.0002 U	0.0037	0.0042	0.010U/0.010U (d)	0.05 U
	3/9/2020	0.0002 U	0.0041	0.0051 J	0.010 U	0.05 U
Duplicate	3/9/2020	0.0002 U	0.0040	0.0039 J	0.010 U	0.05 U
	9/28/2020	0.0002 U	0.0047	0.0047	0.010 U	0.05 U
Duplicate	9/28/2020	0.0002 U	0.0047	0.0047	0.010 U	0.05 U
	3/22/2021	0.00023 J (a)	0.0045	0.0047	0.010 U	0.05 U
Duplicate	3/22/2021	0.00015 U (a)	0.0041	0.0045	0.010 U	0.05 U
	9/7/2021	0.0002 U	0.0038	0.0037	0.010 U	0.05 U
Duplicate	9/7/2021	0.0002 U	0.0037	0.0035	0.010 U	0.05 U
	3/24/2022	0.00020 U	0.0056	0.0035	0.010 U	0.063
Duplicate	3/24/2022	0.00020 U	0.0058	0.0040	0.010 U	0.050 U
	9/16/2022	0.00020 U	0.0049	0.0048	0.010 U	R
Duplicate	9/16/2022	0.00020 U	0.0048	0.0050	0.010 U	R
	3/23/2023	0.00020 U	0.0048	0.0048	0.005 U	--
Duplicate	3/23/2023	0.00020 U	0.0048	0.0048	0.005 U	--
	9/21/2023	0.00020 U	0.0043	0.0045	0.010 U	0.050 U
Duplicate	9/21/2023	0.00020 U	0.0042	0.0043	0.010 U	0.050 U
	3/25/2024	0.00020 U	0.0045	0.0042	0.010 U	--
Duplicate	3/25/2024	0.00020 U	0.0045	0.0042	0.010 U	--
Site Cleanup Level (c)		0.0002	0.006	0.006	0.01	NA

Notes:

-- = not analyzed.

Concentrations boxed and shaded are at or above site cleanup levels.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R = The result was rejected due to zero spike recovery in the associated laboratory matrix spike and matrix spike duplicate samples.

* Sample field filtered.

** Sulfide samples collected August 30, 2018.

(a) Results are reported to the laboratory method detection limit.

(b) Results are reported to the laboratory method detection limit; non-detects are reported at the laboratory reporting limit.

(c) Final Cleanup Action Plan (Ecology 2001).

(d) During the September 2019 sampling event, split samples were collected and submitted to TestAmerica Spokane and Anatek Laboratory for WAD cyanide analysis. Reported results from both labs were non-detect at a reporting limit of 0.010 mg/L for all samples.

(e) Initial sample collected 9/16/2022; confirmation sample collected 11/15/2022.

Abbreviations and Acronyms:

EPA = US Environmental Protection Agency

mg/L = milligrams per liter

NA = not applicable

WAD = weak acid dissociable

Table 4
Cumulative Groundwater Chemistry Data
Polycyclic Aromatic Hydrocarbons
Hamilton Street Bridge Site
Spokane, Washington

Well	Date Sampled	Polycyclic Aromatic Hydrocarbons (µg/L)(a)																	
		PAH											cPAH						
		Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Benzo {g,h,i} perylene	Pyrene	Benzo {a} anthracene(b)	Chrysene(b)	Benzo {b} fluoranthene(b)	Benzo {k} fluoranthene(b)	Benzo {a} pyrene(b)	Indeno {1,2,3-cd} pyrene(b)	Dibenz {a,h} anthracene(b)	Toxicity Equivalent Concentration(c)
MW02-20	2/1/2006	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	8/9/2006	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 UJ	0.100 UJ	0.100 U	0.100 U	0.100 UJ	0.100 U	0.100 U	0.100 UJ	0.100 U	ND
	2/13/2007	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	9/6/2007	0.100 UJ	NA	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.107 J	0.126 J	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.126 J	0.100 UJ	0.100 UJ	**0.13**
	2/13/2008	0.146	NA	0.100 U	0.117	0.100 U	0.100 U	0.243	0.126	1.05	1.04	1.50	0.932	1.05	0.748	1.16	0.893	0.816	0.272	**1.30**
	9/10/2008	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.0943	0.100 U	0.100 U	0.09
	2/6/2009	0.100 U	NA	0.100 U	0.100 UJ	0.100 U	0.100 U	0.095	0.100 U	0.438	0.229 U	0.410	0.390	0.410	0.724	0.267 U	0.543 U	0.219 U	0.114 U	**0.66**
	8/20/2009	0.500 U	NA	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	1.32	1.35	1.24	1.30	1.57	2.92	0.500 U	1.89	1.16	0.500 U	**2.44**
	3/26/2010	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	8/18/2010	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	2/4/2011	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	9/23/2011	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	ND
	2/29/2012	0.0096 U	0.0096 U	0.013 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.019 U	0.0096 U	0.0096 U	ND
	9/6/2012	0.0100 U	0.0100 U	0.013 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.020 U	0.0100 U	0.0100 U	ND
	2/21/2013	0.0096 UJ	0.0096 UJ	0.012 UJ	0.0096 UJ	0.0096 U	0.0096 U	0.0096 UJ	0.0096 UJ	0.0096 UJ	0.0096 UJ	0.0096 UJ	0.0096 UJ	0.0096 UJ	0.0096 U	0.0096 UJ	0.019 UJ	0.0096 UJ	0.0096 UJ	ND
	9/6/2013	0.0958 U	0.0958 U	0.0958 U	0.0958 U	0.0958 U	0.0958 U	0.0958 U	0.0958 U	0.0958 U	0.0958 U	0.0958 U	0.0958 U	0.0958 U	0.0958 U	0.0958 U	0.0958 U	0.0958 U	0.0958 U	ND
	3/21/2014	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	ND
	9/10/2014	0.0914 U	0.0914 U	0.0914 U	0.0914 U	0.0914 U	0.0914 U	0.0914 U	0.0914 U	0.0914 U	0.0914 U	0.0914 U	0.0914 U	0.0914 U	0.0914 U	0.0914 U	0.0914 U	0.0914 U	0.0914 U	ND
	3/3/2015	0.083 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	ND
	9/28/2015	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	3/4/2016	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	ND
	9/13/2016	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	ND
	3/23/2017	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	ND
	9/6/2017	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	ND
	3/12/2018	0.075 U	0.038 U	0.056 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.056 U	0.038 U	0.038 U	0.038 U	ND
	8/28/2018	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	ND
	3/7/2019	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	ND
	9/17/2019	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	ND
	3/9/2020	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	ND
	9/28/2020	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	3/22/2021	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	ND
	9/7/2021 (f)	0.058 U	0.036 U	0.073 U	0.017 U	0.026 U	0.032 U	0.058 U	0.041 U	0.034 U	0.023 U	0.062 U	0.026 U	0.030 U	0.021 U	0.023 U	0.021 U	0.026 U	0.028 U	ND
	3/24/2022	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	ND
	9/16/2022 (g)	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.120	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.093	0.086 U	0.086 U	0.086 U	0.086 U	0.07
	3/23/2023	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	ND
	9/21/2023	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	ND
	3/25/2024	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	ND
Toxicity Equivalency Factor(d)													0.100	0.010	0.100	0.100	1.000	0.100	0.100	
Site Cleanup Level (e)		320	NS	NS	NS	643	640	NS	4800	90.2	NS	480	--	--	--	--	--	--	--	0.1

Table 4
Cumulative Groundwater Chemistry Data
Polycyclic Aromatic Hydrocarbons
Hamilton Street Bridge Site
Spokane, Washington

Well	Date Sampled	Polycyclic Aromatic Hydrocarbons (µg/L)(a)																	
		PAH											cPAH						
		Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Benzo {g,h,i} perylene	Pyrene	Benzo {a} anthracene(b)	Chrysene(b)	Benzo {b} fluoranthene(b)	Benzo {k} fluoranthene(b)	Benzo {a} pyrene(b)	Indeno {1,2,3-cd} pyrene(b)	Dibenz {a,h} anthracene(b)	Toxicity Equivalent Concentration(c)
MW02-40	2/1/2006	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	8/9/2006	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 UJ	0.100 UJ	0.100 U	0.100 U	0.100 UJ	0.100 U	0.100 U	0.100 UJ	0.100 U	ND
	2/13/2007	0.100 U	NA	0.100 U	0.115	0.375	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.125	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	9/6/2007	0.100 UJ	NA	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	ND
	2/13/2008	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	9/10/2008	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	2/6/2009	0.100 U	NA	9.39	26.9 J	5.82	0.858	0.179	0.123	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.0943 U	ND
	8/20/2009	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	3/26/2010	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	8/18/2010	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	2/4/2011	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	9/23/2011	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	ND
	2/29/2012	0.0096 U	0.0096 U	0.013 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.019 U	0.0096 U	0.0096 U	ND
	9/6/2012	0.0120	0.0100 U	0.013 U	0.0110	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.020 U	0.0100 U	0.0100 U	ND
	2/21/2013	16 J	21 J	0.070 J	34 J	11	0.50	3.9 J	0.30 J	0.11 J	0.0097 UJ	0.11 J	0.0097 UJ	0.0097 UJ	0.0097 U	0.0097 UJ	0.019 UJ	0.0097 UJ	0.0097 UJ	ND
	9/6/2013	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	ND
	3/21/2014	17.0	31.8	1.85	42.3	14.5	2.82	0.625	0.115	0.0961 U	0.0961	0.154	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	0.0961 U	ND
	9/10/2014	0.176	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	ND
	3/3/2015	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	9/28/2015	0.098	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	3/3/2016	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	ND
	9/13/2016	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	ND
	3/23/2017	0.083 U	0.083 U	0.083 U	0.16	0.21	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	9/6/2017	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	ND
	3/12/2018	0.075 U	0.037 U	0.056 U	0.037 U	0.037 U	0.037 U	0.037 U	0.037 U	0.037 U	0.037 U	0.037 U	0.037 U	0.037 U	0.037 U	0.056 U	0.037 U	0.037 U	0.037 U	ND
	8/28/2018	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	ND
	3/7/2019	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	ND
	9/17/2019	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	ND
	3/9/2020	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	ND
	9/28/2020	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	ND
	3/22/2021	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	ND
	9/7/2021 (f)	0.059 U	0.036 U	0.074 U	0.017 U	0.026 U	0.032 U	0.059 U	0.042 U	0.034 U	0.023 U	0.062 U	0.026 U	0.030 U	0.021 U	0.023 U	0.021 U	0.026 U	0.028 U	ND
	3/24/2022	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	ND
	9/16/2022	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	ND
	3/23/2023	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	9/21/2023	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	ND
	3/25/2024	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	ND
												Toxicity Equivalency Factor(d)	0.100	0.010	0.100	0.100	1.000	0.100	0.100	
Site Cleanup Level (e)		320	NS	NS	NS	643	640	NS	4800	90.2	NS	480	--	--	--	--	--	--	--	0.1

Table 4
Cumulative Groundwater Chemistry Data
Polycyclic Aromatic Hydrocarbons
Hamilton Street Bridge Site
Spokane, Washington

Well	Date Sampled	Polycyclic Aromatic Hydrocarbons (µg/L)(a)																		
		PAH											cPAH							
		Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Benzo {g,h,i} perylene	Pyrene	Benzo {a} anthracene(b)	Chrysene(b)	Benzo {b} fluoranthene(b)	Benzo {k} fluoranthene(b)	Benzo {a} pyrene(b)	Indeno {1,2,3-cd} pyrene(b)	Dibenz {a,h} anthracene(b)	Toxicity Equivalent Concentration(c)
MW04-20	2/1/2006	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	8/10/2006	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 UJ	0.100 UJ	0.100 U	0.100 U	0.100 UJ	0.100 U	0.100 U	0.100 UJ	0.100 U	ND
	2/13/2007	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	9/6/2007	0.100 UJ	NA	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	ND
	2/13/2008	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	9/10/2008	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	2/6/2009	0.100 U	NA	0.100 U	0.100 UJ	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	8/20/2009	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	3/26/2010	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	8/18/2010	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	2/4/2011	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	9/23/2011	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	ND
	2/29/2012	0.0096 U	0.0096 U	0.013 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.019 U	0.0096 U	ND
	9/6/2012	0.0100 U	0.0100 U	0.013 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.020 U	0.0100 U	0.0100 U	ND
	2/21/2013	0.0097 U	0.0097 U	0.013 U	0.0097 U	0.0097 U	0.0097 U	0.0097 U	0.0097 U	0.0097 U	0.0097 UJ	0.0097 U	0.0097 UJ	0.0097 UJ	0.0097 UJ	0.0097 UJ	0.019 UJ	0.0097 UJ	0.0097 UJ	ND
	9/6/2013	0.0967 U	0.0967 U	0.097 U	0.0967 U	0.0967 U	0.0967 U	0.0967 U	0.0967 U	0.0967 U	0.0967 U	0.0967 U	0.0967 U	0.0967 U	0.0967 U	0.0967 U	0.097 U	0.0967 U	0.0967 U	ND
	3/21/2014	0.0964 U	0.0964 U	0.0964 U	0.0964 U	0.0964 U	0.0964 U	0.0964 U	0.0964 U	0.0964 U	0.0964 U	0.0964 U	0.0964 U	0.0964 U	0.0964 U	0.0964 U	0.0964 U	0.0964 U	0.0964 U	ND
	9/10/2014	0.0905 U	0.0905 U	0.0905 U	0.0905 U	0.0905 U	0.0905 U	0.0905 U	0.0905 U	0.0905 U	0.0905 U	0.0905 U	0.0905 U	0.0905 U	0.0905 U	0.0905 U	0.0905 U	0.0905 U	0.0905 U	ND
	3/3/2015	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	ND
	9/28/2015	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	ND
	3/3/2016	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	ND
	*9/13/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/23/2017	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	ND
	9/6/2017	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	ND
	3/12/2018	0.075 U	0.038 U	0.056 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.056 U	0.038 U	0.038 U	0.038 U	ND
	8/28/2018	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	ND
	3/7/2019	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	ND
	9/17/2019	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	ND
	3/9/2020	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	ND
	9/28/2020	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	ND
	3/22/2021	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	ND
	9/7/2021 (f)	0.059 U	0.036 U	0.074 U	0.017 U	0.027 U	0.032 U	0.059 U	0.042 U	0.034 U	0.023 U	0.063 U	0.027 U	0.030 U	0.021 U	0.023 U	0.021 U	0.027 U	0.029 U	ND
	3/24/2022	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	ND
	9/16/2022	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	ND
	3/23/2023	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	ND
	9/21/2023	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	ND
	3/25/2024	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	ND
	Toxicity Equivalency Factor(d)												0.100	0.010	0.100	0.100	1.000	0.100	0.100	
Site Cleanup Level (e)		320	NS	NS	NS	643	640	NS	4800	90.2	NS	480	--	--	--	--	--	--	--	0.1

Table 4
Cumulative Groundwater Chemistry Data
Polycyclic Aromatic Hydrocarbons
Hamilton Street Bridge Site
Spokane, Washington

Well	Date Sampled	Polycyclic Aromatic Hydrocarbons (µg/L)(a)																		
		PAH											cPAH							
		Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Benzo {g,h,i} perylene	Pyrene	Benzo {a} anthracene(b)	Chrysene(b)	Benzo {b} fluoranthene(b)	Benzo {k} fluoranthene(b)	Benzo {a} pyrene(b)	Indeno {1,2,3-cd} pyrene(b)	Dibenz {a,h} anthracene(b)	Toxicity Equivalent Concentration(c)
ATC7-20	2/1/2006	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
Duplicate	2/1/2006	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	8/10/2006	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 UJ	0.100 UJ	0.100 U	0.100 U	0.100 UJ	0.100 U	0.100 U	0.100 UJ	0.100 U	ND
	2/13/2007	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	9/6/2007	0.100 UJ	NA	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	ND
	2/13/2008	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	9/10/2008	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	2/6/2009	0.100 U	NA	0.100 U	0.100 UJ	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	8/20/2009	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	3/26/2010	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	8/18/2010	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	2/4/2011	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	9/23/2011	0.263	0.105 U	0.295	0.253	0.105 U	0.179	0.389	0.105	0.105 U	0.105 U	0.116	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	ND
	2/29/2012	0.0096 U	0.0096 U	0.013 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.019 U	0.0096 U	0.0096 U	ND
	9/6/2012	0.0100 U	0.0100 U	0.013 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.020 U	0.0100 U	0.0100 U	ND
	2/21/2013	0.0095 UJ	0.0095 UJ	0.012 UJ	0.0095 UJ	0.0095 U	0.0095 U	0.0095 UJ	0.0095 UJ	0.0095 UJ	0.0095 UJ	0.0095 UJ	0.0095 UJ	0.0095 UJ	0.0095 U	0.0095 UJ	0.019 UJ	0.0095 UJ	0.0095 UJ	ND
	9/6/2013	0.0957 U	0.0957 U	0.0957 U	0.0957 U	0.0957 U	0.0957 U	0.0957 U	0.0957 U	0.0957 U	0.0957 U	0.0957 U	0.0957 U	0.0957 U	0.0957 U	0.0957 U	0.0957 U	0.0957 U	0.0957 U	ND
	3/21/2014	0.0949 U	0.0949 U	0.0949 U	0.0949 U	0.0949 U	0.0949 U	0.0949 U	0.0949 U	0.0949 U	0.0949 U	0.0949 U	0.0949 U	0.0949 U	0.0949 U	0.0949 U	0.0949 U	0.0949 U	0.0949 U	ND
	9/10/2014	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	0.0903 U	ND
	3/3/2015	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	ND
	9/28/2015	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	3/3/2016	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	ND
	9/13/2016	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	3/24/2017	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	9/6/2017	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	ND
	3/12/2018	0.075 U	0.038 U	0.057 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.057 U	0.038 U	0.038 U	0.038 U	ND
	8/28/2018	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	ND
	3/7/2019	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	ND
	9/17/2019	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	3/9/2020	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 UJ	0.085 U	0.085 U	0.085 UJ	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 UJ	0.085 UJ	0.085 UJ	ND
	9/28/2020	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 UJ	0.085 U	0.085 UJ	0.085 U	ND
	3/22/2021	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 UJ	0.084 U	0.084 U	0.084 U	0.084 U	0.084 UJ	0.084 UJ	0.084 U	0.084 U	ND
	9/7/2021 (f)	0.058 U	0.036 U	0.073 U	0.017 U	0.026 U	0.032 U	0.058 U	0.041 U	0.034 U	0.023 U	0.062 U	0.026 U	0.030 U	0.021 U	0.023 U	0.021 U	0.026 U	0.028 U	ND
	3/24/2022	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	ND
	9/16/2022	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	ND
	3/23/2023	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	ND
	9/21/2023	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	ND
	3/25/2024	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	ND
Toxicity Equivalency Factor(d)													0.100	0.010	0.100	0.100	1.000	0.100	0.100	
Site Cleanup Level (e)		320	NS	NS	NS	643	640	NS	4800	90.2	NS	480	--	--	--	--	--	--	--	0.1

Table 4
Cumulative Groundwater Chemistry Data
Polycyclic Aromatic Hydrocarbons
Hamilton Street Bridge Site
Spokane, Washington

Well	Date Sampled	Polycyclic Aromatic Hydrocarbons (µg/L)(a)																	
		PAH											cPAH						
		Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Benzo {g,h,i} perylene	Pyrene	Benzo {a} anthracene(b)	Chrysene(b)	Benzo {b} fluoranthene(b)	Benzo {k} fluoranthene(b)	Benzo {a} pyrene(b)	Indeno {1,2,3-cd} pyrene(b)	Dibenz {a,h} anthracene(b)	Toxicity Equivalent Concentration(c)
MW07-90	2/1/2006	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	8/9/2006	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 UJ	0.100 UJ	0.100 U	0.100 U	0.100 UJ	0.100 U	0.100 U	0.100 UJ	0.107	0.01
Duplicate	8/9/2006	0.100 U	NA	0.100 U	0.107	0.117	0.136	0.165	0.146	0.155	0.214 J	0.204 J	0.194	0.117	0.214 J	0.175	0.194	0.214 J	0.184	**0.29**
	2/13/2007	0.100 U	NA	0.100 U	0.117	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
Duplicate	2/13/2007	0.100 U	NA	0.100 U	0.126	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	9/6/2007	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
Duplicate	9/6/2007	0.100 UJ	NA	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 UJ	ND
	2/13/2008	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
Duplicate	2/13/2008	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	9/10/2008	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
Duplicate	9/10/2008	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	2/6/2009	0.100 U	NA	0.100 U	0.396 J	0.0966	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
Duplicate	2/6/2009	0.100 U	NA	0.100 U	0.100 UJ	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.105 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.124 U	0.124 U	ND
	8/20/2009	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
Duplicate	8/20/2009	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	3/26/2010	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
Duplicate	3/26/2010	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	8/18/2010	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
Duplicate	8/18/2010	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	2/4/2011	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
Duplicate	2/4/2011	0.100 U	NA	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	ND
	9/23/2011	0.105 UJ	0.105 UJ	0.105 UJ	0.105 UJ	0.105 U	0.105 UJ	0.105 UJ	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	ND
Duplicate	9/23/2011	1.13 J	0.484 J	1.64 J	0.832 J	0.105 U	0.295 J	0.442 J	0.126	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	ND
	2/29/2012	0.0096 U	0.0096 U	0.013 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.019 U	0.0096 U	0.0096 U	ND
Duplicate	2/29/2012	0.0096 U	0.0096 U	0.013 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.019 U	0.0096 U	0.0096 U	ND
	9/6/2012	0.0100 U	0.0100 U	0.013 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.020 U	0.0100 U	0.0100 U	ND
Duplicate	9/6/2012	0.0100 U	0.0100 U	0.013 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.020 U	0.0100 U	0.0100 U	ND
	2/21/2013	0.0097 UJ	0.010	0.013 UJ	0.014 J	0.0097 U	0.0097 U	0.0097 UJ	0.0097 UJ	0.0097 UJ	0.0097 UJ	0.0097 UJ	0.0097 UJ	0.0097 UJ	0.0097 U	0.0097 UJ	0.019 UJ	0.0097 UJ	0.0097 UJ	ND
Duplicate	2/21/2013	0.0098 UJ	0.0098 UJ	0.013 UJ	0.0098 UJ	0.0098 UJ	0.0098 U	0.0098 UJ	0.0098 UJ	0.0098 UJ	0.0098 UJ	0.0098 UJ	0.0098 UJ	0.0098 UJ	0.0098 U	0.0098 UJ	0.020 UJ	0.0098 UJ	0.0098 UJ	ND
	9/6/2013	0.0974 U	0.0974 U	0.097 U	0.0974 U	0.0974 U	0.0974 U	0.0974 U	0.0974 U	0.0974 U	0.0974 U	0.0974 U	0.0974 U	0.0974 U	0.0974 U	0.0974 U	0.0974 U	0.0974 U	0.0974 U	ND
Duplicate	9/6/2013	0.0977 U	0.0977 U	0.098 U	0.0977 U	0.0977 U	0.0977 U	0.0977 U	0.0977 U	0.0977 U	0.0977 U	0.0977 U	0.0977 U	0.0977 U	0.0977 U	0.0977 U	0.0977 U	0.0977 U	0.0977 U	ND
	3/21/2014	0.0959 U	0.0959 U	0.0959 U	0.0959 U	0.0959 U	0.0959 U	0.0959 U	0.0959 U	0.0959 U	0.0959 U	0.0959 U	0.0959 U	0.0959 U	0.0959 U	0.0959 U	0.0959 U	0.0959 U	0.0959 U	ND
Duplicate	3/21/2014	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	0.0952 U	ND
	9/10/2014	0.0899 U	0.0899 U	0.0899 U	0.0899 U	0.0899 U	0.0899 U	0.0940	0.0899 U	0.0899 U	0.0899 U	0.0899 U	0.0899 U	0.292 J	0.0899 U	0.0899 U	0.102	0.0899 U	0.0899 U	**0.1J**
Duplicate	9/10/2014	0.0896 U	0.0896 U	0.0896 U	0.0896 U	0.0896 U	0.0896 U	0.0896 U	0.0896 U	0.0896 U	0.0896 U	0.0896 U	0.0896 U	0.0896 UJ	0.0896 U	0.0896 U	0.0896 U	0.0896 U	0.0896 U	ND
	3/3/2015	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
Duplicate	3/3/2015	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	9/28/2015	0.22	0.45	0.083 U	0.19	2.0	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
Duplicate	9/28/2015	0.24	0.48	0.083 U	0.21	2.2	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	3/4/2016	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	ND
Duplicate	3/4/2016	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	ND
	9/13/2016	2.3 J	3.8	0.083 U	0.34	4.0	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
Duplicate	9/13/2016	3.0 J	4.0	0.083 U	0.34	3.9	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	3/24/2017	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	ND
Duplicate	3/24/2017	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	ND
											Toxicity Equivalency Factor(d)		0.100	0.010	0.100	0.100	1.000	0.100	0.100	
Site Cleanup Level (e)		320	NS	NS	NS	643	640	NS	4800	90.2	NS	480	--	--	--	--	--	--	--	0.1

Table 4
Cumulative Groundwater Chemistry Data
Polycyclic Aromatic Hydrocarbons
Hamilton Street Bridge Site
Spokane, Washington

Well	Date Sampled	Polycyclic Aromatic Hydrocarbons (µg/L)(a)																		
		PAH											cPAH							
		Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Benzo {g,h,i} perylene	Pyrene	Benzo {a} anthracene(b)	Chrysene(b)	Benzo {b} fluoranthene(b)	Benzo {k} fluoranthene(b)	Benzo {a} pyrene(b)	Indeno {1,2,3-cd} pyrene(b)	Dibenz {a,h} anthracene(b)	Toxicity Equivalent Concentration(c)
MW07-90 Contin.																				
	9/6/2017	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	ND
Duplicate	9/6/2017	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	ND
	3/12/2018	0.075 U	0.038 U	0.056 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.056 U	0.038 U	0.038 U	0.038 U	ND
Duplicate	3/12/2018	0.077 U	0.038 U	0.058 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.058 U	0.038 U	0.038 U	0.038 U	ND
	8/28/2018	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	ND
Duplicate	8/28/2018	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	ND
	3/7/2019	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.13	0.084 U	0.087	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	ND
Duplicate	3/7/2019	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	ND
	9/17/2019	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	ND
Duplicate	9/17/2019	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	ND
	3/9/2020	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	ND
Duplicate	3/9/2020	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	9/28/2020	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	ND
Duplicate	9/28/2020	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	ND
	3/22/2021	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	ND
Duplicate	3/22/2021	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	ND
	9/7/2021 (f)	0.059 U	0.036 U	0.075 U	0.066 J	1.0 J	0.033 U	0.059 U	0.042 U	0.054 J	0.023 U	0.071 J	0.027 U	0.031 U	0.021 U	0.023 U	0.021 U	0.027 U	0.029 U	ND
Duplicate	9/7/2021 (f)	0.058 U	0.036 U	0.074 U	0.055 J	0.76 J	0.032 U	0.058 U	0.041 U	0.043 J	0.023 U	0.062 U	0.026 U	0.030 U	0.021 U	0.023 U	0.021 U	0.026 U	0.028 U	ND
	3/24/2022	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	ND
Duplicate	3/24/2022	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	ND
	9/16/2022	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	ND
Duplicate	9/16/2022	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	ND
	3/23/2023	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	ND
Duplicate	3/23/2023	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	ND
	9/21/2023	17 J	8.8	0.28	0.42	9.2	0.11	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	ND
Duplicate	9/21/2023	13 J	7.8	0.24	0.39	8.5	0.096	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	ND
	3/25/2024	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	ND
Duplicate	3/25/2024	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	ND
												Toxicity Equivalency Factor(d)	0.100	0.010	0.100	0.100	1.000	0.100	0.100	
Site Cleanup Level (e)		320	NS	NS	NS	643	640	NS	4800	90.2	NS	480	--	--	--	--	--	--	--	0.1

Notes:

(a) PAH analyzed by EPA Method 8270-SIM.
(b) cPAH
(c) Calculated in accordance with WAC 173-340-708(8).
(d) Toxicity Equivalency Factors for cPAHs, WAC 173-340 (Ecology 2015).
(e) Final Cleanup Action Plan (Ecology 2001).
(f) Results reported to the method detection limit (MDL).
(g) cPAH TEQ calculated in accordance with Washington State Department of Ecology Implementation Memo #10 (April 2015) (ND = 1/2 RL).

Concentrations boxed and shaded are at or above the site cleanup level.
Duplicate Sample ID = MW20-60
*Well is dry; groundwater sample not collected.
J = Indicates the compound was detected; the reported sample concentration is an estimate.
U = Indicates the compound was analyzed for, but was not detected at the given detection limit. Values may be rounded.
UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Abbreviations and Acronyms:

cPAH = carcinogenic polycyclic aromatic hydrocarbons
EPA = US Environmental Protection Agency
µg/L = micrograms per liter
MTCA = Model Toxics Control Act
ND = not detected
NS = not specified
PAH = polycyclic aromatic hydrocarbons
WAC = Washington Administrative Code

APPENDIX A

Groundwater Sample Collection Forms

Summary of Groundwater Monitoring Well Measurements
Avista Hamilton Street Bridge
Spokane, Washington

Date Measured: 3/25/24

Field Personnel: Weston Boardman

Well Number	Time	Depth to Groundwater - below PVC casing (feet)
ATC7-20	7:30	14.30
MW2-20	8:33	12.24
MW2-40	8:38	12.28
MW4-20	8:09	11.74
MW7-90	8:22	11.90
MW8-20	7:40	19.51
MW8-90	7:37	22.76
MW9-20	7:21	13.45
MW9-100	7:18	14.15
River Stage	8:24	4.80

NM = not measured

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PROJECT **Avista HSB** PROJ. NO. **236042**

EVENT March 2024 Semiannual Groundwater Monitoring

SAMPLE NO. ATC7-20-240325

DATE COLLECTED 3/25/2024 TIME 16:10

Groundwater/Surface Water Sample Collection Form

WEATHER 47F Partly Cloudy COLLECTOR Weston Boardman

WATER LEVEL/WELL/PURGE DATA

Sample Type: [x] Groundwater [ ] Surface Water [ ] Other

Depth to Water (ft) 14.30 Time: 7:30 Meas. From: [ ] Top of Protective Casing [x] Top of Well Casing

Well Casing Type: [x] PVC [ ] Stainless Steel [ ] Fiberglass Casing/Well Diameter (", whole no.): 2

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe Above ground monument

Sample Location: **ATC7-20**

Begin Purge: Date/Time 3/25/2024 15:32 Casing Volume (gal): 1.36

End Purge: Date/Time 3/25/2024 15:53 Purge Volume (gal): 4.08

Total Depth of Well (ft. below top of well casing) 22.3

Casing Volume Calculation: (22.3 - 14.30)(0.17) = 1.36

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (gal/ln ft)	Wt. Water (lbs/ln ft)
1.25	1.660	1.380	0.08	0.64
2	2.375	2.067	0.17	1.45
4	4.500	4.026	0.66	5.51
6			1.47	12.24

Purge Water Disposal to: [x] 55-gal drum [ ] Storage Tank [ ] Ground [ ] Other

Vol. Purged (gal)	Temp. (°C)	Cond. (uS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Sulfide (D/ND)	Comments/Observations
1.4	10.8	631.9	8.88	7.32	248.5	0.33	14.24	ND	Clear, colorless, no odor, no sheen
2.7	10.8	630.0	8.87	7.33	248.4	0.34	14.24	ND	
4.1	10.8	633.3	9.03	7.34	246.5	0.25	14.24	ND	Clear, colorless, no odor, no sheen

SAMPLE COLLECTION DATA

Sample Collected With: [ ] Bailer [x] Pump/Type

Made of: [x] Stainless Steel [ ] PVC [ ] Teflon [ ] Polyethylene [x] Dedicated [ ] Other

Decon Procedure: [x] Liquinox Wash [ ] Tap Rinse [ ] DI Water [x] Dedicated [ ] Other

Sample Description (color, turbidity, odor, sheen, etc.): Clear, colorless, no odor, no sheen

Containers	ANALYSIS	Preservative
3	8270D SIM PAH	None
3	4500 WAD cyanide	NaOH
6	Total Metals (As) (Hg)	HNO3
3	Dissolved Metals (As)	Lab Filtered

Duplicate Sample No(s): **MS/ MSD**

Comments:

Signature: Date 3/25/2024

LANDAU ASSOCIATES

Groundwater/Surface Water Sample Collection Form

PROJECT **Avista HSB** PROJ. NO. **236042**

EVENT March 2024 Semiannual Groundwater Monitoring

SAMPLE NO. MW2-20-240325

DATE COLLECTED 3/25/2024 TIME 11:45

WEATHER 41F Overcast COLLECTOR Weston Board

WATER LEVEL/WELL/PURGE DATA

Sample Type: [x] Groundwater [ ] Surface Water [ ] Other

Depth to Water (ft) 12.24 Time: 8:33 Meas. From: [ ] Top of Protective Casing [x] Top of Well Casing

Well Casing Type: [x] PVC [ ] Stainless Steel [ ] Fiberglass Casing/Well Diameter (", whole no.): 2

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe Flush mount

Sample Location: **MW2-20**

Begin Purge: Date/Time 3/25/2024 11:08 Casing Volume (gal): 1.18

End Purge: Date/Time 3/25/2024 11:39 Purge Volume (gal): 3.55

Total Depth of Well (ft. below top of well casing) 19.2

Casing Volume Calculation: (19.2 - 12.24)(0.17) = 1.18

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (gal/ln ft)	Wt. Water (lbs/ln ft)
1.25	1.660	1.380	0.08	0.64
2	2.375	2.067	0.17	1.45
4	4.500	4.026	0.66	5.51
6			1.47	12.24

Purge Water Disposal to: [x] 55-gal drum [ ] Storage Tank [ ] Ground [ ] Other

Vol. Purged (gal)	Temp. (°C)	Cond. (uS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Sulfide (D/ND)	Comments/Observations
1.2	4.1	72.1	12.20	7.38	241.2	1.13	12.24	ND	Clear, colorless, no odor, no sheen
2.4	4.1	72.0	12.20	7.48	236.1	0.69	12.24	ND	
3.5	4.1	71.9	12.16	7.52	233.8	1.24	12.24	ND	Clear, colorless, no odor, no sheen

SAMPLE COLLECTION DATA

Sample Collected With: [ ] Bailer [x] Pump/Type peristaltic

Made of: [x] Stainless Steel [ ] PVC [ ] Teflon [ ] Polyethylene [x] Dedicated [ ] Other

Decon Procedure: [x] Liquinox Wash [ ] Tap Rinse [ ] DI Water [x] Dedicated [ ] Other

Sample Description (color, turbidity, odor, sheen, etc.): Clear, colorless, no odor, no sheen

Containers	ANALYSIS	Preservative
1	8270D SIM PAH	None
1	4500 WAD cyanide	NaOH
2	Total Metals (As) (Hg)	HNO3
1	Dissolved Metals (As)	Lab Filtered

Duplicate Sample No(s):

Comments:

Signature: Date 3/25/2024

LANDAU ASSOCIATES

Groundwater/Surface Water Sample Collection Form

PROJECT **Avista HSB** PROJ. NO. **236042**

EVENT March 2024 Semiannual Groundwater Monitoring

SAMPLE NO. MW2-40-240325

DATE COLLECTED 3/25/2024 TIME 10:50

WEATHER 30F Overcast COLLECTOR Weston Board

WATER LEVEL/WELL/PURGE DATA

Sample Type: [x] Groundwater [ ] Surface Water [ ] Other

Depth to Water (ft) 12.28 Time: 8:38 Meas. From: [ ] Top of Protective Casing [x] Top of Well Casing

Well Casing Type: [x] PVC [ ] Stainless Steel [ ] Fiberglass Casing/Well Diameter (", whole no.): 2

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe Flush mount

Sample Location: **MW2-40**

Begin Purge: Date/Time 3/25/2024 8:54 Casing Volume (gal): 4.54

End Purge: Date/Time 3/25/2024 10:40 Purge Volume (gal): 13.63

Total Depth of Well (ft. below top of well casing) 39.0

Casing Volume Calculation: (39.0 - 12.28)(0.17) = 4.54

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (gal/ln ft)	Wt. Water (lbs/ln ft)
1.25	1.660	1.380	0.08	0.64
2	2.375	2.067	0.17	1.45
4	4.500	4.026	0.66	5.51
6			1.47	12.24

Purge Water Disposal to: [x] 55-gal drum [ ] Storage Tank [ ] Ground [ ] Other

Vol. Purged (gal)	Temp. (°C)	Cond. (uS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Sulfide (D/ND)	Comments/Observations
4.5	8.2	348.4	4.77	7.09	227.7	0.27	12.28	ND	Clear, colorless, no odor, no sheen
9.1	8.3	513.6	4.81	7.10	239.8	0.19	12.28	ND	
13.6	8.4	513.7	4.74	7.12	248.6	0.15	12.28	ND	Clear, colorless, no odor, no sheen

SAMPLE COLLECTION DATA

Sample Collected With: [ ] Bailer [x] Pump/Type peristaltic

Made of: [x] Stainless Steel [ ] PVC [ ] Teflon [ ] Polyethylene [x] Dedicated [ ] Other

Decon Procedure: [x] Liquinox Wash [ ] Tap Rinse [x] DI Water [x] Dedicated [ ] Other

Sample Description (color, turbidity, odor, sheen, etc.): Clear, colorless, no odor, no sheen.

Containers	ANALYSIS	Preservative
1	8270D SIM PAH	None
1	4500 WAD cyanide	NaOH
2	Total Metals (As) (Hg)	HNO3
1	Dissolved Metals (As)	Lab Filtered

Duplicate Sample No(s):

Comments:

Signature: Date 3/25/2024

LANDAU ASSOCIATES

PROJECT **Avista HSB** PROJ. NO. **236042**

EVENT March 2024 Semiannual Groundwater Monitoring

Groundwater/Surface Water Sample Collection Form

SAMPLE NO. MW4-20-240325

DATE COLLECTED 3/25/2024 TIME 14:50

WEATHER 46F Partly cloudy COLLECTOR Weston Board

WATER LEVEL/WELL/PURGE DATA

Sample Type: [x] Groundwater [ ] Surface Water [ ] Other

Depth to Water (ft) 11.74 Time: 8:09 Meas. From: [ ] Top of Protective Casing [x] Top of Well Casing

Well Casing Type: [x] PVC [ ] Stainless Steel [ ] Fiberglass Casing/Well Diameter (", whole no.): 2

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe Flush mount

Sample Location: **MW4-20**

Begin Purge: Date/Time 3/25/2024 14:11 Casing Volume (gal): 1.30

End Purge: Date/Time 3/25/2024 14:44 Purge Volume (gal): 3.91

Total Depth of Well (ft. below top of well casing) 19.4

Casing Volume Calculation: (19.4 - 11.74)(0.17) = 1.30

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (gal/ln ft)	Wt. Water (lbs/ln ft)
1.25	1.660	1.380	0.08	0.64
2	2.375	2.067	0.17	1.45
4	4.500	4.026	0.66	5.51
6			1.47	12.24

Purge Water Disposal to: [x] 55-gal drum [ ] Storage Tank [ ] Ground [ ] Other

Vol. Purged (gal)	Temp. (°C)	Cond. (uS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Sulfide (D/ND)	Comments/Observations
1.3	4.9	154.4	4.05	7.02	225.6	0.34	11.69	ND	Clear, colorless, no odor, no sheen
2.6	4.9	140.9	4.56	7.06	231.6	0.38	11.69	ND	
3.9	5.0	144.8	4.22	7.04	237.7	0.20	11.70	ND	Clear, colorless, no odor, no sheen

SAMPLE COLLECTION DATA

Sample Collected With: [ ] Bailer [x] Pump/Type

Made of: [x] Stainless Steel [ ] PVC [ ] Teflon [ ] Polyethylene [x] Dedicated [ ] Other

Decon Procedure: [x] Liquinox Wash [ ] Tap Rinse [ ] DI Water [x] Dedicated [ ] Other

Sample Description (color, turbidity, odor, sheen, etc.): Clear, colorless, no odor, no sheen

Containers	ANALYSIS	Preservative
1	8270D SIM PAH	None
1	4500 WAD cyanide	NaOH
2	Total Metals (As) (Hg)	HNO3
1	Dissolved Metals (As)	Lab Filtered

Duplicate Sample No(s):

Comments:

Signature: Date 3/25/2024

LANDAU ASSOCIATES

PROJECT **Avista HSB** PROJ. NO. **236042**

EVENT March 2024 Semiannual Groundwater Monitoring

SAMPLE NO. MW7-90-240325

DATE COLLECTED 3/25/2024 TIME 13:30

Groundwater/Surface Water Sample Collection Form

WEATHER 44F Overcast COLLECTOR Weston Board

WATER LEVEL/WELL/PURGE DATA

Sample Type: [x] Groundwater [ ] Surface Water [ ] Other

Depth to Water (ft) 11.90 Time: 8:22 Meas. From: [ ] Top of Protective Casing [x] Top of Well Casing

Well Casing Type: [x] PVC [ ] Stainless Steel [ ] Fiberglass Casing/Well Diameter (", whole no.): 2

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe Flush mount

Sample Location: **MW7-90**

Begin Purge: Date/Time 3/25/2024 13:03 Casing Volume (gal): 13.35

End Purge: Date/Time 3/25/2024 13:24 Purge Volume (gal): 40.04

Total Depth of Well (ft. below top of well casing) 90.4

Casing Volume Calculation: (90.4 - 11.90)(0.17) = 13.35

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (gal/ln ft)	Wt. Water (lbs/ln ft)
1.25	1.660	1.380	0.08	0.64
2	2.375	2.067	0.17	1.45
4	4.500	4.026	0.66	5.51
6			1.47	12.24

Purge Water Disposal to: [x] 55-gal drum [ ] Storage Tank [ ] Ground [ ] Other

Vol. Purged (gal)	Temp. (°C)	Cond. (uS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Sulfide (D/ND)	Comments/Observations
13.3	10.9	338.4	5.81	7.65	229.3	3.60	12.01	ND	Clear, colorless, no odor, no sheen
26.7	11.1	398.1	9.04	7.67	190.8	0.95	12.01	ND	
40.0	11.2	402.7	9.33	7.67	174.1	0.27	12.00	ND	Clear, colorless, no odor, no sheen

SAMPLE COLLECTION DATA

Sample Collected With: [ ] Bailer [x] Pump/Type Submersible

Made of: [x] Stainless Steel [ ] PVC [ ] Teflon [ ] Polyethylene [x] Dedicated [ ] Other

Decon Procedure: [x] Liquinox Wash [ ] Tap Rinse [ ] DI Water [x] Dedicated [ ] Other

Sample Description (color, turbidity, odor, sheen, etc.): Clear, colorless, no odor, no sheen

Containers	ANALYSIS	Preservative
2	8270D SIM PAH	None
2	4500 WAD cyanide	NaOH
4	Total Metals (As) (Hg)	HNO3
2	Dissolved Metals (As)	Lab Filtered

Duplicate Sample No(s): **MW20-60 @ 08:00**

Comments:

Signature: Date 3/25/2024

APPENDIX B

Laboratory Data Report and Chain-of-Custody

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ANALYTICAL REPORT

PREPARED FOR

Attn: Shane Kostka
Landau & Associates, Inc.
10 North Post Street, Suite 218
Spokane, Washington 99201

Generated 4/9/2024 8:04:41 PM

JOB DESCRIPTION

HSB/1024 Groundwater Monitoring

JOB NUMBER

590-23905-1

Eurofins Spokane
11922 East 1st Ave
Spokane WA 99206

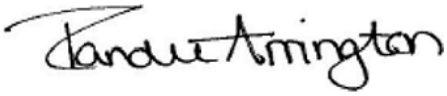
See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

Authorization



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Authorized for release by
Randee Arrington, Business Unit Manager
Randee.Arrington@et.eurofinsus.com
(509)924-9200

Table of Contents

Job ID: 590-23905-1 Eurofins Spokane

Job Narrative
590-23905-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 3/25/2024 4:55 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.9°C.

GC/MS Semi VOA
Method 8270E_SIM: The laboratory control sample (LCS) for preparation batch 590-46527 and analytical batch 590-46543 recovered outside control limits for the following analytes: 1-Methylnaphthalene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8270E_SIM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 590-46527 and analytical batch 590-46543 recovered outside control limits for the following analytes: 2-Methylnaphthalene and 1-Methylnaphthalene.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Definitions/Glossary

Client: Landau & Associates, Inc.
Project/Site: HSB/1024 Groundwater Monitoring

Job ID: 590-23905-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Sample Summary

Client: Landau & Associates, Inc.
Project/Site: HSB/1024 Groundwater Monitoring

Job ID: 590-23905-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-23905-1	MW20-60-240325	Water	03/25/24 08:00	03/25/24 16:55
590-23905-2	MW2-40-240325	Water	03/25/24 10:50	03/25/24 16:55
590-23905-3	MW2-20-240325	Water	03/25/24 11:45	03/25/24 16:55
590-23905-4	MW7-90-240325	Water	03/25/24 13:30	03/25/24 16:55
590-23905-5	MW4-20-240325	Water	03/25/24 14:50	03/25/24 16:55
590-23905-6	ATC7-20-240325	Water	03/25/24 16:10	03/25/24 16:55

LANDAU ASSOCIATES

Chain-of-Custody Record

- [ ] North Seattle (206) 631-8660
- [ ] Tacoma (253) 926-2493
- [ ] Olympia (360) 791-3178
- [x] Spokane (509) 327-9737
- [ ] Portland (503) 542 1080
- [ ] ______

Date 3/25/24

Page 1 of 1

Turnaround Time:
Standard X
Accelerated ______

Project Name Avista - HSB
Project No 0236042
Project Location/Event HSB/1Q24 Groundwater Monitoring
Sampler's Name Weston Boardman
Project Contact Shane Kostka
Send Results To " " + data@landauinc.com

Testing Parameters

Sample I D	Date	Time	Matrix	No of Containers	WAD Cyanide 4500 CN-I	Total As 200.8	Dissolved As 200.8	PAHs 8270 SIM	Mercury 245.1						
MW20-60-240325	3/25/24	08 00	water	5	X	X	X	X	X						
MW2-40-240325	|	10 50	|	|	X	X	X	X	X						
MW2-20-240325	|	11 45	|	|	X	X	X	X	X						
MW7-90-240325	|	13 30	|	|	X	X	X	X	X						
MW4-20-240325	|	14 50	|	|	X	X	X	X	X						
[illegible]7-20-240325	|	16 10	|	15	X	X	X	X	X	w/		MS/MSD			

Special Handling Requirements: ______

Shipment Method: ______

Stored on ice: (Yes) No

Observations/Comments

__ Allow water samples to settle, collect aliquot from clear portion ☐

__ NWTPH-Dx Acid wash cleanup ☐ Silica gel cleanup ☐

__ Dissolved metal samples were field filtered

Other
Total Hg RL ≤ 0.0002 mg/L
Total As RL ≤ 0.006 mg/L
Dissolved As RL ≤ 0.006 mg/L
Cyanide RL ≤ 0.01 mg/L

4.8, 4.9 cor IR006

590-23905 Chain of Custody

Relinquished by	Received by	Relinquished by	
Signature [signature]	Signature [signature]	Signature	Signature
Printed Name Weston Boardman	Printed Name Madey Morris	Printed Name	Printed Name
Company Landau Associates	Company EETSPO	Company	Company
Date 3/25/24 Time 16 55	Date 3/25/24 Time 16:55	Date Time	Date Time

Eurofins Spokane
11922 East 1st Ave
Spokane, WA 99206
Phone: 509-924-9200 Fax: 509-924-9290

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arrington, Randee E	Carrier Tracking No(s):	COC No: 590-8917.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Randee.Arrington@et.eurofinsus.com	State of Origin: Washington	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Washington		Job #: 590-23905-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 4/8/2024			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: HSB/1024 Groundwater Monitoring	Project #: 59000367			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_CN_I_NP/ WAD CN	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW20-60-240325 (590-23905-1)	3/25/24	08:00 Pacific		Water			X	1	
MW2-40-240325 (590-23905-2)	3/25/24	10:50 Pacific		Water			X	1	
MW2-20-240325 (590-23905-3)	3/25/24	11:45 Pacific		Water			X	1	
MW7-90-240325 (590-23905-4)	3/25/24	13:30 Pacific		Water			X	1	
MW4-20-240325 (590-23905-5)	3/25/24	14:50 Pacific		Water			X	1	
ATC7-20-240325 (590-23905-6)	3/25/24	16:10 Pacific		Water			X	1	
ATC7-20-240325 (590-23905-6MS)	3/25/24	16:10 Pacific	MS	Water			X	1	
ATC7-20-240325 (590-23905-6MSD)	3/25/24	16:10 Pacific	MSD	Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 3/27/24 14:22	Company CET SPO	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 3-28-24 0915	Company EETDEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.5°C IR CF0-1

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Landau & Associates, Inc.

Job Number: 590-23905-1
SDG Number:

Login Number: 23905
List Number: 1
Creator: Morris, Mackenzie 1

List Source: Eurofins Spokane

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Landau & Associates, Inc.

Job Number: 590-23905-1
SDG Number:

Login Number: 23905
List Number: 2
Creator: Held, Wesley

List Source: Eurofins Denver
List Creation: 03/28/24 03:22 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Landau & Associates, Inc.

Job Number: 590-23905-1
SDG Number:

Login Number: 23905
List Number: 3
Creator: Groves, Elizabeth

List Source: Eurofins Seattle
List Creation: 03/28/24 07:09 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Client Sample ID: MW20-60-240325
Date Collected: 03/25/24 08:00
Date Received: 03/25/24 16:55

Lab Sample ID: 590-23905-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
2-Methylnaphthalene	ND	*1	0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
1-Methylnaphthalene	ND	*+ *1	0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Acenaphthylene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Acenaphthene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Fluorene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Phenanthrene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Anthracene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Fluoranthene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Pyrene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Benzo[a]anthracene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Chrysene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Benzo[b]fluoranthene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Benzo[k]fluoranthene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Benzo[a]pyrene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Indeno[1,2,3-cd]pyrene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Dibenz(a,h)anthracene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1
Benzo[g,h,i]perylene	ND		0.093		ug/L		03/29/24 08:38	03/29/24 14:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*73*		*44 - 120*	*03/29/24 08:38*	*03/29/24 14:40*	*1*
2-Fluorobiphenyl (Surr)	*76*		*32 - 120*	*03/29/24 08:38*	*03/29/24 14:40*	*1*
p-Terphenyl-d14	*82*		*39 - 120*	*03/29/24 08:38*	*03/29/24 14:40*	*1*

Client Sample ID: MW2-40-240325
Date Collected: 03/25/24 10:50
Date Received: 03/25/24 16:55

Lab Sample ID: 590-23905-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
2-Methylnaphthalene	ND	*1	0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
1-Methylnaphthalene	ND	*+ *1	0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Acenaphthylene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Acenaphthene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Fluorene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Phenanthrene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Anthracene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Fluoranthene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Pyrene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Benzo[a]anthracene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Chrysene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Benzo[b]fluoranthene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Benzo[k]fluoranthene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Benzo[a]pyrene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Indeno[1,2,3-cd]pyrene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Dibenz(a,h)anthracene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1
Benzo[g,h,i]perylene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 15:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*70*		*44 - 120*	*03/29/24 08:38*	*03/29/24 15:02*	*1*
2-Fluorobiphenyl (Surr)	*71*		*32 - 120*	*03/29/24 08:38*	*03/29/24 15:02*	*1*

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Client Sample ID: MW2-40-240325 **Lab Sample ID: 590-23905-2**
Date Collected: 03/25/24 10:50 **Matrix: Water**
Date Received: 03/25/24 16:55

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl-d14	73		39 - 120	03/29/24 08:38	03/29/24 15:02	1

Client Sample ID: MW2-20-240325 **Lab Sample ID: 590-23905-3**
Date Collected: 03/25/24 11:45 **Matrix: Water**
Date Received: 03/25/24 16:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
2-Methylnaphthalene	ND	*1	0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
1-Methylnaphthalene	ND	*+ *1	0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Acenaphthylene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Acenaphthene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Fluorene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Phenanthrene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Anthracene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Fluoranthene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Pyrene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Benzo[a]anthracene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Chrysene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Benzo[b]fluoranthene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Benzo[k]fluoranthene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Benzo[a]pyrene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Indeno[1,2,3-cd]pyrene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Dibenz(a,h)anthracene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1
Benzo[g,h,i]perylene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 15:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	76		44 - 120	03/29/24 08:38	03/29/24 15:24	1
2-Fluorobiphenyl (Surr)	80		32 - 120	03/29/24 08:38	03/29/24 15:24	1
p-Terphenyl-d14	80		39 - 120	03/29/24 08:38	03/29/24 15:24	1

Client Sample ID: MW7-90-240325 **Lab Sample ID: 590-23905-4**
Date Collected: 03/25/24 13:30 **Matrix: Water**
Date Received: 03/25/24 16:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
2-Methylnaphthalene	ND	*1	0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
1-Methylnaphthalene	ND	*+ *1	0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
Acenaphthylene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
Acenaphthene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
Fluorene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
Phenanthrene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
Anthracene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
Fluoranthene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
Pyrene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
Benzo[a]anthracene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
Chrysene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
Benzo[b]fluoranthene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
Benzo[k]fluoranthene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
Benzo[a]pyrene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
Indeno[1,2,3-cd]pyrene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Client Sample ID: MW7-90-240325
Date Collected: 03/25/24 13:30
Date Received: 03/25/24 16:55

Lab Sample ID: 590-23905-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1
Benzo[g,h,i]perylene	ND		0.095		ug/L		03/29/24 08:38	03/29/24 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*64*		*44 - 120*	*03/29/24 08:38*	*03/29/24 15:46*	*1*
2-Fluorobiphenyl (Surr)	*61*		*32 - 120*	*03/29/24 08:38*	*03/29/24 15:46*	*1*
p-Terphenyl-d14	*77*		*39 - 120*	*03/29/24 08:38*	*03/29/24 15:46*	*1*

Client Sample ID: MW4-20-240325
Date Collected: 03/25/24 14:50
Date Received: 03/25/24 16:55

Lab Sample ID: 590-23905-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
2-Methylnaphthalene	ND	*1	0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
1-Methylnaphthalene	ND	*+ *1	0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Acenaphthylene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Acenaphthene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Fluorene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Phenanthrene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Anthracene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Fluoranthene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Pyrene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Benzo[a]anthracene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Chrysene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Benzo[b]fluoranthene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Benzo[k]fluoranthene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Benzo[a]pyrene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Indeno[1,2,3-cd]pyrene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Dibenz(a,h)anthracene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1
Benzo[g,h,i]perylene	ND		0.091		ug/L		03/29/24 08:38	03/29/24 16:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*68*		*44 - 120*	*03/29/24 08:38*	*03/29/24 16:08*	*1*
2-Fluorobiphenyl (Surr)	*70*		*32 - 120*	*03/29/24 08:38*	*03/29/24 16:08*	*1*
p-Terphenyl-d14	*78*		*39 - 120*	*03/29/24 08:38*	*03/29/24 16:08*	*1*

Client Sample ID: ATC7-20-240325
Date Collected: 03/25/24 16:10
Date Received: 03/25/24 16:55

Lab Sample ID: 590-23905-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
2-Methylnaphthalene	ND	*1	0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
1-Methylnaphthalene	ND	*+ *1	0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
Acenaphthylene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
Acenaphthene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
Fluorene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
Phenanthrene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
Anthracene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
Fluoranthene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
Pyrene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Client Sample ID: ATC7-20-240325
Date Collected: 03/25/24 16:10
Date Received: 03/25/24 16:55

Lab Sample ID: 590-23905-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
Chrysene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
Benzo[b]fluoranthene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
Benzo[k]fluoranthene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
Benzo[a]pyrene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
Indeno[1,2,3-cd]pyrene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
Dibenz(a,h)anthracene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1
Benzo[g,h,i]perylene	ND		0.092		ug/L		03/29/24 08:38	03/29/24 16:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*74*		*44 - 120*	*03/29/24 08:38*	*03/29/24 16:31*	*1*
2-Fluorobiphenyl (Surr)	*74*		*32 - 120*	*03/29/24 08:38*	*03/29/24 16:31*	*1*
p-Terphenyl-d14	*78*		*39 - 120*	*03/29/24 08:38*	*03/29/24 16:31*	*1*

Method: EPA 200.8 - Metals (ICP/MS)

Client Sample ID: MW20-60-240325
Date Collected: 03/25/24 08:00
Date Received: 03/25/24 16:55

Lab Sample ID: 590-23905-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0045**		0.0010		mg/L		04/04/24 17:03	04/09/24 02:18	1

Client Sample ID: MW2-40-240325
Date Collected: 03/25/24 10:50
Date Received: 03/25/24 16:55

Lab Sample ID: 590-23905-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0012**		0.0010		mg/L		04/04/24 17:03	04/09/24 02:21	1

Client Sample ID: MW2-20-240325
Date Collected: 03/25/24 11:45
Date Received: 03/25/24 16:55

Lab Sample ID: 590-23905-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010		mg/L		04/04/24 17:03	04/09/24 02:23	1

Client Sample ID: MW7-90-240325
Date Collected: 03/25/24 13:30
Date Received: 03/25/24 16:55

Lab Sample ID: 590-23905-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0045**		0.0010		mg/L		04/04/24 17:03	04/09/24 02:26	1

Client Sample ID: MW4-20-240325
Date Collected: 03/25/24 14:50
Date Received: 03/25/24 16:55

Lab Sample ID: 590-23905-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0017**		0.0010		mg/L		04/04/24 17:03	04/09/24 02:29	1

Client Sample ID: ATC7-20-240325
Date Collected: 03/25/24 16:10
Date Received: 03/25/24 16:55

Lab Sample ID: 590-23905-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0053**		0.0010		mg/L		04/04/24 17:03	04/09/24 01:42	1

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: MW20-60-240325 **Lab Sample ID: 590-23905-1**
Date Collected: 03/25/24 08:00 **Matrix: Water**
Date Received: 03/25/24 16:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0042**		0.0010		mg/L		04/01/24 17:48	04/04/24 16:03	1

Client Sample ID: MW2-40-240325 **Lab Sample ID: 590-23905-2**
Date Collected: 03/25/24 10:50 **Matrix: Water**
Date Received: 03/25/24 16:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0011**		0.0010		mg/L		04/01/24 17:48	04/04/24 16:11	1

Client Sample ID: MW2-20-240325 **Lab Sample ID: 590-23905-3**
Date Collected: 03/25/24 11:45 **Matrix: Water**
Date Received: 03/25/24 16:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010		mg/L		04/01/24 17:48	04/04/24 16:14	1

Client Sample ID: MW7-90-240325 **Lab Sample ID: 590-23905-4**
Date Collected: 03/25/24 13:30 **Matrix: Water**
Date Received: 03/25/24 16:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0042**		0.0010		mg/L		04/01/24 17:48	04/04/24 16:16	1

Client Sample ID: MW4-20-240325 **Lab Sample ID: 590-23905-5**
Date Collected: 03/25/24 14:50 **Matrix: Water**
Date Received: 03/25/24 16:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0016**		0.0010		mg/L		04/01/24 17:48	04/04/24 16:19	1

Client Sample ID: ATC7-20-240325 **Lab Sample ID: 590-23905-6**
Date Collected: 03/25/24 16:10 **Matrix: Water**
Date Received: 03/25/24 16:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0048**		0.0010		mg/L		04/01/24 17:48	04/04/24 15:30	1

Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: MW20-60-240325 **Lab Sample ID: 590-23905-1**
Date Collected: 03/25/24 08:00 **Matrix: Water**
Date Received: 03/25/24 16:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		03/27/24 11:49	03/28/24 21:11	1

Client Sample ID: MW2-40-240325 **Lab Sample ID: 590-23905-2**
Date Collected: 03/25/24 10:50 **Matrix: Water**
Date Received: 03/25/24 16:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		03/27/24 11:49	03/28/24 21:13	1

Client Sample ID: MW2-20-240325 **Lab Sample ID: 590-23905-3**
Date Collected: 03/25/24 11:45 **Matrix: Water**
Date Received: 03/25/24 16:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		03/27/24 11:49	03/28/24 21:16	1

Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: MW7-90-240325
Date Collected: 03/25/24 13:30
Date Received: 03/25/24 16:55
Lab Sample ID: 590-23905-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		03/27/24 11:49	03/28/24 21:19	1

Client Sample ID: MW4-20-240325
Date Collected: 03/25/24 14:50
Date Received: 03/25/24 16:55
Lab Sample ID: 590-23905-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		03/27/24 11:49	03/28/24 21:26	1

Client Sample ID: ATC7-20-240325
Date Collected: 03/25/24 16:10
Date Received: 03/25/24 16:55
Lab Sample ID: 590-23905-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		03/27/24 11:49	03/28/24 21:29	1

General Chemistry

Client Sample ID: MW20-60-240325
Date Collected: 03/25/24 08:00
Date Received: 03/25/24 16:55
Lab Sample ID: 590-23905-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Weak Acid Dissociable (SM 4500 CN I)	ND		0.010		mg/L			04/03/24 15:49	1

Client Sample ID: MW2-40-240325
Date Collected: 03/25/24 10:50
Date Received: 03/25/24 16:55
Lab Sample ID: 590-23905-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Weak Acid Dissociable (SM 4500 CN I)	ND		0.010		mg/L			04/03/24 15:52	1

Client Sample ID: MW2-20-240325
Date Collected: 03/25/24 11:45
Date Received: 03/25/24 16:55
Lab Sample ID: 590-23905-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Weak Acid Dissociable (SM 4500 CN I)	ND		0.010		mg/L			04/03/24 15:54	1

Client Sample ID: MW7-90-240325
Date Collected: 03/25/24 13:30
Date Received: 03/25/24 16:55
Lab Sample ID: 590-23905-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Weak Acid Dissociable (SM 4500 CN I)	ND		0.010		mg/L			04/03/24 15:57	1

Client Sample ID: MW4-20-240325
Date Collected: 03/25/24 14:50
Date Received: 03/25/24 16:55
Lab Sample ID: 590-23905-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Weak Acid Dissociable (SM 4500 CN I)	ND		0.010		mg/L			04/03/24 16:00	1

Client: Landau & Associates, Inc.
Project/Site: HSB/1024 Groundwater Monitoring

Job ID: 590-23905-1

General Chemistry

Client Sample ID: ATC7-20-240325
Date Collected: 03/25/24 16:10
Date Received: 03/25/24 16:55

Lab Sample ID: 590-23905-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Weak Acid Dissociable (SM 4500 CN I)	ND		0.010		mg/L			04/03/24 15:41	1

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 590-46527/1-A
Matrix: Water
Analysis Batch: 46543

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46527

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
2-Methylnaphthalene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
1-Methylnaphthalene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Acenaphthylene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Acenaphthene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Fluorene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Phenanthrene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Anthracene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Fluoranthene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Pyrene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Benzo[a]anthracene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Chrysene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Benzo[b]fluoranthene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Benzo[k]fluoranthene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Benzo[a]pyrene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Indeno[1,2,3-cd]pyrene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Dibenz(a,h)anthracene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1
Benzo[g,h,i]perylene	ND		0.090		ug/L		03/29/24 08:38	03/29/24 13:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*68*		*44 - 120*	*03/29/24 08:38*	*03/29/24 13:34*	*1*
2-Fluorobiphenyl (Surr)	*72*		*32 - 120*	*03/29/24 08:38*	*03/29/24 13:34*	*1*
p-Terphenyl-d14	*80*		*39 - 120*	*03/29/24 08:38*	*03/29/24 13:34*	*1*

Lab Sample ID: LCS 590-46527/2-A
Matrix: Water
Analysis Batch: 46543

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46527

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Naphthalene	1.60	1.56		ug/L		98	47 - 120
2-Methylnaphthalene	1.60	1.92		ug/L		120	46 - 120
1-Methylnaphthalene	1.60	2.15	*+	ug/L		134	49 - 120
Acenaphthylene	1.60	1.33		ug/L		83	56 - 120
Acenaphthene	1.60	1.37		ug/L		85	53 - 120
Fluorene	1.60	1.40		ug/L		88	56 - 120
Phenanthrene	1.60	1.49		ug/L		93	59 - 128
Anthracene	1.60	1.38		ug/L		86	56 - 128
Fluoranthene	1.60	1.57		ug/L		98	58 - 129
Pyrene	1.60	1.48		ug/L		92	61 - 135
Benzo[a]anthracene	1.60	1.47		ug/L		92	62 - 130
Chrysene	1.60	1.51		ug/L		94	57 - 135
Benzo[b]fluoranthene	1.60	1.30		ug/L		81	47 - 136
Benzo[k]fluoranthene	1.60	1.55		ug/L		97	55 - 131
Benzo[a]pyrene	1.60	1.28		ug/L		80	57 - 130
Indeno[1,2,3-cd]pyrene	1.60	1.34		ug/L		84	61 - 121
Dibenz(a,h)anthracene	1.60	1.36		ug/L		85	59 - 127
Benzo[g,h,i]perylene	1.60	1.34		ug/L		84	59 - 129

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 590-46527/2-A
Matrix: Water
Analysis Batch: 46543

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46527

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*77*		*44 - 120*
2-Fluorobiphenyl (Surr)	*79*		*32 - 120*
p-Terphenyl-d14	*83*		*39 - 120*

Lab Sample ID: LCSD 590-46527/3-A
Matrix: Water
Analysis Batch: 46543

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46527

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Naphthalene			1.60	1.22		ug/L		76	47 - 120	25	30
2-Methylnaphthalene			1.60	1.24	*1	ug/L		77	46 - 120	44	34
1-Methylnaphthalene			1.60	1.26	*1	ug/L		78	49 - 120	52	32
Acenaphthylene			1.60	1.31		ug/L		82	56 - 120	2	24
Acenaphthene			1.60	1.34		ug/L		84	53 - 120	2	26
Fluorene			1.60	1.39		ug/L		87	56 - 120	1	24
Phenanthrene			1.60	1.49		ug/L		93	59 - 128	0	21
Anthracene			1.60	1.39		ug/L		87	56 - 128	0	25
Fluoranthene			1.60	1.59		ug/L		99	58 - 129	1	24
Pyrene			1.60	1.50		ug/L		94	61 - 135	1	24
Benzo[a]anthracene			1.60	1.46		ug/L		91	62 - 130	1	21
Chrysene			1.60	1.55		ug/L		97	57 - 135	3	20
Benzo[b]fluoranthene			1.60	1.30		ug/L		81	47 - 136	0	27
Benzo[k]fluoranthene			1.60	1.62		ug/L		101	55 - 131	5	28
Benzo[a]pyrene			1.60	1.29		ug/L		81	57 - 130	1	19
Indeno[1,2,3-cd]pyrene			1.60	1.37		ug/L		86	61 - 121	2	20
Dibenz(a,h)anthracene			1.60	1.39		ug/L		87	59 - 127	2	20
Benzo[g,h,i]perylene			1.60	1.37		ug/L		85	59 - 129	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Nitrobenzene-d5	*77*		*44 - 120*
2-Fluorobiphenyl (Surr)	*75*		*32 - 120*
p-Terphenyl-d14	*83*		*39 - 120*

Lab Sample ID: 590-23905-6 MS
Matrix: Water
Analysis Batch: 46543

Client Sample ID: ATC7-20-240325
Prep Type: Total/NA
Prep Batch: 46527

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Naphthalene	ND		1.62	1.18		ug/L		73	47 - 120		
2-Methylnaphthalene	ND	*1	1.62	1.46		ug/L		91	46 - 120		
1-Methylnaphthalene	ND	*+ *1	1.62	1.35		ug/L		81	49 - 120		
Acenaphthylene	ND		1.62	1.32		ug/L		81	56 - 120		
Acenaphthene	ND		1.62	1.35		ug/L		84	53 - 120		
Fluorene	ND		1.62	1.42		ug/L		88	56 - 120		
Phenanthrene	ND		1.62	1.52		ug/L		94	59 - 128		
Anthracene	ND		1.62	1.63		ug/L		101	56 - 128		
Fluoranthene	ND		1.62	1.63		ug/L		99	58 - 129		
Pyrene	ND		1.62	1.53		ug/L		95	61 - 135		

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 590-23905-6 MS
Matrix: Water
Analysis Batch: 46543

Client Sample ID: ATC7-20-240325
Prep Type: Total/NA
Prep Batch: 46527

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzo[a]anthracene	ND		1.62	1.51		ug/L		93	62 - 130
Chrysene	ND		1.62	1.68		ug/L		104	57 - 135
Benzo[b]fluoranthene	ND		1.62	1.39		ug/L		86	47 - 136
Benzo[k]fluoranthene	ND		1.62	1.67		ug/L		103	55 - 131
Benzo[a]pyrene	ND		1.62	1.38		ug/L		85	57 - 130
Indeno[1,2,3-cd]pyrene	ND		1.62	1.48		ug/L		91	61 - 121
Dibenz(a,h)anthracene	ND		1.62	1.50		ug/L		93	59 - 127
Benzo[g,h,i]perylene	ND		1.62	1.41		ug/L		87	59 - 129

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Nitrobenzene-d5	*78*		*44 - 120*
2-Fluorobiphenyl (Surr)	*80*		*32 - 120*
p-Terphenyl-d14	*82*		*39 - 120*

Lab Sample ID: 590-23905-6 MSD
Matrix: Water
Analysis Batch: 46543

Client Sample ID: ATC7-20-240325
Prep Type: Total/NA
Prep Batch: 46527

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Naphthalene	ND		1.61	1.04		ug/L		64	47 - 120	12	30
2-Methylnaphthalene	ND	*1	1.61	1.06		ug/L		66	46 - 120	32	34
1-Methylnaphthalene	ND	*+ *1	1.61	1.09		ug/L		65	49 - 120	21	32
Acenaphthylene	ND		1.61	1.21		ug/L		75	56 - 120	9	24
Acenaphthene	ND		1.61	1.24		ug/L		77	53 - 120	9	26
Fluorene	ND		1.61	1.30		ug/L		80	56 - 120	9	24
Phenanthrene	ND		1.61	1.42		ug/L		88	59 - 128	7	21
Anthracene	ND		1.61	1.53		ug/L		95	56 - 128	7	25
Fluoranthene	ND		1.61	1.53		ug/L		93	58 - 129	6	24
Pyrene	ND		1.61	1.44		ug/L		89	61 - 135	6	24
Benzo[a]anthracene	ND		1.61	1.43		ug/L		88	62 - 130	6	21
Chrysene	ND		1.61	1.57		ug/L		97	57 - 135	7	20
Benzo[b]fluoranthene	ND		1.61	1.34		ug/L		83	47 - 136	4	27
Benzo[k]fluoranthene	ND		1.61	1.56		ug/L		96	55 - 131	7	28
Benzo[a]pyrene	ND		1.61	1.31		ug/L		81	57 - 130	5	19
Indeno[1,2,3-cd]pyrene	ND		1.61	1.41		ug/L		87	61 - 121	5	20
Dibenz(a,h)anthracene	ND		1.61	1.42		ug/L		88	59 - 127	5	20
Benzo[g,h,i]perylene	ND		1.61	1.34		ug/L		83	59 - 129	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Nitrobenzene-d5	*69*		*44 - 120*
2-Fluorobiphenyl (Surr)	*70*		*32 - 120*
p-Terphenyl-d14	*76*		*39 - 120*

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 580-455716/14-A
Matrix: Water
Analysis Batch: 456090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 455716

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010		mg/L		04/04/24 17:03	04/09/24 01:39	1

Lab Sample ID: LCS 580-455716/15-A
Matrix: Water
Analysis Batch: 456090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 455716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	1.00	0.977		mg/L		98	85 - 115

Lab Sample ID: LCSD 580-455716/16-A
Matrix: Water
Analysis Batch: 456090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 455716

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	1.00	0.976		mg/L		98	85 - 115	0	20

Lab Sample ID: 590-23905-6 MS
Matrix: Water
Analysis Batch: 456090

Client Sample ID: ATC7-20-240325
Prep Type: Total/NA
Prep Batch: 455716

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.0053		1.00	1.04		mg/L		104	70 - 130

Lab Sample ID: 590-23905-6 MSD
Matrix: Water
Analysis Batch: 456090

Client Sample ID: ATC7-20-240325
Prep Type: Total/NA
Prep Batch: 455716

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.0053		1.00	1.02		mg/L		101	70 - 130	2	20

Lab Sample ID: 590-23905-6 DU
Matrix: Water
Analysis Batch: 456090

Client Sample ID: ATC7-20-240325
Prep Type: Total/NA
Prep Batch: 455716

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.0053		0.00536		mg/L		1	20

Lab Sample ID: MB 580-455235/1-B
Matrix: Water
Analysis Batch: 455760

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 455378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010		mg/L		04/01/24 17:48	04/04/24 15:27	1

Lab Sample ID: LCS 580-455235/2-B
Matrix: Water
Analysis Batch: 455760

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 455378

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	1.00	1.01		mg/L		101	85 - 115

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: LCSD 580-455235/3-B
Matrix: Water
Analysis Batch: 455760

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 455378

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic			1.00	0.991		mg/L		99	85 - 115	2	20

Lab Sample ID: 590-23905-1 MS
Matrix: Water
Analysis Batch: 455760

Client Sample ID: MW20-60-240325
Prep Type: Dissolved
Prep Batch: 455378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Arsenic	0.0042		1.00	1.00		mg/L		100	70 - 130		

Lab Sample ID: 590-23905-1 MSD
Matrix: Water
Analysis Batch: 455760

Client Sample ID: MW20-60-240325
Prep Type: Dissolved
Prep Batch: 455378

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.0042		1.00	1.01		mg/L		100	70 - 130	0	20

Lab Sample ID: 590-23905-6 MS
Matrix: Water
Analysis Batch: 455760

Client Sample ID: ATC7-20-240325
Prep Type: Dissolved
Prep Batch: 455378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Arsenic	0.0048		1.00	1.01		mg/L		101	70 - 130		

Lab Sample ID: 590-23905-6 MSD
Matrix: Water
Analysis Batch: 455760

Client Sample ID: ATC7-20-240325
Prep Type: Dissolved
Prep Batch: 455378

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.0048		1.00	0.996		mg/L		99	70 - 130	2	20

Lab Sample ID: 590-23905-6 DU
Matrix: Water
Analysis Batch: 455760

Client Sample ID: ATC7-20-240325
Prep Type: Dissolved
Prep Batch: 455378

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Arsenic	0.0048			0.00505		mg/L				6	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 590-46484/9-A
Matrix: Water
Analysis Batch: 46530

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46484

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20		ug/L		03/27/24 11:49	03/28/24 20:58	1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 590-46484/8-A
Matrix: Water
Analysis Batch: 46530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46484

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			2.00	2.01		ug/L		101	85 - 115		

Lab Sample ID: 590-23905-6 MS
Matrix: Water
Analysis Batch: 46530

Client Sample ID: ATC7-20-240325
Prep Type: Total/NA
Prep Batch: 46484

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	ND		2.00	1.95		ug/L		89	70 - 130		

Lab Sample ID: 590-23905-6 MSD
Matrix: Water
Analysis Batch: 46530

Client Sample ID: ATC7-20-240325
Prep Type: Total/NA
Prep Batch: 46484

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		2.00	1.99		ug/L		91	70 - 130	2	20

Lab Sample ID: 590-23905-6 DU
Matrix: Water
Analysis Batch: 46530

Client Sample ID: ATC7-20-240325
Prep Type: Total/NA
Prep Batch: 46484

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	ND		ND		ug/L		NC	20

Method: SM 4500 CN I - Cyanide, Weak Acid Dissociable

Lab Sample ID: MB 280-648321/18
Matrix: Water
Analysis Batch: 648321

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Weak Acid Dissociable	ND		0.010		mg/L			04/03/24 15:33	1

Lab Sample ID: LCS 280-648321/19
Matrix: Water
Analysis Batch: 648321

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Cyanide, Weak Acid Dissociable			0.0999	0.103		mg/L		103	90 - 110		

Lab Sample ID: 590-23905-6 MS
Matrix: Water
Analysis Batch: 648321

Client Sample ID: ATC7-20-240325
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Cyanide, Weak Acid Dissociable	ND		0.0999	0.112		mg/L		112	75 - 120		

Client: Landau & Associates, Inc.
Project/Site: HSB/1024 Groundwater Monitoring

Job ID: 590-23905-1

Method: SM 4500 CN I - Cyanide, Weak Acid Dissociable (Continued)

Lab Sample ID: 590-23905-6 MSD
Matrix: Water
Analysis Batch: 648321

Client Sample ID: ATC7-20-240325
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Weak Acid Dissociable	ND		0.0999	0.116		mg/L		116	75 - 120	4	20

Lab Chronicle

Client: Landau & Associates, Inc.
Project/Site: HSB/1024 Groundwater Monitoring

Job ID: 590-23905-1

Client Sample ID: MW20-60-240325

Lab Sample ID: 590-23905-1

Date Collected: 03/25/24 08:00

Matrix: Water

Date Received: 03/25/24 16:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			46527	MRV	EET SPK	03/29/24 08:38
Total/NA	Analysis	8270E SIM		1	46543	NMI	EET SPK	03/29/24 14:40
Dissolved	Filtration	FILTRATION			455235	JLS	EET SEA	03/29/24 18:10
Dissolved	Prep	200.8			455378	AUA	EET SEA	04/01/24 17:48
Dissolved	Analysis	200.8		1	455760	FCW	EET SEA	04/04/24 16:03
Total/NA	Prep	200.8			455716	JL	EET SEA	04/04/24 17:03
Total/NA	Analysis	200.8		1	456090	FCW	EET SEA	04/09/24 02:18
Total/NA	Prep	245.1			46484	AMB	EET SPK	03/27/24 11:49
Total/NA	Analysis	245.1		1	46530	AMB	EET SPK	03/28/24 21:11
Total/NA	Analysis	SM 4500 CN I		1	648321	SAH	EET DEN	04/03/24 15:49

Client Sample ID: MW2-40-240325

Lab Sample ID: 590-23905-2

Date Collected: 03/25/24 10:50

Matrix: Water

Date Received: 03/25/24 16:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			46527	MRV	EET SPK	03/29/24 08:38
Total/NA	Analysis	8270E SIM		1	46543	NMI	EET SPK	03/29/24 15:02
Dissolved	Filtration	FILTRATION			455235	JLS	EET SEA	03/29/24 18:10
Dissolved	Prep	200.8			455378	AUA	EET SEA	04/01/24 17:48
Dissolved	Analysis	200.8		1	455760	FCW	EET SEA	04/04/24 16:11
Total/NA	Prep	200.8			455716	JL	EET SEA	04/04/24 17:03
Total/NA	Analysis	200.8		1	456090	FCW	EET SEA	04/09/24 02:21
Total/NA	Prep	245.1			46484	AMB	EET SPK	03/27/24 11:49
Total/NA	Analysis	245.1		1	46530	AMB	EET SPK	03/28/24 21:13
Total/NA	Analysis	SM 4500 CN I		1	648321	SAH	EET DEN	04/03/24 15:52

Client Sample ID: MW2-20-240325

Lab Sample ID: 590-23905-3

Date Collected: 03/25/24 11:45

Matrix: Water

Date Received: 03/25/24 16:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			46527	MRV	EET SPK	03/29/24 08:38
Total/NA	Analysis	8270E SIM		1	46543	NMI	EET SPK	03/29/24 15:24
Dissolved	Filtration	FILTRATION			455235	JLS	EET SEA	03/29/24 18:10
Dissolved	Prep	200.8			455378	AUA	EET SEA	04/01/24 17:48
Dissolved	Analysis	200.8		1	455760	FCW	EET SEA	04/04/24 16:14
Total/NA	Prep	200.8			455716	JL	EET SEA	04/04/24 17:03
Total/NA	Analysis	200.8		1	456090	FCW	EET SEA	04/09/24 02:23
Total/NA	Prep	245.1			46484	AMB	EET SPK	03/27/24 11:49
Total/NA	Analysis	245.1		1	46530	AMB	EET SPK	03/28/24 21:16
Total/NA	Analysis	SM 4500 CN I		1	648321	SAH	EET DEN	04/03/24 15:54

Lab Chronicle

Client: Landau & Associates, Inc.
Project/Site: HSB/1024 Groundwater Monitoring

Job ID: 590-23905-1

Client Sample ID: MW7-90-240325

Lab Sample ID: 590-23905-4

Date Collected: 03/25/24 13:30

Matrix: Water

Date Received: 03/25/24 16:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			46527	MRV	EET SPK	03/29/24 08:38
Total/NA	Analysis	8270E SIM		1	46543	NMI	EET SPK	03/29/24 15:46
Dissolved	Filtration	FILTRATION			455235	JLS	EET SEA	03/29/24 18:10
Dissolved	Prep	200.8			455378	AUA	EET SEA	04/01/24 17:48
Dissolved	Analysis	200.8		1	455760	FCW	EET SEA	04/04/24 16:16
Total/NA	Prep	200.8			455716	JL	EET SEA	04/04/24 17:03
Total/NA	Analysis	200.8		1	456090	FCW	EET SEA	04/09/24 02:26
Total/NA	Prep	245.1			46484	AMB	EET SPK	03/27/24 11:49
Total/NA	Analysis	245.1		1	46530	AMB	EET SPK	03/28/24 21:19
Total/NA	Analysis	SM 4500 CN I		1	648321	SAH	EET DEN	04/03/24 15:57

Client Sample ID: MW4-20-240325

Lab Sample ID: 590-23905-5

Date Collected: 03/25/24 14:50

Matrix: Water

Date Received: 03/25/24 16:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			46527	MRV	EET SPK	03/29/24 08:38
Total/NA	Analysis	8270E SIM		1	46543	NMI	EET SPK	03/29/24 16:08
Dissolved	Filtration	FILTRATION			455235	JLS	EET SEA	03/29/24 18:10
Dissolved	Prep	200.8			455378	AUA	EET SEA	04/01/24 17:48
Dissolved	Analysis	200.8		1	455760	FCW	EET SEA	04/04/24 16:19
Total/NA	Prep	200.8			455716	JL	EET SEA	04/04/24 17:03
Total/NA	Analysis	200.8		1	456090	FCW	EET SEA	04/09/24 02:29
Total/NA	Prep	245.1			46484	AMB	EET SPK	03/27/24 11:49
Total/NA	Analysis	245.1		1	46530	AMB	EET SPK	03/28/24 21:26
Total/NA	Analysis	SM 4500 CN I		1	648321	SAH	EET DEN	04/03/24 16:00

Client Sample ID: ATC7-20-240325

Lab Sample ID: 590-23905-6

Date Collected: 03/25/24 16:10

Matrix: Water

Date Received: 03/25/24 16:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			46527	MRV	EET SPK	03/29/24 08:38
Total/NA	Analysis	8270E SIM		1	46543	NMI	EET SPK	03/29/24 16:31
Dissolved	Filtration	FILTRATION			455235	JLS	EET SEA	03/29/24 18:10
Dissolved	Prep	200.8			455378	AUA	EET SEA	04/01/24 17:48
Dissolved	Analysis	200.8		1	455760	FCW	EET SEA	04/04/24 15:30
Total/NA	Prep	200.8			455716	JL	EET SEA	04/04/24 17:03
Total/NA	Analysis	200.8		1	456090	FCW	EET SEA	04/09/24 01:42
Total/NA	Prep	245.1			46484	AMB	EET SPK	03/27/24 11:49
Total/NA	Analysis	245.1		1	46530	AMB	EET SPK	03/28/24 21:29
Total/NA	Analysis	SM 4500 CN I		1	648321	SAH	EET DEN	04/03/24 15:41

Lab Chronicle

Client: Landau & Associates, Inc.
Job ID: 590-23905-1
Project/Site: HSB/1024 Groundwater Monitoring

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

EET SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Accreditation/Certification Summary

Client: Landau & Associates, Inc.
Project/Site: HSB/1024 Groundwater Monitoring

Job ID: 590-23905-1

Laboratory: Eurofins Spokane

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C569	01-07-25

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-24
A2LA	ISO/IEC 17025	2907.01	10-31-25
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	11-30-25
Arizona	State	AZ0713	12-20-24
Arkansas DEQ	State	19-047-0	04-21-24
California	State	2513	01-08-25
Connecticut	State	PH-0686	09-30-24
Florida	NELAP	E87667-57	06-30-24
Georgia	State	4025-011	01-08-25
Illinois	NELAP	2000172019-1	04-30-24
Iowa	State	370	12-01-24
Kansas	NELAP	E-10166	04-30-24
Kentucky (WW)	State	KY98047	12-31-24
Louisiana	NELAP	30785	06-30-14 *
Louisiana (All)	NELAP	30785	06-30-24
Minnesota	NELAP	1788752	12-31-24
Nevada	State	CO000262020-1	07-31-24
New Hampshire	NELAP	2053	04-28-24
New Jersey	NELAP	230001	06-30-24
New York	NELAP	59923	03-31-24 *
North Dakota	State	R-034	01-08-24 *
Oklahoma	NELAP	8614	08-31-24
Oregon	NELAP	4025-020	01-08-25
Pennsylvania	NELAP	013	07-31-24
South Carolina	State	72002001	01-08-24 *
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-23-23	09-30-24
USDA	US Federal Programs	P330-20-00065	12-19-25
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-24
Virginia	NELAP	460232	06-14-24
Washington	State	C583	08-03-24
West Virginia DEP	State	354	11-30-24
Wisconsin	State	999615430	08-31-24
Wyoming (UST)	A2LA	2907.01	10-31-25

Laboratory: Eurofins Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-004	02-19-25
ANAB	Dept. of Defense ELAP	L2236	01-19-25
ANAB	Dept. of Energy	L2236	01-19-25
ANAB	ISO/IEC 17025	L2236	01-19-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Landau & Associates, Inc.
Job ID: 590-23905-1
Project/Site: HSB/1024 Groundwater Monitoring

Laboratory: Eurofins Seattle (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2954	07-07-24
Florida	NELAP	E87575	06-30-24
Louisiana (All)	NELAP	03073	07-01-24
Maine	State	WA01273	05-02-24
Montana (UST)	State	NA	04-14-27
New Jersey	NELAP	WA014	06-30-24
Oregon	NELAP	4167	07-07-24
US Fish & Wildlife	US Federal Programs	A20571	06-30-24
USDA	US Federal Programs	525-23-4-22573	01-04-26
Washington	State	C788	07-13-24
Wisconsin	State	399133460	08-31-24

Method Summary

Client: Landau & Associates, Inc.
Project/Site: HSB/1024 Groundwater Monitoring

Job ID: 590-23905-1

Method	Method Description	Protocol	Laboratory
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET SPK
200.8	Metals (ICP/MS)	EPA	EET SEA
245.1	Mercury (CVAA)	EPA	EET SPK
SM 4500 CN I	Cyanide, Weak Acid Dissociable	SM	EET DEN
200.8	Preparation, Total Metals	EPA	EET SEA
245.1	Preparation, Mercury	EPA	EET SPK
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET SPK
FILTRATION	Sample Filtration	None	EET SEA

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

EET SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200