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June 11, 2020

Ronald Timm  
Toxics Cleanup Program  
Dept. of Ecology  
3190 160th Ave SE  
Bellevue, WA 98008-5452

**RE: Draft Hydraulic Control and Containment System Passive Operation Pilot Study Report  
Transmittal  
Consent Decree No. 07-2-33672-9 SEA:  
Site Name: BNSF Former Maintenance and Fueling Facility  
Site Address: Skykomish, WA  
Facility/Site ID No.: 2104  
Cleanup Site ID No.: 34**

Dear Mr. Timm:

Enclosed is the Draft Hydraulic Control and Containment System Passive Operation Pilot Study Report for Ecology's review and approval. We look forward to your review and acceptance of this report.

Sincerely,

A handwritten signature in blue ink that reads "Shane C. DeGross".

Shane C. DeGross  
Manager Environmental Remediation, BNSF Railway

cc: Ms. Amy Essig Desai, Farallon Consulting

**HYDRAULIC CONTROL AND CONTAINMENT SYSTEM  
PASSIVE OPERATION PILOT STUDY REPORT**

**BNSF FORMER MAINTENANCE AND FUELING FACILITY  
SKYKOMISH, WASHINGTON  
CONSENT DECREE NO. 07-2-33672-9 SEA**

**Submitted by:  
Farallon Consulting, L.L.C.  
975 5<sup>th</sup> Avenue Northwest  
Issaquah, Washington 98027**

**Farallon PN: 683-067**

**For:  
BNSF Railway Company  
605 Puyallup Avenue  
Tacoma, Washington 98421**

June 11, 2020

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## TABLE OF CONTENTS

<b>1.0</b>	<b>INTRODUCTION.....</b>	<b>1-1</b>
1.1	PILOT STUDY ACTIVITIES.....	1-1
1.2	REPORT ORGANIZATION.....	1-2
<b>2.0</b>	<b>GROUNDWATER MONITORING.....</b>	<b>2-1</b>
<b>3.0</b>	<b>MAINTENANCE AND MONTHLY TESTING OF TREATMENT SYSTEM.....</b>	<b>3-1</b>
<b>4.0</b>	<b>RESULTS AND DISCUSSION.....</b>	<b>4-1</b>
4.1	NWTPH-DX RESULTS.....	4-1
4.2	LNAPL MONITORING.....	4-2
<b>5.0</b>	<b>CONCLUSIONS.....</b>	<b>5-1</b>
<b>6.0</b>	<b>PROPOSED PASSIVE OPERATIONS AND MONITORING.....</b>	<b>6-1</b>
<b>7.0</b>	<b>BIBLIOGRAPHY.....</b>	<b>7-1</b>

## FIGURES

Figure 1 *Site Plan*

Figure 2 *Total Petroleum Hydrocarbons in Groundwater, West Gate, and Far West Gate*

Figure 3 *Total Petroleum Hydrocarbons in Groundwater, West Gate*

## TABLES

Table 1 *Total Petroleum Hydrocarbon Concentrations in Groundwater*

Table 2 *Water-Level Elevations and LNAPL Thicknesses*

## APPENDICES

Appendix A Laboratory Analytical Reports

Appendix B Data Validation Reports

## 1.0 INTRODUCTION

This report provides the results for the 12-month Hydraulic Control and Containment (HCC) System Passive Operation Pilot Study (Pilot Study) conducted at the BNSF Railway Company (BNSF) Former Maintenance and Fueling Facility in Skykomish, Washington (herein referred to as the Site) (Figure 1). As discussed herein, the results of the Pilot Study confirm that passive operation of the HCC system is effective in meeting the Site cleanup objective<sup>1</sup>. This report also provides recommendations for ongoing operation of the HCC system.

The purpose of the Pilot Study was to evaluate the HCC system's ability to meet the cleanup objective through passive operation. Passive operation of the HCC system uses the HCC barrier wall and passive groundwater flow through the granular activated carbon (GAC)-filled treatment gates as the primary means of meeting the cleanup objective, and active pumping from the recovery wells as the redundant means of containing contaminated groundwater on the BNSF railyard property. A detailed description of the HCC system is provided in the 2018 Pilot Study Work Plan (Farallon Consulting, L.L.C. [Farallon] 2018) (Work Plan).

### 1.1 PILOT STUDY ACTIVITIES

The Pilot Study was conducted in accordance with the Work Plan between December 2018 and January 2020 and included collection of baseline groundwater samples and liquid-level gauging measurements at select monitoring locations near the western end of the HCC barrier wall, prior to initiating the 12-month passive operation period. The groundwater samples were submitted for laboratory analysis for total petroleum hydrocarbons quantified as NWTPH-Dx (defined as the sum of diesel- and oil-range organics) using Washington State Department of Ecology (Ecology) Method NWTPH-Dx. The baseline groundwater monitoring event was conducted on December 11 and 12, 2018. Passive operation of the HCC system was initiated on January 18, 2019. Monthly liquid-level gauging measurements and groundwater samples were collected at the monitoring

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<sup>1</sup> As defined in the *Cleanup Action Plan for BNSF Former Maintenance and Fueling Facility, Skykomish, Washington* (Ecology 2007a); the cleanup objective for the HCC system is to prevent light nonaqueous-phase liquid and groundwater with total petroleum hydrocarbon concentrations exceeding the Site-specific groundwater remediation level of 477 micrograms per liter from migrating from the BNSF railyard.

locations sampled during the baseline sampling event. Groundwater monitoring events were conducted monthly between February and December 2019. The recovery well pumps and groundwater treatment system were operated each month for a short period of time to ensure all components of the redundant HCC system could be activated to function as the redundant system. Monitoring results were evaluated monthly to assess the effectiveness of passive operation.

As discussed at the January 14, 2020 meeting with BNSF, Ecology, and Farallon, and approved by Ecology on January 24, 2020, passive operation of the HCC system will continue through June 2020 pending completion of Ecology's review of the 12-month pilot study results (i.e., this report).

## **1.2 REPORT ORGANIZATION**

The remainder of this report is organized into the following sections:

- **Section 2, Groundwater Monitoring**, describes the groundwater monitoring conducted during the Pilot Study.
- **Section 3, Maintenance and Monthly Testing of Treatment System**, describes the maintenance and monthly testing of recovery well pumps and the groundwater treatment system during the Pilot Study.
- **Section 4, Results and Discussion**, describes the groundwater analytical and liquid-level gauging measurement results.
- **Section 5, Conclusions**, provides conclusions for the Pilot Study.
- **Section 6, Proposed Passive Operations and Monitoring**, provides the protocols for operating and monitoring the performance of the HCC system during passive operations.
- **Section 7, Bibliography**, provides a list of the documents used in preparing this report.

## **2.0 GROUNDWATER MONITORING**

The Pilot Study monitoring well network consisted of 17 locations near the western end of the HCC barrier wall (Figure 2). Groundwater samples were collected monthly from the following locations:

- Piezometers PZ-7S and PZ-8.
- Monitoring wells EW-1, 5-W-43, GW-1, and GW-2.
- West Gate sentry wells S2-AU, S2-AD, S2-BU, and S2-BD.
- The west and east vault oil-water separator (OWS) chambers of the West Gate and Far West Gate (locations WG-WV, WG-EV, FWG-WV, and FWG-EV). The groundwater samples collected from the OWS chambers were obtained from the northern (down-gradient) side of the baffle walls in the OWS chambers.

During the baseline and monthly groundwater monitoring events, groundwater levels and light nonaqueous-phase liquid (LNAPL) thicknesses were gauged at the 14 locations identified above and at 3 additional locations where LNAPL has been observed historically: piezometer PZ-6S and recovery wells RW-05 and RW-06 (Figures 2 and 3).

Groundwater samples were analyzed by TestAmerica Laboratories, Inc. of Tacoma, Washington. Laboratory analytical reports are provided in Attachment A. The groundwater analytical results were independently validated by Saylor Data Solutions, Inc. of Kirkland, Washington. The data validation results indicate that the groundwater analytical data are suitable for the intended use of assessing Site groundwater quality. Data validation reports are provided in Attachment B.

### **3.0 MAINTENANCE AND MONTHLY TESTING OF TREATMENT SYSTEM**

Glacier Environmental Services, Inc. (Glacier) of Mukilteo, Washington performed monthly inspection and maintenance of the recovery well pumps and groundwater treatment system in accordance with the procedures described in the Work Plan, HCC O&M Manual (AECOM Environmental 2011), and the Addendum to the HCC O&M Manual (Farallon 2014), which included operating the recovery well pumps and groundwater treatment equipment for approximately 4 hours each month to prevent the buildup of biofouling and ensure the system is operational and could be activated to reverse the hydraulic gradient across the West Gate, if needed. Glacier inspected the treatment system monthly, including a visual check of components such as the piping, instrumentation, equalization tanks, OWS, sand filters, GAC vessels, and building temperature controls. Glacier also inspected the oil skimmers and OWS chambers in the West Gate and Far West Gate quarterly and oversaw the removal of oily water from the oil skimmer tanks and West Gate OWS chambers with a vacuum truck on November 22, 2019; no measurable thickness of LNAPL was present. In addition, Glacier conducted compliance monitoring of the HCC treatment system in accordance with the National Pollutant Discharge Elimination System Permit No. WA0032123 issued by Ecology. Compliance monitoring results were provided to Ecology under separate cover.

## **4.0 RESULTS AND DISCUSSION**

The groundwater analytical and LNAPL thickness data were evaluated after each monthly groundwater sampling event to confirm that LNAPL and groundwater with NWTPH-Dx concentrations exceeding the Site-specific remediation level (RL) of 477 micrograms per liter ( $\mu\text{g/l}$ ) and absence of sheen were not migrating to the north or west beyond the West Gate.

### **4.1 NWTPH-DX RESULTS**

The NWTPH-Dx analytical results are reported as diesel-range organics (DRO) and oil-range organics (ORO) fractions, which are summed to give the total NWTPH-Dx concentration. If both DRO and ORO fractions were detected, the total NWTPH-Dx concentration was calculated as the sum of the reported DRO and ORO concentrations. If either the DRO or ORO fraction was not detected, half the method detection limit (MDL) was used for the non-detected fraction in the NWTPH-Dx calculation.

The Work Plan defined two different Site-specific groundwater NWTPH-Dx target concentration objectives for the Pilot Study:

- Reported concentrations in down-gradient sentry wells S2-AD and S2-BD were not to exceed one-half the RL (238  $\mu\text{g/l}$ ); and
- Reported concentrations in monitoring wells EW-1, 5-W-43, GW-1, and GW-2, and piezometers PZ-7S and PZ-8 were not to exceed the RL (477  $\mu\text{g/l}$  and absence of sheen).

All eight monitoring locations met their respective target concentration objectives for the Pilot Study. NWTPH-Dx was not detected in any of the monthly groundwater samples collected from down-gradient sentry wells S2-AD and S2-BD (Figures 1 and 2; Table 1). NWTPH-Dx was detected at concentrations ranging from non-detect to 272  $\mu\text{g/l}$  in monthly groundwater samples collected from monitoring wells EW-1, 5-W-43, GW-1, GW-2, PZ-7S, and PZ-8 (Figure 2; Table 1).

NWTPH-Dx concentrations in up-gradient monitoring locations within the West Gate and Far West Gate were generally similar to, or less than, baseline conditions except for sentry well S2-

BU and the east vault OWS chamber of the West Gate (WG-EV), where concentrations appeared to increase from baseline conditions. While the baseline reported NWTPH-Dx concentration in S2-BU was less than the MDL, concentrations in this well from 2013 to 2018 have historically fluctuated between 30 and 820 µg/l, and concentrations reported during the Pilot Study passive operations were within this range (144 to 760 µg/l). The reported NWTPH-Dx concentration for the east vault OWS chamber of the West Gate (WG-EV) during passive operations ranged from 620 to 1,010 µg/l. These concentrations were within the range reported for three groundwater samples collected from WG-EV between September 2014 and April 2015 (520 to 1,130 µg/l).

The Pilot Study results for sentry well S2-BU and the WG-EV OWS chamber demonstrate the effectiveness of the OWS and GAC-filled treatment gates in meeting the cleanup objective and the Site-specific RL during passive operation of the HCC system.

Slight increases in the reported NWTPH-Dx concentrations were expected at the WG-EV OWS chamber and sentry well S2-BU during passive HCC system operations, because the OWS and GAC-filled treatment gates are used as the primary means of meeting the cleanup objectives. As noted in the Work Plan, only groundwater flowing into the east vault of the West Gate contains petroleum hydrocarbon concentrations exceeding the RL. Each treatment gate includes an OWS followed by GAC-filled treatment chambers. Monitoring locations down-gradient of the WG-EV OWS chamber showed a decreasing trend in NWTPH-Dx concentrations when correlated with distance from the WG-EV OWS chamber. NWTPH-Dx was not detected in any of the monthly groundwater samples collected from sentry well S2-BD, which is down-gradient of the WG-EV OWS chamber and sentry well S2-BU. The Pilot Study results confirm the effectiveness of passive treatment through the OWS and GAC-filled vaults.

## **4.2 LNAPL MONITORING**

LNAPL measurements were evaluated during each monthly event (Table 2). LNAPL was not observed in monitoring locations west and north of the West Gate (S2-AD, S2-BD, EW-1, 5-W-43, GW-1, GW-2, PZ-7S and PZ-8), indicating the HCC barrier wall effectively contained the LNAPL, the OWS chambers within the West Gate effectively removed the LNAPL, and the extent of LNAPL remained stable south of the West Gate during passive operations.

LNAPL was measured at thicknesses ranging from a light trace to 1.86 feet at the following locations during the Pilot Study:

- PZ-6S;
- RW-05;
- RW-06; and
- East Vault of the West Gate (North and South Chambers).

LNAPL is removed within the OWS chambers in each gate vault prior to groundwater migrating through, and being treated by, the GAC chambers. LNAPL was only observed in the OWS chambers of the east vault of the West Gate during the Pilot Study at trace amounts. Only oily water was removed from the oil skimmer tanks and West Gate OWS chambers with a vacuum truck on November 22, 2019.

The thickest LNAPL measurement was made in monitoring location PZ-6S at 1.86 feet during the July 2019 monthly monitoring event. Historic (2012 through 2018) LNAPL thickness measurements at this location ranged from a heavy trace to 2.95 feet. The LNAPL thicknesses measured within location PZ-6S during the Pilot Study were within the typical range previously measured in this piezometer. Only light to heavy traces of LNAPL were periodically measured at locations RW-05 and RW-06 during the Pilot Study, comparable to historic measurements at these locations.

The LNAPL measurements indicate the extent of LNAPL remained stable near the West Gate and did not migrate to the west or north during passive operation of the HCC system.

## **5.0 CONCLUSIONS**

The Pilot Study results confirm that passive operation of the HCC system is effective in meeting the cleanup objective. LNAPL and NWTPH-Dx concentrations in groundwater exceeding the RL did not migrate past the HCC barrier wall during passive operation of the HCC system. These results demonstrate the effectiveness of the barrier wall and GAC-filled treatment gates in passively meeting the cleanup objective. It is recommended that the HCC system continue to be operated in a passive-mode with groundwater monitoring conducted in accordance with the Consent Decree (Ecology 2007b) and the draft Long-Term Monitoring Plan<sup>2</sup> (Farallon 2019).

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<sup>2</sup> Draft *Long-Term Monitoring Plan, BNSF Former Maintenance and Fueling Facility, Skykomish, Washington*. The draft Long-Term Monitoring Plan was submitted to Ecology on November 26, 2019, in accordance with the Consent Decree following termination of the hot water flushing remediation system at the Skykomish School and is pending Ecology review.

## **6.0 PROPOSED PASSIVE OPERATIONS AND MONITORING**

In accordance with the draft Long-Term Monitoring Plan (Farallon 2019), locations down-gradient of the HCC system gates and barrier wall (gate wells GW-1 through GW-4 and monitoring well 5-W-43) will be gauged and sampled for NWTPH-Dx semiannually for 2 years and annually thereafter (Figure 1). In addition, down-gradient sentry wells in each treatment gate (S1-AD, S1-BD, S2-AD, S2-BD, S3-AD, S3-BD, S3-CD, S4-AD, S4-BD, and S4-CD) will be sampled with the same frequency. Results from the monitoring events will be used to evaluate the long-term effectiveness of passive operation of the HCC system.

The minimum effective lifespan of the GAC installed in the east vault of the West Gate, which is the only gate with NWTPH-Dx concentrations in groundwater exceeding the RL, was estimated to be 5 years in September 2016 based on historical groundwater monitoring data and groundwater flux data from pilot testing conducted at the West Gate between 2014 and 2015. It was estimated that breakthrough of the east vault GAC would occur in the fall of 2021, at the earliest, assuming continued passive (no-pumping) operation of the HCC system. The parameter values and assumptions used to calculate the breakthrough estimate are provided in the Work Plan and the 2017 HCC Optimization and Pilot Testing Report (Farallon 2017). In 2021, the GAC media in the east vault of the West Gate will either be replaced or sampled to determine GAC condition and remaining adsorptive capacity.

Criteria that would trigger testing of GAC media in the treatment gates to determine GAC condition and remaining adsorptive capacity include:

- An exceedance of the NWTPH-Dx RL, confirmed by follow-up sampling, in a groundwater sample collected from a down-gradient sentry well (S1-AD, S1-BD, S2-AD, S2-BD, S3-AD, S3-BD, S3-CD, S4-AD, S4-BD, and S4-CD), indicating breakthrough; or
- An estimate that the lifespan of the GAC is about to expire based on calculations using data (i.e., flow rates, petroleum loading factors, etc.) collected during the 2014 through 2015 pilot testing (Farallon 2017).

If testing indicates GAC media in any of the treatment gates needs to be replaced, construction work will be scheduled for summer/early fall during low-water conditions to minimize the volume of groundwater that would need to be pumped from the gate and managed. Active pumping and groundwater treatment would be used prior to, and during, replacement of the GAC media. Operation would switch back to passive-mode once the GAC media was replaced.

Criteria that would trigger active groundwater pumping and treatment operations includes the following:

- If GAC testing indicates that the media in any of the treatment gates needs to be replaced; or
- An exceedance of NWTPH-Dx RL, confirmed by follow-up sampling within a month, in a groundwater sample collected from monitoring well 5-W-43 and gate wells GW-1 through GW-4; or
- Evidence that LNAPL is migrating beyond the West Gate as indicated by the liquid level gauging data collected at HCC system monitoring locations west and north of the West Gate (monitoring well 5-W-43 and gate wells GW-1 through GW-4).

Active pumping and groundwater treatment will continue while an investigation is conducted into the source and cause of the release past the barrier wall, and a resolution is implemented. Once the source of the release has been identified and contained, passive operation of the HCC system will resume. Criteria for resuming passive operation of the HCC system include one or more of the following:

- Replacement of the GAC media;
- Confirmation that the reported NWTPH-Dx concentrations are less than the RL in a groundwater sample collected from monitoring well 5-W-43 or gate wells GW-1 through GW-4; and
- Confirmation that the LNAPL is not continuing to migrate beyond the West Gate as indicated by the liquid level gauging data collected at HCC system monitoring locations west and north of the West Gate (monitoring well 5-W-43 and gate wells GW-1 through GW-4).

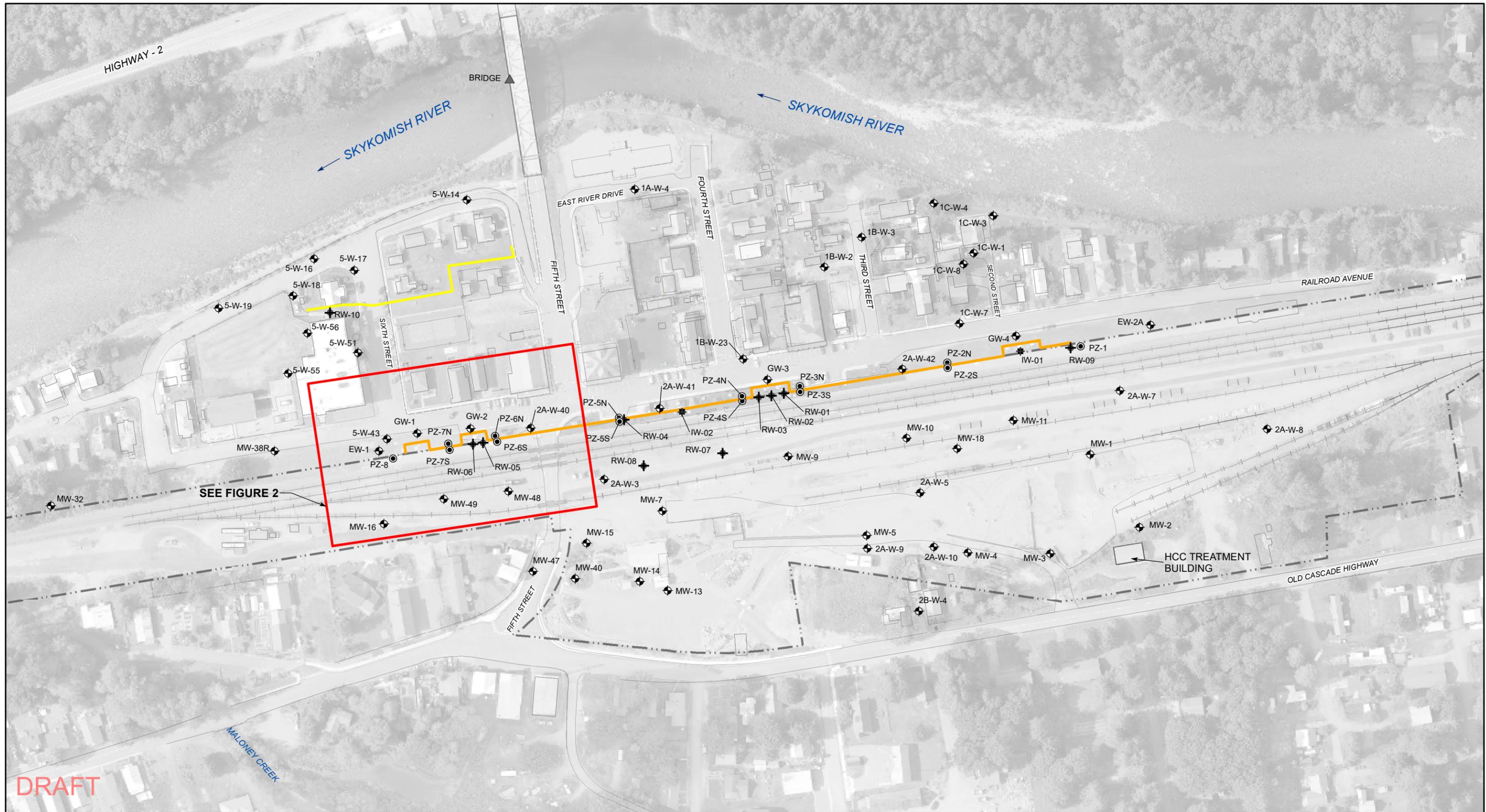
## 7.0 BIBLIOGRAPHY

- AECOM Environmental (AECOM). 2011. *Operation and Maintenance Manual for the Hydraulic Control and Containment System, Former Maintenance and Fueling Facility – Skykomish, Washington*. Prepared for BNSF Railway Company. April 8.
- Farallon Consulting, L.L.C. (Farallon). 2014. *Addendum to the Operation and Maintenance Manual for the Hydraulic Control and Containment System, BNSF Former Maintenance and Fueling Facility, Skykomish, Washington*. Prepared for BNSF Railway Company. September 10.
- . 2017. *Hydraulic Control and Containment System Optimization and Pilot Testing Report, BNSF Former Maintenance and Fueling Facility, Skykomish, Washington*. Prepared for BNSF Railway Company. February 21.
- . 2018. *HCC System Passive Operation Pilot Study Work Plan, BNSF Former Maintenance and Fueling Facility, Skykomish, Washington*. Prepared for BNSF Railway Company. November 29.
- . 2019. *Draft Long-Term Monitoring Plan, BNSF Former Maintenance and Fueling Facility, Skykomish, Washington*. November 26.
- Washington State Department of Ecology (Ecology). 2007a. *Cleanup Action Plan for BNSF Former Maintenance and Fueling Facility, Skykomish, Washington*. Prepared for BNSF Railway Company. October.
- . 2007b. *Final Consent Decree for BNSF Railway, Former Maintenance and Fueling Facility, Skykomish, Washington*. October.

**FIGURES**

**HYDRAULIC CONTROL AND CONTAINMENT SYSTEM  
PASSIVE OPERATION PILOT STUDY REPORT  
BNSF Former Maintenance and Fueling Facility  
Skykomish, Washington  
Consent Decree No. 07-2-33672-9 SEA**

Farallon PN: 683-067



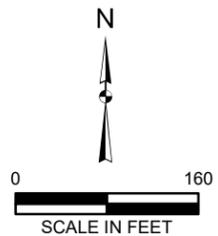
DRAFT

LEGEND

- 2A-W-41 ◆ MONITORING WELL
- RW-4 ◆ RECOVERY WELL
- PZ-5S ● PIEZOMETER
- IW-02 ◆ INJECTION WELL
- BRIDGE ▲ BRIDGE MEASURING POINT

- HYDRAULIC CONTROL AND CONTAINMENT SYSTEM SHEET PILE BARRIER WALL AND GATES
- - - BNSF RAILYARD BOUNDARY
- MECHANICALLY STABILIZED EARTH WALL

NOTE  
HYDRAULIC CONTROL AND CONTAINMENT SYSTEM BARRIER WALL SENTRY WELLS NOT SHOWN



Washington  
Issaquah | Bellingham | Seattle

Oregon  
Portland | Baker City

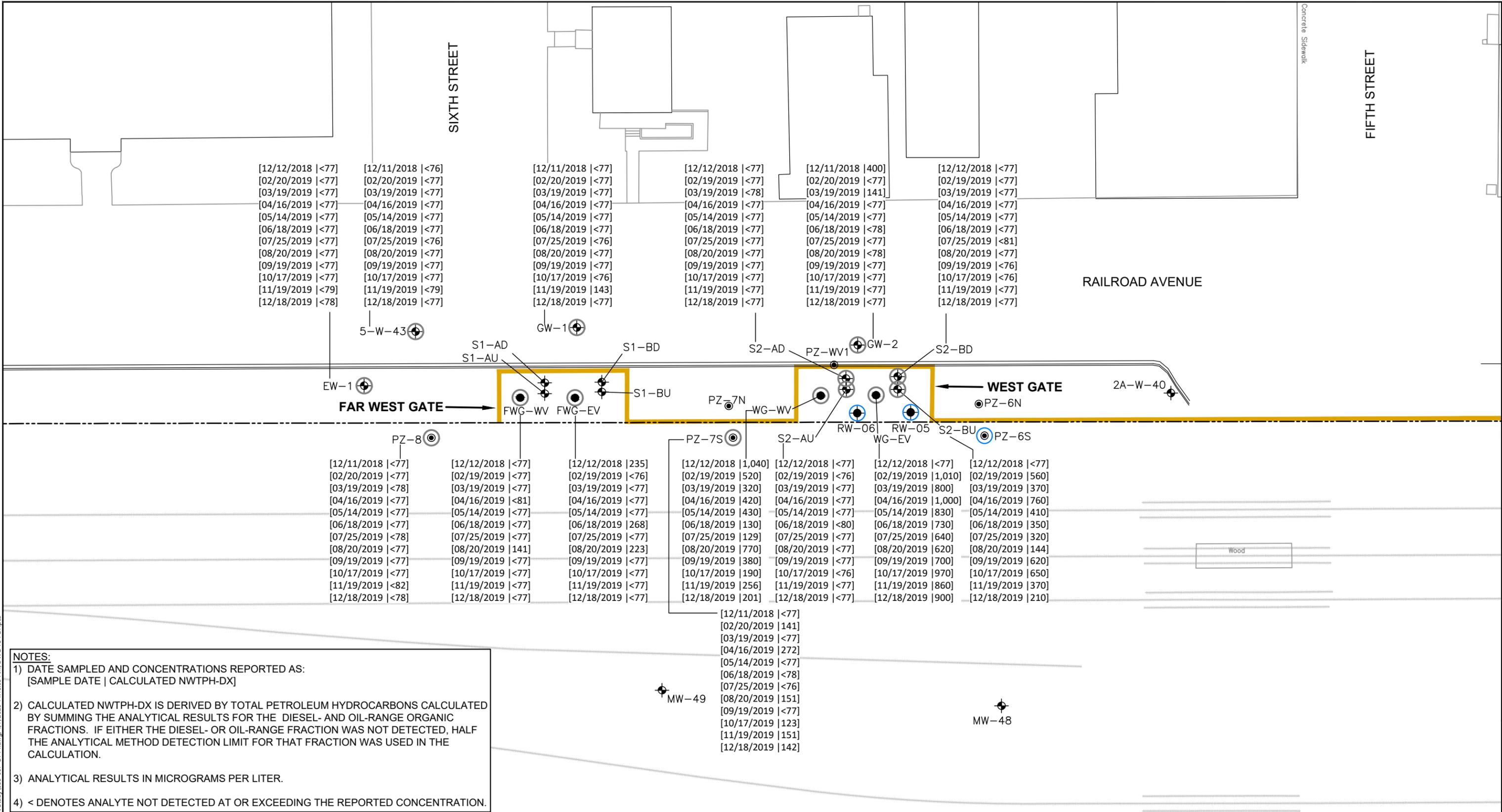
California  
Oakland | Folsom | Irvine

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**FIGURE 1**  
SITE PLAN  
BNSF FORMER MAINTENANCE  
AND FUELING FACILITY  
SKYKOMISH, WASHINGTON

FARALLON PN: 683-067

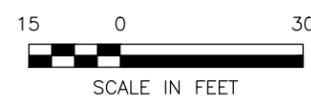


**NOTES:**

- 1) DATE SAMPLED AND CONCENTRATIONS REPORTED AS: [SAMPLE DATE | CALCULATED NWT PH-DX]
- 2) CALCULATED NWT PH-DX IS DERIVED BY TOTAL PETROLEUM HYDROCARBONS CALCULATED BY SUMMING THE ANALYTICAL RESULTS FOR THE DIESEL- AND OIL-RANGE ORGANIC FRACTIONS. IF EITHER THE DIESEL- OR OIL-RANGE FRACTION WAS NOT DETECTED, HALF THE ANALYTICAL METHOD DETECTION LIMIT FOR THAT FRACTION WAS USED IN THE CALCULATION.
- 3) ANALYTICAL RESULTS IN MICROGRAMS PER LITER.
- 4) < DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTED CONCENTRATION.

**LEGEND**

- 2A-W-41 ● MONITORING WELL
- RW-04 ● RECOVERY WELL
- PZ-5S ● PIEZOMETER
- WG-WV ● BARRIER WALL GATE VAULT
- LIQUID LEVEL GAUGING AND GROUNDWATER SAMPLING LOCATION
- LIQUID LEVEL GAUGING LOCATION
- HYDRAULIC CONTROL AND CONTAINMENT (HCC) SYSTEM BARRIER WALL/GATE SYSTEM
- - - BNSF RAILYARD BOUNDARY



Washington  
Issaquah | Bellingham | Seattle

Oregon  
Portland | Baker City

California  
Oakland | Sacramento | Irvine

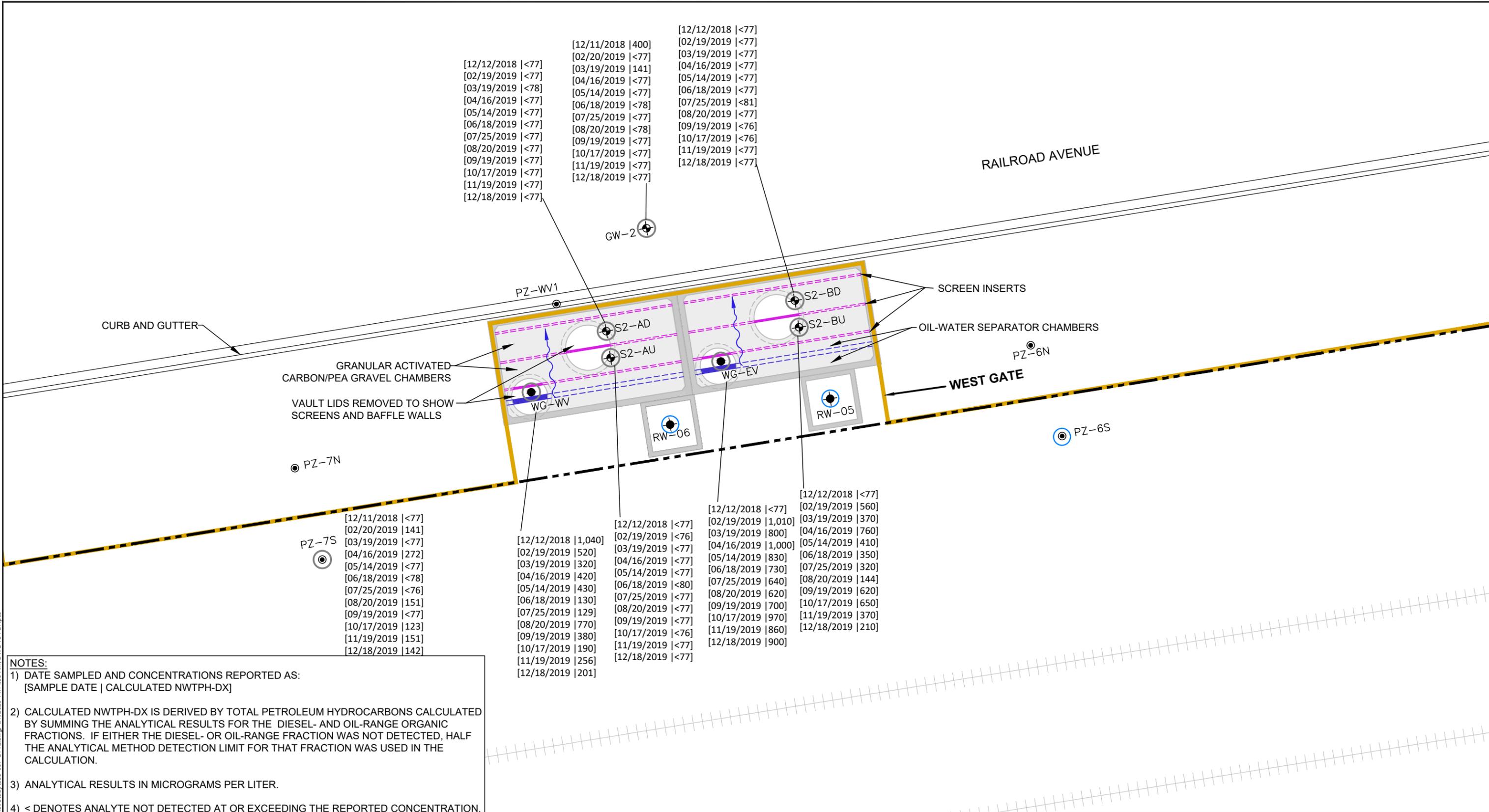
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**FIGURE 2**

HCC SYSTEM PASSIVE OPERATION PILOT STUDY  
TOTAL PETROLEUM HYDROCARBONS IN GROUNDWATER  
BNSF FORMER MAINTENANCE  
AND FUELING FACILITY  
SKYKOMISH, WASHINGTON

FARALLON PN: 683-067

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**NOTES:**

- 1) DATE SAMPLED AND CONCENTRATIONS REPORTED AS:  
[SAMPLE DATE | CALCULATED NWT PH-DX]
- 2) CALCULATED NWT PH-DX IS DERIVED BY TOTAL PETROLEUM HYDROCARBONS CALCULATED BY SUMMING THE ANALYTICAL RESULTS FOR THE DIESEL- AND OIL-RANGE ORGANIC FRACTIONS. IF EITHER THE DIESEL- OR OIL-RANGE FRACTION WAS NOT DETECTED, HALF THE ANALYTICAL METHOD DETECTION LIMIT FOR THAT FRACTION WAS USED IN THE CALCULATION.
- 3) ANALYTICAL RESULTS IN MICROGRAMS PER LITER.
- 4) < DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTED CONCENTRATION.

**LEGEND**

- GW-2 MONITORING WELL
- RW-6 RECOVERY WELL
- PZ-7S PIEZOMETER
- WG-WV BARRIER WALL GATE VAULT
- LIQUID LEVEL GAUGING AND GROUNDWATER SAMPLING LOCATION
- LIQUID LEVEL GAUGING LOCATION
- HYDRAULIC CONTROL AND CONTAINMENT (HCC) SYSTEM BARRIER WALL/GATE SYSTEM
- BNSF RAILYARD BOUNDARY
- NATURAL HYDRAULIC GRADIENT DIRECTION
- RAILROAD TRACKS

0' SCALE IN FEET 10'

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**FIGURE 3**

HCC SYSTEM PASSIVE OPERATION PILOT STUDY  
WEST GATE

TOTAL PETROLEUM HYDROCARBONS IN GROUNDWATER  
BNSF FORMER MAINTENANCE AND FUELING FACILITY  
SKYKOMISH, WASHINGTON

FARALLON PN: 683-067

Drawn By: MB

Checked By: PK

Date: 1/7/2020

Disk Reference: 683-063-OPT2.dwg

**TABLES**

**HYDRAULIC CONTROL AND CONTAINMENT SYSTEM  
PASSIVE OPERATION PILOT STUDY REPORT  
BNSF Former Maintenance and Fueling Facility  
Skykomish, Washington  
Consent Decree No. 07-2-33672-9 SEA**

Farallon PN: 683-067

**Table 1**  
**HCC System Passive Operation Pilot Study**  
**Total Petroleum Hydrocarbon Concentrations in Groundwater**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Well	Date	Sample Identification	DRO (µg/l) <sup>1</sup>			ORO (µg/l) <sup>1</sup>			Calculated NWTPH-Dx <sup>2</sup> (µg/l)
			Result	MDL	MRL	Result	MDL	MRL	
<b>Down-Gradient Sentry Wells (West Gate)</b>									
S2-AD	12/12/2018	S2-AD-121218	< 62	62	62	< 92	92	92	< 77
	2/19/2019	S2-AD-021919	< 62	62	62	< 91	91	91	< 77
	3/19/2019	S2-AD-031919	< 63	63	63	< 93	93	93	< 78
	4/16/2019	S2-AD-041619	< 62	62	62	< 92	92	92	< 77
	5/14/2019	S2-AD-051419	< 62	62	62	< 91	91	91	< 77
	6/18/2019	S2-AD-061819	< 62	62	62	< 92	92	92	< 77
	7/25/2019	S2-AD-072519	< 62	62	62	< 92	92	92	< 77
	8/20/2019	S2-AD-082019	< 62	62	62	< 91	91	91	< 77
	9/19/2019	S2-AD-091919	< 62	62	62	< 91	91	91	< 77
	10/17/2019	S2-AD-101719	< 62	62	62	< 91	91	91	< 77
	11/19/2019	S2-AD-111919	< 62	62	62	< 91	91	91	< 77
12/18/2019	S2-AD-121819	< 62	62	62	< 91	91	91	< 77	
S2-BD	12/12/2018	S2-BD-121218	< 62	62	62	< 92	92	92	< 77
	2/19/2019	S2-BD-021919	< 62	62	62	< 91	91	91	< 77
	3/19/2019	S2-BD-031919	< 62	62	62	< 91	91	91	< 77
	4/16/2019	S2-BD-041619	< 62	62	62	< 92	92	92	< 77
	5/14/2019	S2-BD-051419	< 62	62	62	< 91	91	91	< 77
	6/18/2019	S2-BD-061819	< 62	62	62	< 91	91	91	< 77
	7/25/2019	S2-BD-072519	< 65	65	65	< 96	96	96	< 81
	8/20/2019	S2-BD-082019	< 62	62	62	< 91	91	91	< 77
	9/19/2019	S2-BD-091919	< 61	61	61	< 91	91	91	< 76
	10/17/2019	S2-BD-101719	< 61	61	61	< 91	91	91	< 76
	11/19/2019	S2-BD-111919	< 62	62	62	< 92	92	92	< 77
12/18/2019	S2-BD-121819	< 62	62	62	< 91	91	91	< 77	
<b>Site-Specific Groundwater Target Level (1/2 the Remediation Level)</b>									<b>238</b>

**Table 1**  
**HCC System Passive Operation Pilot Study**  
**Total Petroleum Hydrocarbon Concentrations in Groundwater**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Well	Date	Sample Identification	DRO (µg/l) <sup>1</sup>			ORO (µg/l) <sup>1</sup>			Calculated NWTPH-Dx <sup>2</sup> (µg/l)
			Result	MDL	MRL	Result	MDL	MRL	
<b>Down-Gradient Monitoring Locations (North and West of West Gate)</b>									
PZ-7S	12/11/2018	PZ-7S-12118	< 62	62	62	< 91	91	91	< 77
	2/20/2019	PZ-7S-022019	< 62	62	62	110	91	91	141
	3/19/2019	PZ-7S-031919	< 62	62	62	< 91	91	91	< 77
	4/16/2019	PZ-7S-041619	92	62	62	180	91	91	272
	5/14/2019	PZ-7S-051419	< 62	62	62	< 91	91	91	< 77
	6/18/2019	PZ-7S-061819	< 63	63	63	< 92	92	92	< 78
	7/25/2019	PZ-7S-072519	< 61	61	61	< 91	91	91	< 76
	8/20/2019	PZ-7S-082019	< 62	62	62	120	91	91	151
	9/19/2019	PZ-7S-091919	< 62	62	62	< 91	91	91	< 77
	10/17/2019	PZ-7S-101719	< 62	62	62	92	91	91	123
	11/19/2019	PZ-7S-111919	< 62	62	62	120	92	92	151
12/18/2019	PZ-7S-121819	< 63	63	63	110	92	92	142	
PZ-8	12/11/2018	PZ-8-121118	< 62	62	62	< 91	91	91	< 77
	2/20/2019	PZ-8-022019	< 62	62	62	< 91	91	91	< 77
	3/19/2019	PZ-8-031919	< 63	63	63	< 92	92	92	< 78
	4/16/2019	PZ-8-041619	< 62	62	62	< 91	91	91	< 77
	5/14/2019	PZ-8-051419	< 62	62	62	< 91	91	91	< 77
	6/18/2019	PZ-8-061819	< 62	62	62	< 91	91	91	< 77
	7/25/2019	PZ-8-072519	< 63	63	63	< 92	92	92	< 78
	8/20/2019	PZ-8-082019	< 62	62	62	< 91	91	91	< 77
	9/19/2019	PZ-8-091919	< 62	62	62	< 91	91	91	< 77
	10/17/2019	PZ-8-101719	< 62	62	62	< 91	91	91	< 77
	11/19/2019	PZ-8-111919	< 66	66	66	< 97	97	97	< 82
12/18/2019	PZ-8-121819	< 63	63	63	< 93	93	93	< 78	
<b>Site-Specific Groundwater Remediation Level</b>									<b>477</b>

**Table 1**  
**HCC System Passive Operation Pilot Study**  
**Total Petroleum Hydrocarbon Concentrations in Groundwater**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Well	Date	Sample Identification	DRO (µg/l) <sup>1</sup>			ORO (µg/l) <sup>1</sup>			Calculated NWTPH-Dx <sup>2</sup> (µg/l)
			Result	MDL	MRL	Result	MDL	MRL	
<b>Down-Gradient Monitoring Locations (North and West of West Gate)</b>									
EW-1	12/12/2018	EW-1-121218	< 62	62	62	< 91	91	91	< 77
	2/20/2019	EW-1-022019	< 62	62	62	< 91	91	91	< 77
	3/19/2019	EW-1-031919	< 62	62	62	< 92	92	92	< 77
	4/16/2019	EW-1-041619	< 62	62	62	< 91	91	91	< 77
	5/14/2019	EW-1-051419	< 62	62	62	< 91	91	91	< 77
	6/18/2019	EW-1-061819	< 62	62	62	< 91	91	91	< 77
	7/25/2019	EW-1-072519	< 62	62	62	< 92	92	92	< 77
	8/20/2019	EW1-082019	< 62	62	62	< 91	91	91	< 77
	9/19/2019	EW-1-091919	< 62	62	62	< 91	91	91	< 77
	10/17/2019	EW-1-101719	< 62	62	62	< 91	91	91	< 77
	11/19/2019	EW-1-111919	< 63	63	63	< 94	94	94	< 79
12/18/2019	EW-1-121819	< 63	63	63	< 93	93	93	< 78	
5-W-43	12/11/2018	5-W-43-121118	< 61	61	61	< 90	90	90	< 76
	2/20/2019	5-W-43-022019	< 62	62	62	< 91	91	91	< 77
	3/19/2019	5-W-43-031919	< 62	62	62	< 92	92	92	< 77
	4/16/2019	5-W-43-041619	< 62	62	62	< 91	91	91	< 77
	5/14/2019	5-W-43-051419	< 62	62	62	< 91	91	91	< 77
	6/18/2019	S-W-43-061819	< 62	62	62	< 91	91	91	< 77
	7/25/2019	S-W-43-072519	< 61	61	61	< 90	90	90	< 76
	8/20/2019	5-W-43-082019	< 62	62	62	< 91	91	91	< 77
	9/19/2019	5-W-43-091919	< 62	62	62	< 92	92	92	< 77
	10/17/2019	5-W-43-101719	< 62	62	62	< 91	91	91	< 77
	11/19/2019	5-W-43-111919	< 64	64	64	< 94	94	94	< 79
12/18/2019	5-W-43-121819	< 62	62	62	< 92	92	92	< 77	
<b>Site-Specific Groundwater Remediation Level</b>									<b>477</b>

**Table 1**  
**HCC System Passive Operation Pilot Study**  
**Total Petroleum Hydrocarbon Concentrations in Groundwater**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Well	Date	Sample Identification	DRO (µg/l) <sup>1</sup>			ORO (µg/l) <sup>1</sup>			Calculated NWTPH-Dx <sup>2</sup> (µg/l)
			Result	MDL	MRL	Result	MDL	MRL	
<b>Down-Gradient Monitoring Locations (North and West of West Gate)</b>									
GW-1	12/11/2018	GW-1-121118	< 62	62	62	< 92	92	92	< 77
	2/20/2019	GW-1-022019	< 62	62	62	< 91	91	91	< 77
	3/19/2019	GW-1-031919	< 62	62	62	< 91	91	91	< 77
	4/16/2019	GW-1-041619	< 62	62	62	< 91	91	91	< 77
	5/14/2019	GW-1-051419	< 62	62	62	< 91	91	91	< 77
	6/18/2019	GW-1-061819	< 62	62	62	< 91	91	91	< 77
	7/25/2019	GW-1-072519	< 61	61	61	< 91	91	91	< 76
	8/20/2019	GW-1-082019	< 62	62	62	< 91	91	91	< 77
	9/19/2019	GW-1-091919	< 62	62	62	< 91	91	91	< 77
	10/17/2019	GW-1-101719	< 61	61	61	< 91	91	91	< 76
	11/19/2019	GW-1-111919	< 65	65	65	110	95	95	143
12/18/2019	GW-1-121819	< 62	62	62	< 92	92	92	< 77	
GW-2	12/11/2018	GW-2-121118	130 J	62	62	270 J	91	91	400 J
	2/20/2019	GW-2-022019	< 62	62	62	< 91	91	91	< 77
	3/19/2019	GW-2-031919	< 62	62	62	110	91	91	141
	4/16/2019	GW-2-041619	< 62	62	62	< 91	91	91	< 77
	5/14/2019	GW-2-051419	< 62	62	62	< 91	91	91	< 77
	6/18/2019	GW-2-061819	< 63	63	63	< 93	93	93	< 78
	7/25/2019	GW-2-072519	< 62	62	62	< 91	91	91	< 77
	8/20/2019	GW-2-082019	< 63	63	63	< 93	93	93	< 78
	9/19/2019	GW-2-091919	< 62	62	62	< 91	91	91	< 77
	10/17/2019	GW-2-101719	< 62	62	62	< 91	91	91	< 77
	11/19/2019	GW-2-111919	< 62	62	62	< 91	91	91	< 77
12/18/2019	GW-2-121819	< 62	62	62	< 91	91	91	< 77	
<b>Site-Specific Groundwater Remediation Level</b>									<b>477</b>

**Table 1**  
**HCC System Passive Operation Pilot Study**  
**Total Petroleum Hydrocarbon Concentrations in Groundwater**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Well	Date	Sample Identification	DRO (µg/l) <sup>1</sup>			ORO (µg/l) <sup>1</sup>			Calculated NWTPH-Dx <sup>2</sup> (µg/l)
			Result	MDL	MRL	Result	MDL	MRL	
<b>Up-Gradient Monitoring Locations (Within West Gate and Far West Gate)</b>									
S2-AU	12/12/2018	S2-AU-121218	< 62	62	62	< 91	91	91	< 77
	2/19/2019	S2-AU-021919	< 61	61	61	< 91	91	91	< 76
	3/19/2019	S2-AU-031919	< 62	62	62	< 92	92	92	< 77
	4/16/2019	S2-AU-041619	< 62	62	62	< 91	91	91	< 77
	5/14/2019	S2-AU-051419	< 62	62	62	< 91	91	91	< 77
	6/18/2019	S2-AU-061819	< 64	64	64	< 95	95	95	< 80
	7/25/2019	S2-AU-072519	< 62	62	62	< 91	91	91	< 77
	8/20/2019	S2-AU-082019	< 62	62	62	< 91	91	91	< 77
	9/19/2019	S2-AU-091919	< 62	62	62	< 91	91	91	< 77
	10/17/2019	S2-2-AU-101719	< 61	61	61	< 91	91	91	< 76
	11/19/2019	S2-AU-111919	< 62	62	62	< 91	91	91	< 77
12/18/2019	S2-AU-121819	< 62	62	62	< 91	91	91	< 77	
S2-BU	12/12/2018	S2-BU-121218	< 62	62	62	< 91	91	91	< 77
	2/19/2019	S2-BU-021919	290	61	61	270	91	91	560
	3/19/2019	S2-BU-031919	250	62	62	120	91	91	370
	4/16/2019	S2-BU-041619	380	62	62	380	91	91	760
	5/14/2019	S2-BU-051419	280	61	61	130	91	91	410
	6/18/2019	S2-BU-061819	190	62	62	160	91	91	350
	7/25/2019	S2-BU-072519	190	62	62	130	92	92	320
	8/20/2019	S2-BU-082019	98	62	62	< 91	91	91	144
	9/19/2019	S2-BU-091919	420	62	62	200	91	91	620
	10/17/2019	S2-BU-101719	390	61	61	260	91	91	650
	11/19/2019	S2-BU-111919	200	62	62	170	92	92	370
12/18/2019	S2-BU-121819	110	62	62	100	91	91	210	

**Table 1**  
**HCC System Passive Operation Pilot Study**  
**Total Petroleum Hydrocarbon Concentrations in Groundwater**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Well	Date	Sample Identification	DRO (µg/l) <sup>1</sup>			ORO (µg/l) <sup>1</sup>			Calculated NWTPH-Dx <sup>2</sup> (µg/l)
			Result	MDL	MRL	Result	MDL	MRL	
<b>Up-Gradient Monitoring Locations (Within West Gate and Far West Gate)</b>									
WG-WV	12/12/2018	WG-WV-121218	570	63	63	470	92	92	1,040
	2/19/2019	WG-WV-021919	220	62	62	300	91	91	520
	3/19/2019	WG-WV-031919	190	62	62	130	91	91	320
	4/16/2019	WG-WV-041619	170	62	62	250	92	92	420
	5/14/2019	WG-WV-051419	220	62	62	210	91	91	430
	6/18/2019	WG-WV-061819	< 62	62	62	99	91	91	130
	7/25/2019	WG-WV-072519	< 62	62	62	98	91	91	129
	8/20/2019	WG-WV-082019	270	62	62	500	91	91	770
	9/19/2019	WG-WV-091919	240	62	62	140	91	91	380
	10/17/2019	WG-WV-101719	70	62	62	120	91	91	190
	11/19/2019	WG-WV-111919	76	62	62	180	92	92	256
12/18/2019	WG-WV-121819	< 61	61	61	170	91	91	201	
WG-EV	12/12/2018	WG-EV-121218	< 62	62	62	< 92	92	92	< 77
	2/19/2019	WG-EV-021919	520	62	62	490	91	91	1,010
	3/19/2019	WG-EV-031919	520	62	62	280	92	92	800
	4/16/2019	WG-EV-041619	500	62	62	500	92	92	1,000
	5/14/2019	WG-EV-051419	520	62	62	310	91	91	830
	6/18/2019	WG-EV-061819	390	63	63	340	92	92	730
	7/25/2019	WG-EV-072519	380	62	62	260	91	91	640
	8/20/2019	WG-EV-082019	390	62	62	230	91	91	620
	9/19/2019	WG-EV-091919	470	62	62	230	91	91	700
	10/17/2019	WG-EV-101719	580	61	61	390	91	91	970
	11/19/2019	WG-EV-111919	450	62	62	410	92	92	860
12/18/2019	WG-EV-121819	450	61	61	450	91	91	900	

**Table 1**  
**HCC System Passive Operation Pilot Study**  
**Total Petroleum Hydrocarbon Concentrations in Groundwater**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Well	Date	Sample Identification	DRO (µg/l) <sup>1</sup>			ORO (µg/l) <sup>1</sup>			Calculated NWTPH-Dx <sup>2</sup> (µg/l)
			Result	MDL	MRL	Result	MDL	MRL	
<b>Up-Gradient Monitoring Locations (Within West Gate and Far West Gate)</b>									
FWG-WV	12/12/2018	FWG-WV-121218	< 62	62	62	< 91	91	91	< 77
	2/19/2019	FWG-WV-021919	< 62	62	62	< 91	91	91	< 77
	3/19/2019	FGW-WV-031919	< 62	62	62	< 92	92	92	< 77
	4/16/2019	FWG-WV-041619	< 65	65	65	< 96	96	96	< 81
	5/14/2019	FWG-WV-051419	< 62	62	62	< 91	91	91	< 77
	6/18/2019	FWG-WV-061819	< 62	62	62	< 92	92	92	< 77
	7/25/2019	FWG-WV-072519	< 62	62	62	< 92	92	92	< 77
	8/20/2019	FWG-WV-082019	< 62	62	62	110	91	91	141
	9/19/2019	FWG-WV-091919	< 62	62	62	< 91	91	91	< 77
	10/17/2019	FWG-WV-101719	< 62	62	62	< 91	91	91	< 77
	11/19/2019	FWG-WV-111919	< 62	62	62	< 92	92	92	< 77
12/18/2019	FWG-WV-121819	< 62	62	62	< 91	91	91	< 77	

**Table 1**  
**HCC System Passive Operation Pilot Study**  
**Total Petroleum Hydrocarbon Concentrations in Groundwater**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Well	Date	Sample Identification	DRO (µg/l) <sup>1</sup>			ORO (µg/l) <sup>1</sup>			Calculated NWTPH-Dx <sup>2</sup> (µg/l)
			Result	MDL	MRL	Result	MDL	MRL	
<b>Up-Gradient Monitoring Locations (Within West Gate and Far West Gate)</b>									
FWG-EV	12/12/2018	FWG-EV-121218	85	62	62	150	91	91	235
	2/19/2019	FWG-EV-021919	< 61	61	61	< 91	91	91	< 76
	3/19/2019	FWG-EV-031919	< 62	62	62	< 91	91	91	< 77
	4/16/2019	FWG-EV-041619	< 62	62	62	< 91	91	91	< 77
	5/14/2019	FWG-EV-051419	< 62	62	62	< 91	91	91	< 77
	6/18/2019	FWG-EV-061819	68	62	62	200	92	92	268
	7/25/2019	FWG-EV-072519	< 62	62	62	< 92	92	92	< 77
	8/20/2019	FWG-EV-082019	73	62	62	150	91	91	223
	9/19/2019	FWG-EV-091919	< 62	62	62	< 91	91	91	< 77
	10/17/2019	FWG-EV-101719	< 62	62	62	< 91	91	91	< 77
	11/19/2019	FWG-EV-111919	< 62	62	62	< 91	91	91	< 77
12/18/2019	FWG-EV-121819	< 62	62	62	< 91	91	91	< 77	

**NOTES:**

Results in **bold** denote concentrations exceeding the applicable target level for the specific down-gradient location (one-half the Remediation Level or the Remediation Level).

Green highlighted rows indicate baseline conditions before the start of HCC passive operations.

< denotes analyte not detected at or exceeding the reported concentration.

<sup>1</sup>Analyzed by Washington State Department of Ecology (Ecology) Method NWTPH-Dx without silica gel cleanup.

<sup>2</sup>Sum of DRO and ORO, using half the MDL for non-detect results.

DRO = total petroleum hydrocarbons as diesel-range organics

HCC = Hydraulic Control and Containment

J = reported concentration is an estimated value

MDL = method detection limit

MRL = method reporting limit

µg/l = micrograms per liter

ORO = total petroleum hydrocarbons as oil-range organics

**Table 2**  
**HCC System Passive Operation Pilot Study**  
**Water-Level Elevations and LNAPL Thicknesses**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Location	Measuring Point Elevation <sup>1</sup> (feet NAVD88)	Date	Depth to Water <sup>2</sup> (feet)	Water Elevation <sup>1</sup> (feet NAVD88)	LNAPL Thickness (feet)
<b>Down-Gradient Locations (North and West of West Gate)</b>					
S2-AD	930	12/10/2018	13.19	916.81	—
		2/19/2019	13.96	916.04	—
		3/19/2019	13.82	916.18	—
		4/16/2019	13.28	916.72	—
		5/14/2019	12.87	917.13	—
		6/17/2019	13.59	916.41	—
		7/25/2019	14.02	915.98	—
		8/20/2019	14.39	915.61	—
		9/16/2019	14.23	915.77	—
		10/17/2019	13.81	916.19	—
		11/19/2019	13.32	916.68	—
12/16/2019	13.56	916.44	—		
S2-BD	930	12/10/2018	13.31	916.69	—
		2/19/2019	12.41	917.59	—
		3/19/2019	12.24	917.76	—
		4/16/2019	11.87	918.13	—
		5/14/2019	11.61	918.39	—
		6/17/2019	12.48	917.52	—
		7/25/2019	12.84	917.16	—
		8/20/2019	13.33	916.67	—
		9/16/2019	13.23	916.77	—
		10/17/2019	12.66	917.34	—
		11/19/2019	12.28	917.72	—
12/16/2019	12.27	917.73	—		

**Table 2**  
**HCC System Passive Operation Pilot Study**  
**Water-Level Elevations and LNAPL Thicknesses**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

<b>Location</b>	<b>Measuring Point Elevation<sup>1</sup> (feet NAVD88)</b>	<b>Date</b>	<b>Depth to Water<sup>2</sup> (feet)</b>	<b>Water Elevation<sup>1</sup> (feet NAVD88)</b>	<b>LNAPL Thickness (feet)</b>
<b>Down-Gradient Locations (North and West of West Gate)</b>					
PZ-7S	930.4	12/10/2018	7.83	922.57	—
		2/19/2019	7.86	922.54	—
		3/19/2019	7.43	922.97	—
		4/16/2019	5.99	924.41	—
		5/14/2019	6.90	923.50	—
		6/17/2019	7.60	922.80	—
		7/25/2019	8.19	922.21	—
		8/20/2019	10.16	920.24	—
		9/16/2019	10.73	919.67	—
		10/17/2019	7.65	922.75	—
		11/19/2019	6.54	923.86	—
12/16/2019	6.65	923.75	—		
PZ-8	929.48	12/10/2018	10.05	919.43	—
		2/19/2019	10.05	919.43	—
		3/19/2019	9.73	919.75	—
		4/16/2019	9.00	920.48	—
		5/14/2019	9.17	920.31	—
		6/17/2019	9.81	919.67	—
		7/25/2019	10.19	919.29	—
		8/20/2019	11.24	918.24	—
		9/16/2019	11.51	917.97	—
		10/17/2019	9.97	919.51	—
		11/19/2019	9.31	920.17	—
12/16/2019	9.40	920.08	—		

**Table 2**  
**HCC System Passive Operation Pilot Study**  
**Water-Level Elevations and LNAPL Thicknesses**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Location	Measuring Point Elevation <sup>1</sup> (feet NAVD88)	Date	Depth to Water <sup>2</sup> (feet)	Water Elevation <sup>1</sup> (feet NAVD88)	LNAPL Thickness (feet)
<b>Down-Gradient Locations (North and West of West Gate)</b>					
EW-1	928.72	12/10/2018	10.42	918.30	—
		2/19/2019	10.61	918.11	—
		3/19/2019	9.35	919.37	—
		4/16/2019	9.90	918.82	—
		5/14/2019	9.63	919.09	—
		6/17/2019	10.30	918.42	—
		7/25/2019	10.68	918.04	—
		8/20/2019	11.40	917.32	—
		9/16/2019	11.42	917.30	—
		10/17/2019	10.36	918.36	—
		11/19/2019	9.81	918.91	—
		12/16/2019	10.10	918.62	—
5-W-43	926.18	12/10/2018	8.19	917.99	—
		2/19/2019	8.38	917.80	—
		3/19/2019	8.14	918.04	—
		4/16/2019	7.53	918.65	—
		5/14/2019	7.35	918.83	—
		6/17/2019	8.04	918.14	—
		7/25/2019	8.45	917.73	—
		8/20/2019	9.09	917.09	—
		9/16/2019	9.08	917.10	—
		10/17/2019	8.12	918.06	—
		11/19/2019	7.57	918.61	—
		12/16/2019	7.89	918.29	—

**Table 2**  
**HCC System Passive Operation Pilot Study**  
**Water-Level Elevations and LNAPL Thicknesses**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Location	Measuring Point Elevation <sup>1</sup> (feet NAVD88)	Date	Depth to Water <sup>2</sup> (feet)	Water Elevation <sup>1</sup> (feet NAVD88)	LNAPL Thickness (feet)
<b>Down-Gradient Locations (North and West of West Gate)</b>					
GW-1	928.24	12/10/2018	10.73	917.51	—
		2/19/2019	11.01	917.23	—
		3/19/2019	6.71	921.53	—
		4/16/2019	10.05	918.19	—
		5/14/2019	9.61	918.63	—
		6/17/2019	10.51	917.73	—
		7/25/2019	11.03	917.21	—
		8/20/2019	11.45	916.79	—
		9/16/2019	11.33	916.91	—
		10/17/2019	10.72	917.52	—
		11/19/2019	10.04	918.20	—
12/16/2019	10.45	917.79	—		
GW-2	930.29	12/10/2018	12.81	917.48	—
		2/19/2019	12.93	917.36	—
		3/19/2019	12.74	917.55	—
		4/16/2019	12.21	918.08	—
		5/14/2019	11.78	918.51	—
		6/17/2019	12.51	917.78	—
		7/25/2019	12.95	917.34	—
		8/20/2019	13.30	916.99	—
		9/16/2019	13.24	917.05	—
		10/17/2019	12.73	917.56	—
		11/19/2019	12.23	918.06	—
12/16/2019	12.45	917.84	—		

**Table 2**  
**HCC System Passive Operation Pilot Study**  
**Water-Level Elevations and LNAPL Thicknesses**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

<b>Location</b>	<b>Measuring Point Elevation<sup>1</sup> (feet NAVD88)</b>	<b>Date</b>	<b>Depth to Water<sup>2</sup> (feet)</b>	<b>Water Elevation<sup>1</sup> (feet NAVD88)</b>	<b>LNAPL Thickness (feet)</b>
<b>Up-Gradient Locations (South of, and within, West Gate and Far West Gate)</b>					
PZ-6S	931.41	12/10/2018	8.40	923.01	Heavy Trace
		2/19/2019	7.69	923.72	0.23
		3/19/2019	7.34	924.07	0.05
		4/16/2019	6.18	925.23	0.05
		5/14/2019	6.98	924.43	0.20
		6/17/2019	7.65	923.76	1.06
		7/25/2019	7.96	923.45	1.86
		8/20/2019	10.25	921.16	0.64
		9/16/2019	10.23	921.18	0.06
		10/17/2019	7.32	924.09	0.04
		11/19/2019	6.57	924.84	0.03
12/16/2019	6.93	924.48	0.06		
RW-05	928.53	12/10/2018	8.92	919.61	0.01
		2/19/2019	9.24	919.29	Heavy Trace
		3/19/2019	8.98	919.55	—
		4/16/2019	7.13	921.40	—
		5/14/2019	7.15	921.38	Light Trace
		6/17/2019	7.83	920.70	Heavy Trace
		7/25/2019	8.68	919.85	Light Trace
		8/20/2019	9.01	919.52	Light Trace
		9/16/2019	10.36	918.17	Light Trace
		10/17/2019	7.96	920.57	Light Trace
		11/19/2019	8.57	919.96	Light Trace
12/16/2019	7.52	921.01	Heavy Trace		

**Table 2**  
**HCC System Passive Operation Pilot Study**  
**Water-Level Elevations and LNAPL Thicknesses**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Location	Measuring Point Elevation <sup>1</sup> (feet NAVD88)	Date	Depth to Water <sup>2</sup> (feet)	Water Elevation <sup>1</sup> (feet NAVD88)	LNAPL Thickness (feet)
<b>Up-Gradient Locations (South of, and within, West Gate and Far West Gate)</b>					
RW-06	928.53	12/10/2018	8.84	919.69	Light Trace
		2/19/2019	9.18	919.35	Light Trace
		3/19/2019	8.97	919.56	—
		4/16/2019	7.15	921.38	—
		5/14/2019	7.15	921.38	Light Trace
		6/17/2019	8.03	920.50	—
		7/25/2019	8.69	919.84	Light Trace
		8/20/2019	9.04	919.49	Light Trace
		9/16/2019	10.27	918.26	Light Trace
		10/17/2019	7.92	920.61	Heavy Trace
		11/19/2019	8.53	920.00	Sheen
		12/16/2019	7.53	921.00	—
S2-AU	930	12/10/2018	13.19	916.81	—
		2/19/2019	13.95	916.05	—
		3/19/2019	13.78	916.22	—
		4/16/2019	13.27	916.73	—
		5/14/2019	12.86	917.14	—
		6/17/2019	13.58	916.42	—
		7/25/2019	14.02	915.98	—
		8/20/2019	14.39	915.61	—
		9/16/2019	14.24	915.76	—
		10/17/2019	13.80	916.20	—
		11/19/2019	13.30	916.70	—
		12/16/2019	13.53	916.47	—

**Table 2**  
**HCC System Passive Operation Pilot Study**  
**Water-Level Elevations and LNAPL Thicknesses**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Location	Measuring Point Elevation <sup>1</sup> (feet NAVD88)	Date	Depth to Water <sup>2</sup> (feet)	Water Elevation <sup>1</sup> (feet NAVD88)	LNAPL Thickness (feet)
<b>Up-Gradient Locations (South of, and within, West Gate and Far West Gate)</b>					
S2-BU	930	12/10/2018	13.3	916.70	—
		2/19/2019	12.41	917.59	—
		3/19/2019	12.24	917.76	—
		4/16/2019	11.85	918.15	—
		5/14/2019	11.61	918.39	—
		6/17/2019	12.48	917.52	—
		7/25/2019	12.85	917.15	—
		8/20/2019	13.33	916.67	—
		9/16/2019	13.09	916.91	—
		10/17/2019	12.65	917.35	—
		11/19/2019	12.26	917.74	—
		12/16/2019	12.27	917.73	—
WG-WV-North Chamber	NA	12/10/2018	8.78	NA	—
		2/19/2019	8.05	NA	—
		3/19/2019	7.85	NA	—
		4/16/2019	7.10	NA	—
		5/14/2019	7.18	NA	—
		6/17/2019	8.03	NA	—
		7/25/2019	8.35	NA	—
		8/20/2019	9.03	NA	—
		9/16/2019	9.11	NA	—
		10/17/2019	7.96	NA	—
		11/19/2019	7.34	NA	—
		12/16/2019	7.45	NA	—

**Table 2**  
**HCC System Passive Operation Pilot Study**  
**Water-Level Elevations and LNAPL Thicknesses**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Location	Measuring Point Elevation <sup>1</sup> (feet NAVD88)	Date	Depth to Water <sup>2</sup> (feet)	Water Elevation <sup>1</sup> (feet NAVD88)	LNAPL Thickness (feet)
<b>Up-Gradient Locations (South of, and within, West Gate and Far West Gate)</b>					
WG-WV-South Chamber	NA	12/10/2018	8.79	NA	—
		2/19/2019	8.06	NA	—
		3/19/2019	7.85	NA	—
		4/16/2019	7.05	NA	—
		5/14/2019	7.18	NA	—
		6/17/2019	8.03	NA	—
		7/25/2019	8.35	NA	—
		8/20/2019	9.03	NA	—
		9/16/2019	9.11	NA	—
		10/17/2019	7.97	NA	—
		11/19/2019	7.34	NA	—
12/16/2019	7.45	NA	—		
WG-EV-North Chamber	931.84	12/10/2018	8.81	923.03	—
		2/19/2019	8.08	923.76	—
		3/19/2019	8.80	923.04	Light Trace
		4/16/2019	7.14	924.70	Light Trace
		5/14/2019	7.23	924.61	—
		6/17/2019	8.02	923.82	—
		7/25/2019	8.45	923.39	—
		8/20/2019	9.04	922.80	—
		9/16/2019	9.15	922.69	—
		10/17/2019	8.01	923.83	—
		11/19/2019	7.36	924.48	—
12/16/2019	7.52	924.32	Light Trace		

**Table 2**  
**HCC System Passive Operation Pilot Study**  
**Water-Level Elevations and LNAPL Thicknesses**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

<b>Location</b>	<b>Measuring Point Elevation<sup>1</sup> (feet NAVD88)</b>	<b>Date</b>	<b>Depth to Water<sup>2</sup> (feet)</b>	<b>Water Elevation<sup>1</sup> (feet NAVD88)</b>	<b>LNAPL Thickness (feet)</b>
<b>Up-Gradient Locations (South of, and within, West Gate and Far West Gate)</b>					
WG-EV-South Chamber	931.84	12/10/2018	8.81	923.03	Light Trace
		2/19/2019	8.05	923.79	Heavy Trace
		3/19/2019	8.80	923.04	Heavy Trace
		4/16/2019	7.12	924.72	Light Trace
		5/14/2019	7.23	924.61	Light Trace
		6/17/2019	8.02	923.82	Light Trace
		7/25/2019	8.45	923.39	Light Trace
		8/20/2019	9.04	922.80	Light Trace
		9/16/2019	9.13	922.71	0.02
		10/17/2019	8.01	923.83	Heavy Trace
		11/19/2019	7.39	924.45	Light Trace
12/16/2019	7.52	924.32	Heavy Trace		
FWG-WV-North Chamber	930.76	12/10/2018	5.08	925.68	—
		2/19/2019	5.40	925.36	—
		3/19/2019	4.87	925.89	—
		4/16/2019	4.80	925.96	—
		5/14/2019	4.84	925.92	—
		6/17/2019	5.23	925.53	—
		7/25/2019	5.85	924.91	—
		8/20/2019	6.88	923.88	—
		9/16/2019	7.56	923.20	—
		10/17/2019	5.15	925.61	—
		11/19/2019	4.68	926.08	—
12/16/2019	4.72	926.04	—		

**Table 2**  
**HCC System Passive Operation Pilot Study**  
**Water-Level Elevations and LNAPL Thicknesses**  
**BNSF Former Maintenance and Fueling Facility**  
**Skykomish, Washington**  
**Farallon PN: 683-067**

Location	Measuring Point Elevation <sup>1</sup> (feet NAVD88)	Date	Depth to Water <sup>2</sup> (feet)	Water Elevation <sup>1</sup> (feet NAVD88)	LNAPL Thickness (feet)
<b>Up-Gradient Locations (South of, and within, West Gate and Far West Gate)</b>					
FWG-WV-South Chamber	930.76	12/10/2018	5.08	925.68	—
		2/19/2019	5.40	925.36	—
		3/19/2019	4.87	925.89	—
		4/16/2019	4.82	925.94	—
		5/14/2019	4.84	925.92	—
		6/17/2019	5.23	925.53	—
		7/25/2019	5.85	924.91	—
		8/20/2019	6.88	923.88	—
		9/16/2019	7.56	923.20	—
		10/17/2019	5.17	925.59	—
		11/19/2019	4.68	926.08	—
12/16/2019	4.72	926.04	—		
FWG-EV-North Chamber	NA	12/10/2018	5.12	NA	—
		2/19/2019	5.40	NA	—
		3/19/2019	4.97	NA	—
		4/16/2019	4.88	NA	—
		5/14/2019	4.82	NA	—
		6/17/2019	5.25	NA	—
		7/25/2019	5.70	NA	—
		8/20/2019	6.84	NA	—
		9/16/2019	7.59	NA	—
		10/17/2019	5.21	NA	—
		11/19/2019	4.68	NA	—
12/16/2019	4.76	NA	—		

**Table 2**  
**HCC System Passive Operation Pilot Study**  
**Water-Level Elevations and LNAPL Thicknesses**  
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**Skykomish, Washington**  
**Farallon PN: 683-067**

<b>Location</b>	<b>Measuring Point Elevation<sup>1</sup> (feet NAVD88)</b>	<b>Date</b>	<b>Depth to Water<sup>2</sup> (feet)</b>	<b>Water Elevation<sup>1</sup> (feet NAVD88)</b>	<b>LNAPL Thickness (feet)</b>
<b>Up-Gradient Locations (South of, and within, West Gate and Far West Gate)</b>					
FWG-EV-South Chamber	NA	12/10/2018	5.12	NA	—
		2/19/2019	5.50	NA	—
		3/19/2019	4.97	NA	—
		4/16/2019	4.89	NA	—
		5/14/2019	4.82	NA	—
		6/17/2019	5.25	NA	—
		7/25/2019	5.70	NA	—
		8/20/2019	6.84	NA	—
		9/16/2019	7.59	NA	—
		10/17/2019	5.24	NA	—
		11/19/2019	4.69	NA	—
		12/16/2019	4.76	NA	—

**NOTES:**

Green highlighted rows indicate baseline conditions before the start of HCC passive operations.

— denotes LNAPL was not observed.

<sup>1</sup>Elevations referenced to North American Vertical Datum of 1988 (NAVD88).

<sup>2</sup>Depths referenced to measuring point (e.g., top of well casing, top of vault).

LNAPL = light nonaqueous-phase liquid

NA = not applicable

**APPENDIX A  
LABORATORY ANALYTICAL REPORTS**

HYDRAULIC CONTROL AND CONTAINMENT SYSTEM  
PASSIVE OPERATION PILOT STUDY REPORT  
BNSF Former Maintenance and Fueling Facility  
Skykomish, Washington  
Consent Decree No. 07-2-33672-9 SEA

Farallon PN: 683-067

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-82652-1

Client Project/Site: BNSF Skykomish Ground Water  
Sampling Event: Skykomish HCC System

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Peter Kingston



Authorized for release by:  
12/31/2018 4:44:00 PM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1

2

3

4

5

6

7

8

9

10

11



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions . . . . .	4
Client Sample Results . . . . .	5
QC Sample Results . . . . .	46
Chronicle . . . . .	52
Certification Summary . . . . .	60
Sample Summary . . . . .	61
Chain of Custody . . . . .	62
Receipt Checklists . . . . .	67

# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Job ID: 580-82652-1**

**Laboratory: TestAmerica Seattle**

## Narrative

### Job Narrative 580-82652-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/13/2018 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 11 coolers at receipt time were 0.3° C, 0.5° C, 0.8° C, 1.1° C, 1.2° C, 1.5° C, 1.7° C, 1.7° C, 2.0° C, 2.0° C and 2.5° C.

#### GC Semi VOA

Method(s) NWTPH-Dx: The continuing calibration verification (CCV) associated with batch 580-291649 recovered above the upper control limit for Motor Oil (>C24-C36). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: 2A-W-41-121218 (580-82652-28) and (LCSD 580-291536/3-B).

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: GW-3-121118 (580-82652-6), GW-30-121118 (580-82652-7), 2A-W-42-121118 (580-82652-10), 1C-W-7-121118 (580-82652-11), GW-2-121118 (580-82652-12) and GW-20-121118 (580-82652-16).

Method(s) NWTPH-Dx: The following sample was re-prepared outside of preparation holding time due to the sample not having sufficient remaining volume for a silica gel cleanup after extraction and analysis of the non-cleaned extract.: GW-3-121118 (580-82652-6). Both sets of data for the non-silica get treated extract have been reported.

Method(s) NWTPH-Dx: Surrogate recovery for the following sample was outside control limits: 5-W-56-121118 (580-82652-22). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) NWTPH-Dx: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 580-291573 and analytical batch 580-292099 recovered outside control limits for the following analytes: #2 Diesel (C10-C24) and Motor Oil (>C24-C36). The individual recoveries of both the LCS and LCSD met the acceptance criteria.

Method(s) NWTPH-Dx: Continuing calibration verification (CCV) standard associated with batch 580-292294 recovered outside %Drift acceptance criteria for o-Terphenyl surrogate. The %Recovery is within acceptance criteria for the surrogate in the CCV and affected samples; therefore, the data have been reported. (CCV 580-292294/14) and (CCVRT 580-292294/3)

Method(s) NWTPH-Dx: The LCSD 580-291536/3-B recovered above the acceptance criteria for Motor Oil (>C24-C36). The associated sample(s) were non-detect; therefore, the data have been reported.

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

# Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

## Qualifiers

### GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
H	Sample was prepped or analyzed beyond the specified holding time

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: MW-4-121118**

**Lab Sample ID: 580-82652-1**

**Date Collected: 12/11/18 09:40**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.099		0.062	0.062	mg/L		12/17/18 07:40	12/18/18 05:53	1
Motor Oil (>C24-C36)	0.12		0.091	0.091	mg/L		12/17/18 07:40	12/18/18 05:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	73		50 - 150				12/17/18 07:40	12/18/18 05:53	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: MW-3-121118**

**Lab Sample ID: 580-82652-2**

**Date Collected: 12/11/18 09:43**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.87		0.061	0.061	mg/L		12/17/18 07:40	12/18/18 06:15	1
Motor Oil (>C24-C36)	2.3		0.091	0.091	mg/L		12/17/18 07:40	12/18/18 06:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	78		50 - 150				12/17/18 07:40	12/18/18 06:15	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 2A-W-10-121118**

**Lab Sample ID: 580-82652-3**

**Date Collected: 12/11/18 10:30**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.13		0.062	0.062	mg/L		12/17/18 07:40	12/18/18 06:59	1
Motor Oil (>C24-C36)	0.25		0.091	0.091	mg/L		12/17/18 07:40	12/18/18 06:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	82		50 - 150				12/17/18 07:40	12/18/18 06:59	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 2A-W-9-121118**

**Lab Sample ID: 580-82652-4**

**Date Collected: 12/11/18 10:44**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.29		0.062	0.062	mg/L		12/17/18 07:40	12/18/18 07:21	1
Motor Oil (>C24-C36)	0.38		0.091	0.091	mg/L		12/17/18 07:40	12/18/18 07:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	80		50 - 150				12/17/18 07:40	12/18/18 07:21	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 1B-W-23-121118**

**Lab Sample ID: 580-82652-5**

**Date Collected: 12/11/18 12:00**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/17/18 07:40	12/18/18 07:43	1
Motor Oil (>C24-C36)	ND		0.092	0.092	mg/L		12/17/18 07:40	12/18/18 07:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	77		50 - 150				12/17/18 07:40	12/18/18 07:43	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: GW-3-121118**

**Lab Sample ID: 580-82652-6**

**Date Collected: 12/11/18 12:12**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.28		0.061	0.061	mg/L		12/19/18 09:39	12/22/18 02:04	1
Motor Oil (>C24-C36)	0.12		0.091	0.091	mg/L		12/19/18 09:39	12/22/18 02:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	61		50 - 150				12/19/18 09:39	12/22/18 02:04	1

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) - RE**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.29	H	0.061	0.061	mg/L		12/30/18 07:34	12/30/18 15:04	1
Motor Oil (>C24-C36)	0.18	H	0.091	0.091	mg/L		12/30/18 07:34	12/30/18 15:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150				12/30/18 07:34	12/30/18 15:04	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.13	H	0.061	0.061	mg/L		12/30/18 07:34	12/30/18 17:57	1
Motor Oil (>C24-C36)	ND	H	0.091	0.091	mg/L		12/30/18 07:34	12/30/18 17:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	106		50 - 150				12/30/18 07:34	12/30/18 17:57	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: GW-30-121118**

**Lab Sample ID: 580-82652-7**

**Date Collected: 12/11/18 12:30**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.34		0.062	0.062	mg/L		12/19/18 09:39	12/22/18 02:26	1
Motor Oil (>C24-C36)	0.13		0.091	0.091	mg/L		12/19/18 09:39	12/22/18 02:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	77		50 - 150				12/19/18 09:39	12/22/18 02:26	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: EW-2A-121118**

**Lab Sample ID: 580-82652-8**

**Date Collected: 12/11/18 14:49**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>#2 Diesel (C10-C24)</b>	<b>0.071</b>		0.062	0.062	mg/L		12/19/18 09:39	12/22/18 02:47	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/19/18 09:39	12/22/18 02:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	76		50 - 150				12/19/18 09:39	12/22/18 02:47	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: GW-4-121118**

**Lab Sample ID: 580-82652-9**

**Date Collected: 12/11/18 15:00**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/19/18 09:39	12/22/18 03:09	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/19/18 09:39	12/22/18 03:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	79		50 - 150				12/19/18 09:39	12/22/18 03:09	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 2A-W-42-121118**

**Lab Sample ID: 580-82652-10**

**Date Collected: 12/11/18 16:12**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.17		0.061	0.061	mg/L		12/19/18 09:39	12/22/18 03:30	1
Motor Oil (>C24-C36)	0.11		0.091	0.091	mg/L		12/19/18 09:39	12/22/18 03:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	78		50 - 150				12/19/18 09:39	12/22/18 03:30	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 1C-W-7-121118**

**Lab Sample ID: 580-82652-11**

**Date Collected: 12/11/18 16:10**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.15		0.062	0.062	mg/L		12/19/18 09:39	12/22/18 03:51	1
Motor Oil (>C24-C36)	0.11		0.091	0.091	mg/L		12/19/18 09:39	12/22/18 03:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	73		50 - 150				12/19/18 09:39	12/22/18 03:51	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: GW-2-121118**

**Lab Sample ID: 580-82652-12**

**Date Collected: 12/11/18 09:50**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.13		0.062	0.062	mg/L		12/19/18 09:39	12/22/18 04:13	1
Motor Oil (>C24-C36)	0.27		0.091	0.091	mg/L		12/19/18 09:39	12/22/18 04:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	75		50 - 150				12/19/18 09:39	12/22/18 04:13	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 2A-W-40-121118**

**Lab Sample ID: 580-82652-13**

**Date Collected: 12/11/18 09:23**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.079		0.062	0.062	mg/L		12/19/18 09:39	12/22/18 04:56	1
Motor Oil (>C24-C36)	0.095		0.092	0.092	mg/L		12/19/18 09:39	12/22/18 04:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	85		50 - 150				12/19/18 09:39	12/22/18 04:56	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: PZ-8-121118**

**Lab Sample ID: 580-82652-14**

**Date Collected: 12/11/18 12:42**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/19/18 09:39	12/22/18 05:17	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/19/18 09:39	12/22/18 05:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	81		50 - 150				12/19/18 09:39	12/22/18 05:17	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: GW-1-121118**

**Lab Sample ID: 580-82652-15**

**Date Collected: 12/11/18 11:15**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/19/18 09:39	12/22/18 05:38	1
Motor Oil (>C24-C36)	ND		0.092	0.092	mg/L		12/19/18 09:39	12/22/18 05:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	81		50 - 150				12/19/18 09:39	12/22/18 05:38	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: GW-20-121118**

**Lab Sample ID: 580-82652-16**

**Date Collected: 12/11/18 10:05**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.46		0.062	0.062	mg/L		12/19/18 09:39	12/22/18 06:00	1
Motor Oil (>C24-C36)	1.0		0.091	0.091	mg/L		12/19/18 09:39	12/22/18 06:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	82		50 - 150				12/19/18 09:39	12/22/18 06:00	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: PZ-7S-12118**

**Lab Sample ID: 580-82652-17**

**Date Collected: 12/11/18 11:24**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/19/18 09:39	12/22/18 06:21	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/19/18 09:39	12/22/18 06:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	79		50 - 150				12/19/18 09:39	12/22/18 06:21	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: EW-1-121218**

**Lab Sample ID: 580-82652-18**

**Date Collected: 12/12/18 11:50**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/19/18 11:13	12/20/18 20:21	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/19/18 11:13	12/20/18 20:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	95		50 - 150				12/19/18 11:13	12/20/18 20:21	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 5-W-19-121118**

**Lab Sample ID: 580-82652-19**

**Date Collected: 12/11/18 15:20**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061	0.061	mg/L		12/19/18 11:13	12/20/18 20:43	1
Motor Oil (>C24-C36)	ND		0.090	0.090	mg/L		12/19/18 11:13	12/20/18 20:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	98		50 - 150				12/19/18 11:13	12/20/18 20:43	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 5-W-18-121118**

**Lab Sample ID: 580-82652-20**

**Date Collected: 12/11/18 15:35**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061	0.061	mg/L		12/19/18 11:13	12/20/18 21:05	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/19/18 11:13	12/20/18 21:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	95		50 - 150				12/19/18 11:13	12/20/18 21:05	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 5-W-55-121118**

**Lab Sample ID: 580-82652-21**

**Date Collected: 12/11/18 16:45**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>#2 Diesel (C10-C24)</b>	<b>0.091</b>		0.061	0.061	mg/L		12/19/18 11:13	12/20/18 21:48	1
Motor Oil (>C24-C36)	ND		0.090	0.090	mg/L		12/19/18 11:13	12/20/18 21:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150				12/19/18 11:13	12/20/18 21:48	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 5-W-56-121118**

**Lab Sample ID: 580-82652-22**

**Date Collected: 12/11/18 17:12**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.95		0.061	0.061	mg/L		12/19/18 11:13	12/20/18 22:10	1
Motor Oil (>C24-C36)	1.4		0.091	0.091	mg/L		12/19/18 11:13	12/20/18 22:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	2894	X	50 - 150				12/19/18 11:13	12/20/18 22:10	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 5-W-43-121118**

**Lab Sample ID: 580-82652-23**

**Date Collected: 12/11/18 12:35**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061	0.061	mg/L		12/19/18 11:13	12/20/18 22:32	1
Motor Oil (>C24-C36)	ND		0.090	0.090	mg/L		12/19/18 11:13	12/20/18 22:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	98		50 - 150				12/19/18 11:13	12/20/18 22:32	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 1C-W-1-121218**

**Lab Sample ID: 580-82652-24**

**Date Collected: 12/12/18 09:40**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>#2 Diesel (C10-C24)</b>	<b>0.074</b>		0.062	0.062	mg/L		12/19/18 11:13	12/20/18 22:53	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/19/18 11:13	12/20/18 22:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	95		50 - 150				12/19/18 11:13	12/20/18 22:53	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 1C-W-8-121218**

**Lab Sample ID: 580-82652-25**

**Date Collected: 12/12/18 09:41**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.14		0.061	0.061	mg/L		12/19/18 11:13	12/20/18 23:15	1
Motor Oil (>C24-C36)	0.19		0.091	0.091	mg/L		12/19/18 11:13	12/20/18 23:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	91		50 - 150				12/19/18 11:13	12/20/18 23:15	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 5-W-51-121218**

**Lab Sample ID: 580-82652-26**

**Date Collected: 12/12/18 09:51**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	1.0		0.062	0.062	mg/L		12/19/18 11:13	12/20/18 23:37	1
Motor Oil (>C24-C36)	1.6		0.091	0.091	mg/L		12/19/18 11:13	12/20/18 23:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	90		50 - 150				12/19/18 11:13	12/20/18 23:37	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 1B-W-3-121218**

**Lab Sample ID: 580-82652-27**

**Date Collected: 12/12/18 10:40**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/19/18 11:13	12/20/18 23:58	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/19/18 11:13	12/20/18 23:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	96		50 - 150				12/19/18 11:13	12/20/18 23:58	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 2A-W-41-121218**

**Lab Sample ID: 580-82652-28**

**Date Collected: 12/12/18 11:01**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.21		0.061	0.061	mg/L		12/19/18 11:13	12/21/18 00:20	1
Motor Oil (>C24-C36)	0.23		0.091	0.091	mg/L		12/19/18 11:13	12/21/18 00:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	92		50 - 150				12/19/18 11:13	12/21/18 00:20	1

**Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061	0.061	mg/L		12/19/18 11:13	12/20/18 18:54	1
Motor Oil (>C24-C36)	ND	*	0.091	0.091	mg/L		12/19/18 11:13	12/20/18 18:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	104		50 - 150				12/19/18 11:13	12/20/18 18:54	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 2A-W-410-121218**

**Lab Sample ID: 580-82652-29**

**Date Collected: 12/12/18 11:20**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061	0.061	mg/L		12/19/18 11:13	12/21/18 01:03	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/19/18 11:13	12/21/18 01:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	94		50 - 150				12/19/18 11:13	12/21/18 01:03	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 5-W-17-121218**

**Lab Sample ID: 580-82652-30**

**Date Collected: 12/12/18 11:03**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/19/18 11:13	12/21/18 01:46	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/19/18 11:13	12/21/18 01:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150				12/19/18 11:13	12/21/18 01:46	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: FWG-WV-121218**

**Lab Sample ID: 580-82652-31**

**Date Collected: 12/12/18 11:40**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/19/18 11:13	12/21/18 02:08	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/19/18 11:13	12/21/18 02:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	84		50 - 150				12/19/18 11:13	12/21/18 02:08	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: FWG-EV-121218**

**Lab Sample ID: 580-82652-32**

**Date Collected: 12/12/18 12:40**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.085		0.062	0.062	mg/L		12/19/18 11:13	12/21/18 02:29	1
Motor Oil (>C24-C36)	0.15		0.091	0.091	mg/L		12/19/18 11:13	12/21/18 02:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	87		50 - 150				12/19/18 11:13	12/21/18 02:29	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: WG-WV-121218**

**Lab Sample ID: 580-82652-33**

**Date Collected: 12/12/18 13:15**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.57		0.063	0.063	mg/L		12/19/18 11:13	12/21/18 02:51	1
Motor Oil (>C24-C36)	0.47		0.092	0.092	mg/L		12/19/18 11:13	12/21/18 02:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	78		50 - 150				12/19/18 11:13	12/21/18 02:51	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: WG-EV-121218**

**Lab Sample ID: 580-82652-34**

**Date Collected: 12/12/18 12:40**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/19/18 11:13	12/21/18 03:12	1
Motor Oil (>C24-C36)	ND		0.092	0.092	mg/L		12/19/18 11:13	12/21/18 03:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	92		50 - 150				12/19/18 11:13	12/21/18 03:12	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 2B-W-4-121218**

**Lab Sample ID: 580-82652-35**

**Date Collected: 12/12/18 12:23**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/19/18 11:13	12/21/18 03:34	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/19/18 11:13	12/21/18 03:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	90		50 - 150				12/19/18 11:13	12/21/18 03:34	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 5-W-16-121218**

**Lab Sample ID: 580-82652-36**

**Date Collected: 12/12/18 12:24**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/19/18 11:13	12/22/18 01:43	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/19/18 11:13	12/22/18 01:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	89		50 - 150				12/19/18 11:13	12/22/18 01:43	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 5-W-14-121218**

**Lab Sample ID: 580-82652-37**

**Date Collected: 12/12/18 13:27**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND	*	0.062	0.062	mg/L		12/19/18 14:58	12/27/18 23:15	1
Motor Oil (>C24-C36)	ND	*	0.091	0.091	mg/L		12/19/18 14:58	12/27/18 23:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150				12/19/18 14:58	12/27/18 23:15	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: S2-AD-121218**

**Lab Sample ID: 580-82652-38**

**Date Collected: 12/12/18 13:40**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND	*	0.062	0.062	mg/L		12/19/18 14:58	12/27/18 23:37	1
Motor Oil (>C24-C36)	ND	*	0.092	0.092	mg/L		12/19/18 14:58	12/27/18 23:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150				12/19/18 14:58	12/27/18 23:37	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: S2-AU-121218**

**Lab Sample ID: 580-82652-39**

**Date Collected: 12/12/18 13:13**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND	*	0.062	0.062	mg/L		12/19/18 14:58	12/27/18 23:59	1
Motor Oil (>C24-C36)	ND	*	0.091	0.091	mg/L		12/19/18 14:58	12/27/18 23:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	104		50 - 150				12/19/18 14:58	12/27/18 23:59	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: S2-BD-121218**

**Lab Sample ID: 580-82652-40**

**Date Collected: 12/12/18 13:55**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND	*	0.062	0.062	mg/L		12/19/18 14:58	12/28/18 00:20	1
Motor Oil (>C24-C36)	ND	*	0.092	0.092	mg/L		12/19/18 14:58	12/28/18 00:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	89		50 - 150				12/19/18 14:58	12/28/18 00:20	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: S2-BU-121218**

**Lab Sample ID: 580-82652-41**

**Date Collected: 12/12/18 13:55**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND	*	0.062	0.062	mg/L		12/19/18 14:58	12/28/18 00:42	1
Motor Oil (>C24-C36)	ND	*	0.091	0.091	mg/L		12/19/18 14:58	12/28/18 00:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	93		50 - 150				12/19/18 14:58	12/28/18 00:42	1

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# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-291276/1-A**  
**Matrix: Water**  
**Analysis Batch: 291367**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 291276**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		12/17/18 07:40	12/18/18 03:42	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		12/17/18 07:40	12/18/18 03:42	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	76		50 - 150				12/17/18 07:40	12/18/18 03:42	1

**Lab Sample ID: LCS 580-291276/2-A**  
**Matrix: Water**  
**Analysis Batch: 291367**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 291276**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits		
#2 Diesel (C10-C24)	0.500	0.419		mg/L		84	50 - 120		
Motor Oil (>C24-C36)	0.500	0.470		mg/L		94	64 - 120		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
<i>o</i> -Terphenyl	84		50 - 150						

**Lab Sample ID: LCSD 580-291276/3-A**  
**Matrix: Water**  
**Analysis Batch: 291367**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 291276**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	0.500	0.444		mg/L		89	50 - 120	6	26
Motor Oil (>C24-C36)	0.500	0.507		mg/L		101	64 - 120	8	24
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
<i>o</i> -Terphenyl	87		50 - 150						

**Lab Sample ID: MB 580-291500/1-A**  
**Matrix: Water**  
**Analysis Batch: 291548**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 291500**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.26	0.26	mg/L		12/18/18 16:33	12/19/18 16:47	1
Motor Oil (>C24-C36)	ND		0.38	0.38	mg/L		12/18/18 16:33	12/19/18 16:47	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	81		50 - 150				12/18/18 16:33	12/19/18 16:47	1

**Lab Sample ID: LCS 580-291500/2-A**  
**Matrix: Water**  
**Analysis Batch: 291548**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 291500**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits		
#2 Diesel (C10-C24)	2.00	1.56		mg/L		78	50 - 120		
Motor Oil (>C24-C36)	2.00	1.60		mg/L		80	64 - 120		

TestAmerica Seattle

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

**Lab Sample ID: LCS 580-291500/2-A**  
**Matrix: Water**  
**Analysis Batch: 291548**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 291500**

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	83		50 - 150

**Lab Sample ID: LCSD 580-291500/3-A**  
**Matrix: Water**  
**Analysis Batch: 291548**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 291500**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	2.00	1.52		mg/L		76	50 - 120	3	26
Motor Oil (>C24-C36)	2.00	1.55		mg/L		78	64 - 120	3	24

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>o</i> -Terphenyl	80		50 - 150

**Lab Sample ID: 580-82614-A-3-B MSD**  
**Matrix: Water**  
**Analysis Batch: 291681**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 291500**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	ND		2.03	1.68		mg/L		82	50 - 120	22	26
Motor Oil (>C24-C36)	ND		2.03	1.82		mg/L		90	64 - 120	19	24

Surrogate	MSD %Recovery	MSD Qualifier	Limits
<i>o</i> -Terphenyl	75		50 - 150

**Lab Sample ID: 580-82614-B-3-A MS**  
**Matrix: Water**  
**Analysis Batch: 291548**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 291500**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	ND		2.03	1.35		mg/L		66	50 - 120
Motor Oil (>C24-C36)	ND		2.03	1.50		mg/L		74	64 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
<i>o</i> -Terphenyl	73		50 - 150

**Lab Sample ID: MB 580-291520/1-A**  
**Matrix: Water**  
**Analysis Batch: 291854**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 291520**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		12/19/18 09:39	12/21/18 21:47	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		12/19/18 09:39	12/21/18 21:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	82		50 - 150	12/19/18 09:39	12/21/18 21:47	1

TestAmerica Seattle

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

**Lab Sample ID: LCS 580-291520/2-A**  
**Matrix: Water**  
**Analysis Batch: 291854**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 291520**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
#2 Diesel (C10-C24)	2.00	1.70		mg/L		85	50 - 120
Motor Oil (>C24-C36)	2.00	2.10		mg/L		105	64 - 120
		<b>LCS LCS</b>					
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
<i>o</i> -Terphenyl	98		50 - 150				

**Lab Sample ID: LCSD 580-291520/3-A**  
**Matrix: Water**  
**Analysis Batch: 291854**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 291520**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	2.00	1.74		mg/L		87	50 - 120	2	26
Motor Oil (>C24-C36)	2.00	2.14		mg/L		107	64 - 120	2	24
		<b>LCSD LCSD</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
<i>o</i> -Terphenyl	93		50 - 150						

**Lab Sample ID: MB 580-291536/1-A**  
**Matrix: Water**  
**Analysis Batch: 291649**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 291536**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		12/19/18 11:13	12/20/18 19:16	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		12/19/18 11:13	12/20/18 19:16	1
		<b>MB MB</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>o</i> -Terphenyl	106		50 - 150				12/19/18 11:13	12/20/18 19:16	1

**Lab Sample ID: LCS 580-291536/2-A**  
**Matrix: Water**  
**Analysis Batch: 291649**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 291536**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
#2 Diesel (C10-C24)	0.500	0.452		mg/L		90	50 - 120
Motor Oil (>C24-C36)	0.500	0.509		mg/L		102	64 - 120
		<b>LCS LCS</b>					
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
<i>o</i> -Terphenyl	103		50 - 150				

**Lab Sample ID: LCSD 580-291536/3-A**  
**Matrix: Water**  
**Analysis Batch: 291649**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 291536**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	0.500	0.473		mg/L		95	50 - 120	4	26
Motor Oil (>C24-C36)	0.500	0.536		mg/L		107	64 - 120	5	24

TestAmerica Seattle

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

**Lab Sample ID: LCSD 580-291536/3-A**  
**Matrix: Water**  
**Analysis Batch: 291649**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 291536**

Surrogate	<i>LCSD</i> %Recovery	<i>LCSD</i> Qualifier	Limits
<i>o</i> -Terphenyl	108		50 - 150

**Lab Sample ID: MB 580-291573/1-A**  
**Matrix: Water**  
**Analysis Batch: 292099**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 291573**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		12/19/18 14:58	12/27/18 21:49	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		12/19/18 14:58	12/27/18 21:49	1

Surrogate	<i>MB</i> %Recovery	<i>MB</i> Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	109		50 - 150	12/19/18 14:58	12/27/18 21:49	1

**Lab Sample ID: LCS 580-291573/2-A**  
**Matrix: Water**  
**Analysis Batch: 292099**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 291573**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
#2 Diesel (C10-C24)	0.500	0.486		mg/L		97	50 - 120
Motor Oil (>C24-C36)	0.500	0.543		mg/L		109	64 - 120

Surrogate	<i>LCS</i> %Recovery	<i>LCS</i> Qualifier	Limits
<i>o</i> -Terphenyl	115		50 - 150

**Lab Sample ID: LCSD 580-291573/3-A**  
**Matrix: Water**  
**Analysis Batch: 292099**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 291573**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	0.500	0.323	*	mg/L		65	50 - 120	40	26
Motor Oil (>C24-C36)	0.500	0.378	*	mg/L		76	64 - 120	36	24

Surrogate	<i>LCSD</i> %Recovery	<i>LCSD</i> Qualifier	Limits
<i>o</i> -Terphenyl	87		50 - 150

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) - RE

**Lab Sample ID: MB 580-292291/1-A**  
**Matrix: Water**  
**Analysis Batch: 292294**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 292291**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24) - RE	ND		0.065	0.065	mg/L		12/30/18 07:34	12/30/18 13:59	1
Motor Oil (>C24-C36) - RE	ND		0.096	0.096	mg/L		12/30/18 07:34	12/30/18 13:59	1

TestAmerica Seattle

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) - RE (Continued)

**Lab Sample ID: MB 580-292291/1-A**  
**Matrix: Water**  
**Analysis Batch: 292294**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 292291**

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl - RE	106		50 - 150	12/30/18 07:34	12/30/18 13:59	1

**Lab Sample ID: LCS 580-292291/2-A**  
**Matrix: Water**  
**Analysis Batch: 292294**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 292291**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
#2 Diesel (C10-C24) - RE	0.500	0.470		mg/L		94	50 - 120
Motor Oil (>C24-C36) - RE	0.500	0.501		mg/L		100	64 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl - RE	71		50 - 150

**Lab Sample ID: LCSD 580-292291/3-A**  
**Matrix: Water**  
**Analysis Batch: 292294**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 292291**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24) - RE	0.500	0.480		mg/L		96	50 - 120	2	26
Motor Oil (>C24-C36) - RE	0.500	0.511		mg/L		102	64 - 120	2	24

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>o</i> -Terphenyl - RE	81		50 - 150

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup

**Lab Sample ID: MB 580-291536/1-B**  
**Matrix: Water**  
**Analysis Batch: 291649**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 291536**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		12/19/18 11:13	12/20/18 17:48	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		12/19/18 11:13	12/20/18 17:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	110		50 - 150	12/19/18 11:13	12/20/18 17:48	1

**Lab Sample ID: LCS 580-291536/2-B**  
**Matrix: Water**  
**Analysis Batch: 291649**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 291536**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
#2 Diesel (C10-C24)	0.500	0.467		mg/L		93	50 - 120
Motor Oil (>C24-C36)	0.500	0.515		mg/L		103	64 - 120

TestAmerica Seattle

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

## Method: NWTPH-Dx - Semi-Volatile Petroleum Products by NWTPH with Silica Gel Cleanup (Continued)

**Lab Sample ID: LCS 580-291536/2-B**  
**Matrix: Water**  
**Analysis Batch: 291649**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 291536**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	108		50 - 150

**Lab Sample ID: LCSD 580-291536/3-B**  
**Matrix: Water**  
**Analysis Batch: 291649**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 291536**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	RPD Limit
							Limits	RPD		
#2 Diesel (C10-C24)	0.500	0.497		mg/L		99	50 - 120	6	26	
Motor Oil (>C24-C36)	0.500	0.652	*	mg/L		130	64 - 120	23	24	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	110		50 - 150

**Lab Sample ID: MB 580-292291/1-B**  
**Matrix: Water**  
**Analysis Batch: 292294**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 292291**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		12/30/18 07:34	12/30/18 16:31	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		12/30/18 07:34	12/30/18 16:31	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
<i>o</i> -Terphenyl	109		50 - 150	12/30/18 07:34	12/30/18 16:31	1

**Lab Sample ID: LCS 580-292291/2-B**  
**Matrix: Water**  
**Analysis Batch: 292294**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 292291**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	RPD
#2 Diesel (C10-C24)	0.500	0.477		mg/L		95	50 - 120	
Motor Oil (>C24-C36)	0.500	0.509		mg/L		102	64 - 120	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	81		50 - 150

**Lab Sample ID: LCSD 580-292291/3-B**  
**Matrix: Water**  
**Analysis Batch: 292294**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 292291**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	RPD Limit
							Limits	RPD		
#2 Diesel (C10-C24)	0.500	0.496		mg/L		99	50 - 120	4	26	
Motor Oil (>C24-C36)	0.500	0.536		mg/L		107	64 - 120	5	24	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	84		50 - 150

TestAmerica Seattle

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

## Client Sample ID: MW-4-121118

Date Collected: 12/11/18 09:40

Date Received: 12/13/18 17:30

## Lab Sample ID: 580-82652-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291276	12/17/18 07:40	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291367	12/18/18 05:53	CJ	TAL SEA

## Client Sample ID: MW-3-121118

Date Collected: 12/11/18 09:43

Date Received: 12/13/18 17:30

## Lab Sample ID: 580-82652-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291276	12/17/18 07:40	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291367	12/18/18 06:15	CJ	TAL SEA

## Client Sample ID: 2A-W-10-121118

Date Collected: 12/11/18 10:30

Date Received: 12/13/18 17:30

## Lab Sample ID: 580-82652-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291276	12/17/18 07:40	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291367	12/18/18 06:59	CJ	TAL SEA

## Client Sample ID: 2A-W-9-121118

Date Collected: 12/11/18 10:44

Date Received: 12/13/18 17:30

## Lab Sample ID: 580-82652-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291276	12/17/18 07:40	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291367	12/18/18 07:21	CJ	TAL SEA

## Client Sample ID: 1B-W-23-121118

Date Collected: 12/11/18 12:00

Date Received: 12/13/18 17:30

## Lab Sample ID: 580-82652-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291276	12/17/18 07:40	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291367	12/18/18 07:43	CJ	TAL SEA

## Client Sample ID: GW-3-121118

Date Collected: 12/11/18 12:12

Date Received: 12/13/18 17:30

## Lab Sample ID: 580-82652-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291520	12/19/18 09:39	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291854	12/22/18 02:04	TL1	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: GW-3-121118**

**Lab Sample ID: 580-82652-6**

**Date Collected: 12/11/18 12:12**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C	RE		292291	12/30/18 07:34	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx	RE	1	292294	12/30/18 15:04	Z1R	TAL SEA
Total/NA	Prep	3510C			292291	12/30/18 07:34	KO	TAL SEA
Total/NA	Cleanup	3630C			292293	12/30/18 11:32	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	292294	12/30/18 17:57	Z1R	TAL SEA

**Client Sample ID: GW-30-121118**

**Lab Sample ID: 580-82652-7**

**Date Collected: 12/11/18 12:30**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291520	12/19/18 09:39	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291854	12/22/18 02:26	TL1	TAL SEA

**Client Sample ID: EW-2A-121118**

**Lab Sample ID: 580-82652-8**

**Date Collected: 12/11/18 14:49**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291520	12/19/18 09:39	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291854	12/22/18 02:47	TL1	TAL SEA

**Client Sample ID: GW-4-121118**

**Lab Sample ID: 580-82652-9**

**Date Collected: 12/11/18 15:00**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291520	12/19/18 09:39	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291854	12/22/18 03:09	TL1	TAL SEA

**Client Sample ID: 2A-W-42-121118**

**Lab Sample ID: 580-82652-10**

**Date Collected: 12/11/18 16:12**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291520	12/19/18 09:39	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291854	12/22/18 03:30	TL1	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 1C-W-7-121118**

**Lab Sample ID: 580-82652-11**

Date Collected: 12/11/18 16:10

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291520	12/19/18 09:39	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291854	12/22/18 03:51	TL1	TAL SEA

**Client Sample ID: GW-2-121118**

**Lab Sample ID: 580-82652-12**

Date Collected: 12/11/18 09:50

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291520	12/19/18 09:39	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291854	12/22/18 04:13	TL1	TAL SEA

**Client Sample ID: 2A-W-40-121118**

**Lab Sample ID: 580-82652-13**

Date Collected: 12/11/18 09:23

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291520	12/19/18 09:39	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291854	12/22/18 04:56	TL1	TAL SEA

**Client Sample ID: PZ-8-121118**

**Lab Sample ID: 580-82652-14**

Date Collected: 12/11/18 12:42

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291520	12/19/18 09:39	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291854	12/22/18 05:17	TL1	TAL SEA

**Client Sample ID: GW-1-121118**

**Lab Sample ID: 580-82652-15**

Date Collected: 12/11/18 11:15

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291520	12/19/18 09:39	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291854	12/22/18 05:38	TL1	TAL SEA

**Client Sample ID: GW-20-121118**

**Lab Sample ID: 580-82652-16**

Date Collected: 12/11/18 10:05

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291520	12/19/18 09:39	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291854	12/22/18 06:00	TL1	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: PZ-7S-12118**

**Lab Sample ID: 580-82652-17**

Date Collected: 12/11/18 11:24

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291520	12/19/18 09:39	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291854	12/22/18 06:21	TL1	TAL SEA

**Client Sample ID: EW-1-121218**

**Lab Sample ID: 580-82652-18**

Date Collected: 12/12/18 11:50

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/20/18 20:21	CJ	TAL SEA

**Client Sample ID: 5-W-19-121118**

**Lab Sample ID: 580-82652-19**

Date Collected: 12/11/18 15:20

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/20/18 20:43	CJ	TAL SEA

**Client Sample ID: 5-W-18-121118**

**Lab Sample ID: 580-82652-20**

Date Collected: 12/11/18 15:35

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/20/18 21:05	CJ	TAL SEA

**Client Sample ID: 5-W-55-121118**

**Lab Sample ID: 580-82652-21**

Date Collected: 12/11/18 16:45

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/20/18 21:48	CJ	TAL SEA

**Client Sample ID: 5-W-56-121118**

**Lab Sample ID: 580-82652-22**

Date Collected: 12/11/18 17:12

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/20/18 22:10	CJ	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 5-W-43-121118**

**Lab Sample ID: 580-82652-23**

**Date Collected: 12/11/18 12:35**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/20/18 22:32	CJ	TAL SEA

**Client Sample ID: 1C-W-1-121218**

**Lab Sample ID: 580-82652-24**

**Date Collected: 12/12/18 09:40**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/20/18 22:53	CJ	TAL SEA

**Client Sample ID: 1C-W-8-121218**

**Lab Sample ID: 580-82652-25**

**Date Collected: 12/12/18 09:41**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/20/18 23:15	CJ	TAL SEA

**Client Sample ID: 5-W-51-121218**

**Lab Sample ID: 580-82652-26**

**Date Collected: 12/12/18 09:51**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/20/18 23:37	CJ	TAL SEA

**Client Sample ID: 1B-W-3-121218**

**Lab Sample ID: 580-82652-27**

**Date Collected: 12/12/18 10:40**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/20/18 23:58	CJ	TAL SEA

**Client Sample ID: 2A-W-41-121218**

**Lab Sample ID: 580-82652-28**

**Date Collected: 12/12/18 11:01**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Cleanup	3630C			291580	12/19/18 15:08	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/20/18 18:54	CJ	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: 2A-W-41-121218**

**Lab Sample ID: 580-82652-28**

Date Collected: 12/12/18 11:01

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/21/18 00:20	CJ	TAL SEA

**Client Sample ID: 2A-W-410-121218**

**Lab Sample ID: 580-82652-29**

Date Collected: 12/12/18 11:20

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/21/18 01:03	CJ	TAL SEA

**Client Sample ID: 5-W-17-121218**

**Lab Sample ID: 580-82652-30**

Date Collected: 12/12/18 11:03

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/21/18 01:46	CJ	TAL SEA

**Client Sample ID: FWG-WV-121218**

**Lab Sample ID: 580-82652-31**

Date Collected: 12/12/18 11:40

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/21/18 02:08	CJ	TAL SEA

**Client Sample ID: FWG-EV-121218**

**Lab Sample ID: 580-82652-32**

Date Collected: 12/12/18 12:40

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/21/18 02:29	CJ	TAL SEA

**Client Sample ID: WG-WV-121218**

**Lab Sample ID: 580-82652-33**

Date Collected: 12/12/18 13:15

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/21/18 02:51	CJ	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: WG-EV-121218**

**Lab Sample ID: 580-82652-34**

Date Collected: 12/12/18 12:40

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/21/18 03:12	CJ	TAL SEA

**Client Sample ID: 2B-W-4-121218**

**Lab Sample ID: 580-82652-35**

Date Collected: 12/12/18 12:23

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291649	12/21/18 03:34	CJ	TAL SEA

**Client Sample ID: 5-W-16-121218**

**Lab Sample ID: 580-82652-36**

Date Collected: 12/12/18 12:24

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291536	12/19/18 11:13	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	291853	12/22/18 01:43	T1W	TAL SEA

**Client Sample ID: 5-W-14-121218**

**Lab Sample ID: 580-82652-37**

Date Collected: 12/12/18 13:27

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291573	12/19/18 14:58	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	292099	12/27/18 23:15	ERZ	TAL SEA

**Client Sample ID: S2-AD-121218**

**Lab Sample ID: 580-82652-38**

Date Collected: 12/12/18 13:40

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291573	12/19/18 14:58	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	292099	12/27/18 23:37	ERZ	TAL SEA

**Client Sample ID: S2-AU-121218**

**Lab Sample ID: 580-82652-39**

Date Collected: 12/12/18 13:13

Matrix: Water

Date Received: 12/13/18 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291573	12/19/18 14:58	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	292099	12/27/18 23:59	ERZ	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

**Client Sample ID: S2-BD-121218**

**Lab Sample ID: 580-82652-40**

**Date Collected: 12/12/18 13:55**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291573	12/19/18 14:58	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	292099	12/28/18 00:20	ERZ	TAL SEA

**Client Sample ID: S2-BU-121218**

**Lab Sample ID: 580-82652-41**

**Date Collected: 12/12/18 13:55**

**Matrix: Water**

**Date Received: 12/13/18 17:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			291573	12/19/18 14:58	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	292099	12/28/18 00:42	ERZ	TAL SEA

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

## Laboratory: TestAmerica Seattle

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-024	01-19-19
ANAB	DoD ELAP		L2236	01-19-19
ANAB	ISO/IEC 17025		L2236	01-19-19
California	State Program	9	2901	11-05-19
Montana (UST)	State Program	8	N/A	04-30-20
Nevada	State Program	9	WA000502019-1	07-31-19
Oregon	NELAP	10	WA100007	11-05-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-19

# Sample Summary

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-82652-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-82652-1	MW-4-121118	Water	12/11/18 09:40	12/13/18 17:30
580-82652-2	MW-3-121118	Water	12/11/18 09:43	12/13/18 17:30
580-82652-3	2A-W-10-121118	Water	12/11/18 10:30	12/13/18 17:30
580-82652-4	2A-W-9-121118	Water	12/11/18 10:44	12/13/18 17:30
580-82652-5	1B-W-23-121118	Water	12/11/18 12:00	12/13/18 17:30
580-82652-6	GW-3-121118	Water	12/11/18 12:12	12/13/18 17:30
580-82652-7	GW-30-121118	Water	12/11/18 12:30	12/13/18 17:30
580-82652-8	EW-2A-121118	Water	12/11/18 14:49	12/13/18 17:30
580-82652-9	GW-4-121118	Water	12/11/18 15:00	12/13/18 17:30
580-82652-10	2A-W-42-121118	Water	12/11/18 16:12	12/13/18 17:30
580-82652-11	1C-W-7-121118	Water	12/11/18 16:10	12/13/18 17:30
580-82652-12	GW-2-121118	Water	12/11/18 09:50	12/13/18 17:30
580-82652-13	2A-W-40-121118	Water	12/11/18 09:23	12/13/18 17:30
580-82652-14	PZ-8-121118	Water	12/11/18 12:42	12/13/18 17:30
580-82652-15	GW-1-121118	Water	12/11/18 11:15	12/13/18 17:30
580-82652-16	GW-20-121118	Water	12/11/18 10:05	12/13/18 17:30
580-82652-17	PZ-7S-12118	Water	12/11/18 11:24	12/13/18 17:30
580-82652-18	EW-1-121218	Water	12/12/18 11:50	12/13/18 17:30
580-82652-19	5-W-19-121118	Water	12/11/18 15:20	12/13/18 17:30
580-82652-20	5-W-18-121118	Water	12/11/18 15:35	12/13/18 17:30
580-82652-21	5-W-55-121118	Water	12/11/18 16:45	12/13/18 17:30
580-82652-22	5-W-56-121118	Water	12/11/18 17:12	12/13/18 17:30
580-82652-23	5-W-43-121118	Water	12/11/18 12:35	12/13/18 17:30
580-82652-24	1C-W-1-121218	Water	12/12/18 09:40	12/13/18 17:30
580-82652-25	1C-W-8-121218	Water	12/12/18 09:41	12/13/18 17:30
580-82652-26	5-W-51-121218	Water	12/12/18 09:51	12/13/18 17:30
580-82652-27	1B-W-3-121218	Water	12/12/18 10:40	12/13/18 17:30
580-82652-28	2A-W-41-121218	Water	12/12/18 11:01	12/13/18 17:30
580-82652-29	2A-W-410-121218	Water	12/12/18 11:20	12/13/18 17:30
580-82652-30	5-W-17-121218	Water	12/12/18 11:03	12/13/18 17:30
580-82652-31	FWG-WV-121218	Water	12/12/18 11:40	12/13/18 17:30
580-82652-32	FWG-EV-121218	Water	12/12/18 12:40	12/13/18 17:30
580-82652-33	WG-WV-121218	Water	12/12/18 13:15	12/13/18 17:30
580-82652-34	WG-EV-121218	Water	12/12/18 12:40	12/13/18 17:30
580-82652-35	2B-W-4-121218	Water	12/12/18 12:23	12/13/18 17:30
580-82652-36	5-W-16-121218	Water	12/12/18 12:24	12/13/18 17:30
580-82652-37	5-W-14-121218	Water	12/12/18 13:27	12/13/18 17:30
580-82652-38	S2-AD-121218	Water	12/12/18 13:40	12/13/18 17:30
580-82652-39	S2-AU-121218	Water	12/12/18 13:13	12/13/18 17:30
580-82652-40	S2-BD-121218	Water	12/12/18 13:55	12/13/18 17:30
580-82652-41	S2-BU-121218	Water	12/12/18 13:55	12/13/18 17:30

**TestAmerica Seattle**

5755 8th Street East  
Tacoma, WA 98424  
Phone (253) 922-2310 Fax (253) 922-5047

**Chain of Custody Record**

Loc: 580  
**82652**

1/4 **TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b>		Sampler: <u>A. Barky</u>		Lab PM: Allen, Kristine D		Carrier Tracking No(s):		COC No: 580-31572-9988.1	
Client Contact: jeanette Mullin		Phone:		E-Mail: kristine.allen@testamericainc.com				Page: Page 1 of 5	
Company: Farallon Consulting LLC				<b>Analysis Requested</b>					
Address: 975 5th Avenue NW Suite 100		Due Date Requested:		Field Filtered Sample (Yes or No) Perform MS/MS (Yes or No) NWTPH_Dx - Standard reporting list for NWTPH-Dx SEC (S-Hex Cellulose)		Total Number of Containers		Preservation Codes: A - HCL                      M - Hexane B - NaOH                    N - None C - Zn Acetate            O - AsNaO2 D - Nitric Acid            P - Na2O4S E - NaHSO4                Q - Na2SO3 F - MeOH                    R - Na2S2O3 G - Amchlor                S - H2SO4 H - Ascorbic Acid        T - TSP Dodecahydrate I - Ice                         U - Acetone J - DI Water                V - MCAA K - EDTA                    W - pH 4-5 L - EDA                      Z - other (specify)	
City: Issaquah		TAT Requested (days): <u>Standard</u>							
State, Zip: WA, 98027		PO #: TT0100-Q12							
Phone:		WO #: Tax Code 8800 BF10007215							
Email: jmullin@farallonconsulting.com		Project #: 58006391							
Project Name: BNSF Skykomish Ground Water		SSOW#:						Other:	
Site: Washington									
<b>Sample Identification</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (C=Comp, G=grab)</b>		<b>Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)</b>	
								<b>Preservation Code</b>	
<u>MW-4-121118</u>		<u>12/11/18</u>		<u>0940</u>		<u>G</u>		<u>Water</u>	
<u>MW-3-121118</u>				<u>0943</u>				<u>Water</u>	
<u>2A-W-10-121118</u>				<u>1030</u>				<u>Water</u>	
<u>2A-W-9-121118</u>				<u>1044</u>				<u>Water</u>	
<u>1B-W-23-121118</u>				<u>1200</u>				<u>Water</u>	
<u>GW-3-121118</u>				<u>1212</u>				<u>Water</u>	
<u>GW-30-121118</u>				<u>1230</u>				<u>Water</u>	
<u>EW-2A-121118</u>				<u>1444</u>				<u>Water</u>	
<u>GW-4-121118</u>				<u>1500</u>				<u>Water</u>	
<u>2A-W-42-121118</u>				<u>1612</u>				<u>Water</u>	
<u>2C-W-7-121118</u>		<u>↓</u>		<u>1610</u>		<u>↓</u>		<u>Water</u>	
<b>Possible Hazard Identification</b>					<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>				
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:				
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:			
Relinquished by: <u>[Signature]</u>		Date/Time: <u>12/13/18 @ 635</u>		Company: <u>Farallon</u>		Received by: <u>[Signature]</u>		Date/Time: <u>12/13/18 1730</u>	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:					





**TestAmerica Seattle**

5755 8th Street East  
Tacoma, WA 98424  
Phone (253) 922-2310 Fax (253) 922-5047

**Chain of Custody Record**

3/4

**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b>		Sampler:		Lab PM: Allen, Kristine D		Carrier Tracking No(s):		COC No: 580-31572-9988.3	
Client Contact: jeanette Mullin		Phone:		E-Mail: kristine.allen@testamericainc.com				Page: Page 3 of 5	
Company: Farallon Consulting LLC		Due Date Requested:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) NWTPH, Dx - Standard reporting list for NWTPH-Dx SAC (Silver Gel Cleanup)		Total Number of Containers		<b>Analysis Requested</b>  Preservation Codes: A - HCL                      M - Hexane B - NaOH                    N - None C - Zn Acetate              O - AsNaO2 D - Nitric Acid              P - Na2O4S E - NaHSO4                 Q - Na2SO3 F - MeOH                    R - Na2S2O3 G - Amchlor                S - H2SO4 H - Ascorbic Acid         T - TSP Dodecahydrate I - Ice                         U - Acetone J - Di Water                 V - MCAA K - EDTA                    W - pH 4-5 L - EDA                      Z - other (specify)  Other:	
Address: 975 5th Avenue NW Suite 100		TAT Requested (days): <i>Standard</i>							
City: Issaquah		PO #: TT0100-Q12							
State, Zip: WA, 98027		WO #: Tax Code 8800 BF10007215							
Phone:		Project #: 58006391							
Email: jmullin@farallonconsulting.com		SSOW#:							
Project Name: BNSF Skykomish Ground Water		Site: Washington							
<b>Sample Identification</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (C=Comp, G=grab)</b>		<b>Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)</b>	
								<b>Preservation Code:</b>	
<i>5-W-43-12118</i>		<i>12/11/18</i>		<i>1235</i>		<i>G</i>		<i>Water</i>	
<i>1C-W-1-121218</i>		<i>12/12/18</i>		<i>0940</i>				<i>Water</i>	
<i>1C-W-8-121218</i>		<i>12/12/18</i>		<i>0941</i>				<i>Water</i>	
<i>5-W-51-121218</i>		<i>12/12/18</i>		<i>0951</i>				<i>Water</i>	
<i>1B-W-3-121218</i>		<i>12/12/18</i>		<i>1040</i>				<i>Water</i>	
<i>2A-W-41-121218</i>		<i>12/12/18</i>		<i>1101</i>				<i>Water</i>	
<i>2A-W-410-121218</i>		<i>12/12/18</i>		<i>1120</i>				<i>Water</i>	
<i>5-W-17-121218</i>		<i>12/12/18</i>		<i>1103</i>				<i>Water</i>	
<i>FWG-WV-121218</i>		<i>12/12/18</i>		<i>1140</i>				<i>Water</i>	
<i>FWG-EV-121218</i>		<i>12/12/18</i>		<i>1240</i>				<i>Water</i>	
<i>WG-WV-121218</i>		<i>12/12/18</i>		<i>1315</i>				<i>Water</i>	
<b>Possible Hazard Identification</b>					<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>				
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:				
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:			
Relinquished by: <i>[Signature]</i>		Date/Time: <i>12/13/18 @ 635</i>		Company: <i>Farallon</i>		Received by: <i>Tom Blumky</i>		Date/Time: <i>12/13/18 1730</i>	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:					
Δ Yes Δ No									



Therm. ID: A2 Cor: 1.7 ° Unc: 1.9 °  
Cooler Dsc: Lg Green FedEx:  
Packing: bub UPS:  
Cust. Seal: Yes  No  Lab Cour:   
Blue Ice,  Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A2 Cor: 1.2 ° Unc: 1.4 °  
Cooler Dsc: Lg Blue FedEx:  
Packing: bub UPS:  
Cust. Seal: Yes  No  Lab Cour: \_\_\_\_\_  
Blue Ice,  Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A2 Cor: 0.5 ° Unc: 0.7 °  
Cooler Dsc: Lg Blue FedEx:  
Packing: bub UPS:  
Cust. Seal: Yes  No  Lab Cour:   
Blue Ice,  Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A2 Cor: 1.5 ° Unc: 1.7 °  
Cooler Dsc: Lg Blue FedEx:  
Packing: bub UPS:  
Cust. Seal: Yes  No  Lab Cour: \_\_\_\_\_  
Blue Ice,  Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A2 Cor: 2.5 ° Unc: 2.7 °  
Cooler Dsc: Lg Red FedEx:  
Packing: bub UPS:  
Cust. Seal: Yes  No  Lab Cour:   
Blue Ice,  Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A2 Cor: 1.7 ° Unc: 1.9 °  
Cooler Dsc: Lg Green FedEx:  
Packing: bub UPS:  
Cust. Seal: Yes  No  Lab Cour: \_\_\_\_\_  
Blue Ice,  Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A2 Cor: 2.0 ° Unc: 2.2 °  
Cooler Dsc: Lg Blue FedEx:  
Packing: bub UPS:  
Cust. Seal: Yes  No  Lab Cour:   
Blue Ice,  Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A2 Cor: 0.3 ° Unc: 0.5 °  
Cooler Dsc: Lg Green FedEx:  
Packing: bub UPS:  
Cust. Seal: Yes  No  Lab Cour:   
Blue Ice,  Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A2 Cor: 2.0 ° Unc: 2.2 °  
Cooler Dsc: Lg Blue FedEx:  
Packing: bub UPS:  
Cust. Seal: Yes  No  Lab Cour: \_\_\_\_\_  
Blue Ice,  Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A2 Cor: 1.1 ° Unc: 1.3 °  
Cooler Dsc: Lg Blue FedEx:  
Packing: bub UPS:  
Cust. Seal: Yes  No  Lab Cour:   
Blue Ice,  Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A2 Cor: 0.8 ° Unc: 1.0 °  
Cooler Dsc: Lg Green FedEx:  
Packing: bub UPS:  
Cust. Seal: Yes  No  Lab Cour: \_\_\_\_\_  
Blue Ice,  Wet, Dry, None Other: \_\_\_\_\_



# Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-82652-1

**Login Number: 82652**  
**List Number: 1**  
**Creator: Gall, Brandon A**

**List Source: TestAmerica Seattle**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
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?	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.	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 <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-84026-1

Client Project/Site: BNSF Skykomish Ground Water  
Revision: 1

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Peter Kingston



Authorized for release by:  
2/26/2019 4:50:50 PM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions . . . . .	4
Client Sample Results . . . . .	5
QC Sample Results . . . . .	19
Chronicle . . . . .	20
Certification Summary . . . . .	23
Sample Summary . . . . .	24
Chain of Custody . . . . .	25
Receipt Checklists . . . . .	26

# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Job ID: 580-84026-1**

**Laboratory: TestAmerica Seattle**

## Narrative

### Job Narrative 580-84026-1

#### Comments

Report was revised 2-26-19 to correct to sample IDs.

No additional comments.

#### Receipt

The samples were received on 2/21/2019 2:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.1° C, 1.2° C and 1.8° C.

#### Receipt Exceptions

The container labels for the following sample did not match the information listed on the Chain-of-Custody (COC): GW-2-022019 (580-84026-14). The container labels list the sampling time 13:59, while the COC lists 14:32. The sample is logged in per COC.

#### GC Semi VOA

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: S2-BU-021919 (580-84026-3), WG-WV-021919 (580-84026-5), WG-EV-021919 (580-84026-6) and P2-7S-022019 (580-84026-9).

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

#### Organic Prep

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

# Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: S2-AU-021919**

**Lab Sample ID: 580-84026-1**

**Date Collected: 02/19/19 13:35**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061		mg/L		02/22/19 08:59	02/22/19 19:56	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		02/22/19 08:59	02/22/19 19:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	100		50 - 150				02/22/19 08:59	02/22/19 19:56	1

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- 2
- 3
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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: S2-AD-021919**

**Lab Sample ID: 580-84026-2**

**Date Collected: 02/19/19 13:40**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		02/22/19 08:59	02/22/19 20:39	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		02/22/19 08:59	02/22/19 20:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	95		50 - 150				02/22/19 08:59	02/22/19 20:39	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: S2-BU-021919**

**Lab Sample ID: 580-84026-3**

**Date Collected: 02/19/19 13:50**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.29		0.061		mg/L		02/22/19 08:59	02/22/19 21:01	1
Motor Oil (>C24-C36)	0.27		0.091		mg/L		02/22/19 08:59	02/22/19 21:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	103		50 - 150				02/22/19 08:59	02/22/19 21:01	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: S2-BD-021919**

**Lab Sample ID: 580-84026-4**

**Date Collected: 02/19/19 13:51**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		02/22/19 08:59	02/22/19 21:23	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		02/22/19 08:59	02/22/19 21:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	108		50 - 150				02/22/19 08:59	02/22/19 21:23	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: WG-WV-021919**

**Lab Sample ID: 580-84026-5**

**Date Collected: 02/19/19 15:14**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.22		0.062		mg/L		02/22/19 08:59	02/22/19 21:44	1
Motor Oil (>C24-C36)	0.30		0.091		mg/L		02/22/19 08:59	02/22/19 21:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	98		50 - 150				02/22/19 08:59	02/22/19 21:44	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: WG-EV-021919**

**Lab Sample ID: 580-84026-6**

**Date Collected: 02/19/19 15:05**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.52		0.062		mg/L		02/22/19 08:59	02/22/19 22:06	1
Motor Oil (>C24-C36)	0.49		0.091		mg/L		02/22/19 08:59	02/22/19 22:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	84		50 - 150				02/22/19 08:59	02/22/19 22:06	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: FWG-EV-021919**

**Lab Sample ID: 580-84026-7**

**Date Collected: 02/19/19 15:50**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061		mg/L		02/22/19 08:59	02/22/19 22:28	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		02/22/19 08:59	02/22/19 22:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	95		50 - 150				02/22/19 08:59	02/22/19 22:28	1

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# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: FWG-WV-021919**

**Lab Sample ID: 580-84026-8**

**Date Collected: 02/19/19 15:55**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		02/22/19 08:59	02/22/19 22:49	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		02/22/19 08:59	02/22/19 22:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	98		50 - 150				02/22/19 08:59	02/22/19 22:49	1

- 1
- 2
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- 10
- 11

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: PZ-7S-022019**

**Lab Sample ID: 580-84026-9**

**Date Collected: 02/20/19 10:07**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		02/22/19 08:59	02/22/19 23:11	1
<b>Motor Oil (&gt;C24-C36)</b>	<b>0.11</b>		0.091		mg/L		02/22/19 08:59	02/22/19 23:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	99		50 - 150				02/22/19 08:59	02/22/19 23:11	1

- 1
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- 5**
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- 9
- 10
- 11

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: PZ-8-022019**

**Lab Sample ID: 580-84026-10**

**Date Collected: 02/20/19 10:59**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		02/22/19 08:59	02/22/19 23:32	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		02/22/19 08:59	02/22/19 23:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150				02/22/19 08:59	02/22/19 23:32	1

- 1
- 2
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- 4
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- 8
- 9
- 10
- 11

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: EW-1-022019**

**Lab Sample ID: 580-84026-11**

**Date Collected: 02/20/19 11:39**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		02/22/19 08:59	02/22/19 23:54	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		02/22/19 08:59	02/22/19 23:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	96		50 - 150				02/22/19 08:59	02/22/19 23:54	1

- 1
- 2
- 3
- 4
- 5
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- 8
- 9
- 10
- 11

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: 5-W-43-022019**

**Lab Sample ID: 580-84026-12**

**Date Collected: 02/20/19 12:21**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		02/22/19 08:59	02/23/19 00:37	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		02/22/19 08:59	02/23/19 00:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	107		50 - 150				02/22/19 08:59	02/23/19 00:37	1

- 1
- 2
- 3
- 4
- 5
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- 7
- 8
- 9
- 10
- 11

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: GW-1-022019**

**Lab Sample ID: 580-84026-13**

**Date Collected: 02/20/19 13:06**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		02/22/19 08:59	02/23/19 00:59	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		02/22/19 08:59	02/23/19 00:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	102		50 - 150				02/22/19 08:59	02/23/19 00:59	1

- 1
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- 7
- 8
- 9
- 10
- 11

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: GW-2-022019**

**Lab Sample ID: 580-84026-14**

**Date Collected: 02/20/19 14:32**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		02/22/19 08:59	02/23/19 01:21	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		02/22/19 08:59	02/23/19 01:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	104		50 - 150				02/22/19 08:59	02/23/19 01:21	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-295001/1-A**  
**Matrix: Water**  
**Analysis Batch: 295050**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 295001**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.065		mg/L		02/22/19 08:59	02/22/19 16:40	1
Motor Oil (>C24-C36)	ND		0.096		mg/L		02/22/19 08:59	02/22/19 16:40	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	103		50 - 150				02/22/19 08:59	02/22/19 16:40	1

**Lab Sample ID: LCS 580-295001/2-A**  
**Matrix: Water**  
**Analysis Batch: 295050**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 295001**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits		
#2 Diesel (C10-C24)	0.500	0.479		mg/L		96	50 - 120		
Motor Oil (>C24-C36)	0.500	0.535		mg/L		107	64 - 120		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
<i>o</i> -Terphenyl	87		50 - 150						

**Lab Sample ID: LCSD 580-295001/3-A**  
**Matrix: Water**  
**Analysis Batch: 295050**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 295001**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	0.500	0.472		mg/L		94	50 - 120	2	26
Motor Oil (>C24-C36)	0.500	0.521		mg/L		104	64 - 120	2	24
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
<i>o</i> -Terphenyl	88		50 - 150						

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: S2-AU-021919**

**Date Collected: 02/19/19 13:35**

**Date Received: 02/21/19 14:45**

**Lab Sample ID: 580-84026-1**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			295001	02/22/19 08:59	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	295050	02/22/19 19:56	T1W	TAL SEA

**Client Sample ID: S2-AD-021919**

**Date Collected: 02/19/19 13:40**

**Date Received: 02/21/19 14:45**

**Lab Sample ID: 580-84026-2**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			295001	02/22/19 08:59	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	295050	02/22/19 20:39	T1W	TAL SEA

**Client Sample ID: S2-BU-021919**

**Date Collected: 02/19/19 13:50**

**Date Received: 02/21/19 14:45**

**Lab Sample ID: 580-84026-3**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			295001	02/22/19 08:59	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	295050	02/22/19 21:01	T1W	TAL SEA

**Client Sample ID: S2-BD-021919**

**Date Collected: 02/19/19 13:51**

**Date Received: 02/21/19 14:45**

**Lab Sample ID: 580-84026-4**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			295001	02/22/19 08:59	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	295050	02/22/19 21:23	T1W	TAL SEA

**Client Sample ID: WG-WV-021919**

**Date Collected: 02/19/19 15:14**

**Date Received: 02/21/19 14:45**

**Lab Sample ID: 580-84026-5**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			295001	02/22/19 08:59	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	295050	02/22/19 21:44	T1W	TAL SEA

**Client Sample ID: WG-EV-021919**

**Date Collected: 02/19/19 15:05**

**Date Received: 02/21/19 14:45**

**Lab Sample ID: 580-84026-6**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			295001	02/22/19 08:59	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	295050	02/22/19 22:06	T1W	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: FWG-EV-021919**

**Lab Sample ID: 580-84026-7**

Date Collected: 02/19/19 15:50

Matrix: Water

Date Received: 02/21/19 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			295001	02/22/19 08:59	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	295050	02/22/19 22:28	T1W	TAL SEA

**Client Sample ID: FWG-WV-021919**

**Lab Sample ID: 580-84026-8**

Date Collected: 02/19/19 15:55

Matrix: Water

Date Received: 02/21/19 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			295001	02/22/19 08:59	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	295050	02/22/19 22:49	T1W	TAL SEA

**Client Sample ID: PZ-7S-022019**

**Lab Sample ID: 580-84026-9**

Date Collected: 02/20/19 10:07

Matrix: Water

Date Received: 02/21/19 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			295001	02/22/19 08:59	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	295050	02/22/19 23:11	T1W	TAL SEA

**Client Sample ID: PZ-8-022019**

**Lab Sample ID: 580-84026-10**

Date Collected: 02/20/19 10:59

Matrix: Water

Date Received: 02/21/19 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			295001	02/22/19 08:59	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	295050	02/22/19 23:32	T1W	TAL SEA

**Client Sample ID: EW-1-022019**

**Lab Sample ID: 580-84026-11**

Date Collected: 02/20/19 11:39

Matrix: Water

Date Received: 02/21/19 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			295001	02/22/19 08:59	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	295050	02/22/19 23:54	T1W	TAL SEA

**Client Sample ID: 5-W-43-022019**

**Lab Sample ID: 580-84026-12**

Date Collected: 02/20/19 12:21

Matrix: Water

Date Received: 02/21/19 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			295001	02/22/19 08:59	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	295050	02/23/19 00:37	T1W	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

**Client Sample ID: GW-1-022019**

**Lab Sample ID: 580-84026-13**

**Date Collected: 02/20/19 13:06**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			295001	02/22/19 08:59	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	295050	02/23/19 00:59	T1W	TAL SEA

**Client Sample ID: GW-2-022019**

**Lab Sample ID: 580-84026-14**

**Date Collected: 02/20/19 14:32**

**Matrix: Water**

**Date Received: 02/21/19 14:45**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			295001	02/22/19 08:59	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	295050	02/23/19 01:21	T1W	TAL SEA

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

## Laboratory: TestAmerica Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C553	02-17-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

TestAmerica Job ID: 580-84026-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-84026-1	S2-AU-021919	Water	02/19/19 13:35	02/21/19 14:45
580-84026-2	S2-AD-021919	Water	02/19/19 13:40	02/21/19 14:45
580-84026-3	S2-BU-021919	Water	02/19/19 13:50	02/21/19 14:45
580-84026-4	S2-BD-021919	Water	02/19/19 13:51	02/21/19 14:45
580-84026-5	WG-WV-021919	Water	02/19/19 15:14	02/21/19 14:45
580-84026-6	WG-EV-021919	Water	02/19/19 15:05	02/21/19 14:45
580-84026-7	FWG-EV-021919	Water	02/19/19 15:50	02/21/19 14:45
580-84026-8	FWG-WV-021919	Water	02/19/19 15:55	02/21/19 14:45
580-84026-9	PZ-7S-022019	Water	02/20/19 10:07	02/21/19 14:45
580-84026-10	PZ-8-022019	Water	02/20/19 10:59	02/21/19 14:45
580-84026-11	EW-1-022019	Water	02/20/19 11:39	02/21/19 14:45
580-84026-12	5-W-43-022019	Water	02/20/19 12:21	02/21/19 14:45
580-84026-13	GW-1-022019	Water	02/20/19 13:06	02/21/19 14:45
580-84026-14	GW-2-022019	Water	02/20/19 14:32	02/21/19 14:45



# Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-84026-1

**Login Number: 84026**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Blankinship, Tom X**

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	seals present.
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?	True	
There are no discrepancies between the containers received and the COC.	False	sampling time on sample -14.
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-84844-1

Client Project/Site: BNSF Skykomish Monthly

For:

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Peter Kingston



Authorized for release by:  
3/28/2019 12:14:32 PM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions . . . . .	4
Client Sample Results . . . . .	5
QC Sample Results . . . . .	19
Chronicle . . . . .	21
Certification Summary . . . . .	24
Sample Summary . . . . .	25
Chain of Custody . . . . .	26
Receipt Checklists . . . . .	27

# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Job ID: 580-84844-1**

**Laboratory: TestAmerica Seattle**

## Narrative

**Job Narrative  
580-84844-1**

## Comments

No additional comments.

## Receipt

The samples were received on 3/22/2019 2:53 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 11 coolers at receipt time were 0.3° C, 0.6° C, 1.0° C, 1.0° C, 1.4° C, 1.4° C, 1.5° C, 1.5° C, 2.0° C, 2.6° C and 2.9° C.

## GC Semi VOA

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: WG-WV-031919 (580-84844-5), S2-BU-031919 (580-84844-6) and WG-EV-031919 (580-84844-12).

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

## Organic Prep

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

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

### 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
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: 5-W-43-031919**

**Lab Sample ID: 580-84844-1**

**Date Collected: 03/19/19 17:07**

**Matrix: Water**

**Date Received: 03/25/19 14:53**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		03/26/19 10:36	03/26/19 20:05	1
Motor Oil (>C24-C36)	ND		0.092	0.092	mg/L		03/26/19 10:36	03/26/19 20:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	97		50 - 150				03/26/19 10:36	03/26/19 20:05	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: EW-1-031919**

**Lab Sample ID: 580-84844-2**

**Date Collected: 03/19/19 16:36**

**Matrix: Water**

**Date Received: 03/25/19 14:53**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		03/26/19 10:36	03/26/19 20:25	1
Motor Oil (>C24-C36)	ND		0.092	0.092	mg/L		03/26/19 10:36	03/26/19 20:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	100		50 - 150				03/26/19 10:36	03/26/19 20:25	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: PZ-8-031919**

**Lab Sample ID: 580-84844-3**

**Date Collected: 03/19/19 15:45**

**Matrix: Water**

**Date Received: 03/25/19 14:53**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.063	0.063	mg/L		03/26/19 10:36	03/26/19 20:46	1
Motor Oil (>C24-C36)	ND		0.092	0.092	mg/L		03/26/19 10:36	03/26/19 20:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	89		50 - 150				03/26/19 10:36	03/26/19 20:46	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: FGW-WV-031919**

**Lab Sample ID: 580-84844-4**

**Date Collected: 03/19/19 15:00**

**Matrix: Water**

**Date Received: 03/25/19 14:53**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		03/26/19 10:36	03/26/19 21:06	1
Motor Oil (>C24-C36)	ND		0.092	0.092	mg/L		03/26/19 10:36	03/26/19 21:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	103		50 - 150				03/26/19 10:36	03/26/19 21:06	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: WG-WV-031919**

**Lab Sample ID: 580-84844-5**

Date Collected: 03/19/19 14:20

Matrix: Water

Date Received: 03/25/19 14:53

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.19		0.062	0.062	mg/L		03/26/19 10:36	03/26/19 21:26	1
Motor Oil (>C24-C36)	0.13		0.091	0.091	mg/L		03/26/19 10:36	03/26/19 21:26	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>o-Terphenyl</i>	92		50 - 150				03/26/19 10:36	03/26/19 21:26	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: S2-BU-031919**

**Lab Sample ID: 580-84844-6**

**Date Collected: 03/19/19 11:55**

**Matrix: Water**

**Date Received: 03/25/19 14:53**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.25		0.062	0.062	mg/L		03/26/19 10:36	03/26/19 21:46	1
Motor Oil (>C24-C36)	0.12		0.091	0.091	mg/L		03/26/19 10:36	03/26/19 21:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	84		50 - 150				03/26/19 10:36	03/26/19 21:46	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: S2-AD-031919**

**Lab Sample ID: 580-84844-7**

**Date Collected: 03/19/19 11:40**

**Matrix: Water**

**Date Received: 03/25/19 14:53**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.063	0.063	mg/L		03/27/19 07:11	03/27/19 18:23	1
Motor Oil (>C24-C36)	ND		0.093	0.093	mg/L		03/27/19 07:11	03/27/19 18:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	88		50 - 150				03/27/19 07:11	03/27/19 18:23	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: S2-AU-031919**

**Lab Sample ID: 580-84844-8**

**Date Collected: 03/19/19 11:18**

**Matrix: Water**

**Date Received: 03/25/19 14:53**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		03/26/19 10:36	03/26/19 22:46	1
Motor Oil (>C24-C36)	ND		0.092	0.092	mg/L		03/26/19 10:36	03/26/19 22:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	97		50 - 150				03/26/19 10:36	03/26/19 22:46	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: GW-1-031919**

**Lab Sample ID: 580-84844-9**

**Date Collected: 03/19/19 17:20**

**Matrix: Water**

**Date Received: 03/25/19 14:53**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		03/26/19 10:36	03/26/19 23:06	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		03/26/19 10:36	03/26/19 23:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	99		50 - 150				03/26/19 10:36	03/26/19 23:06	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: PZ-75-031919**

**Lab Sample ID: 580-84844-10**

**Date Collected: 03/19/19 16:11**

**Matrix: Water**

**Date Received: 03/25/19 14:53**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		03/26/19 10:36	03/26/19 23:26	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		03/26/19 10:36	03/26/19 23:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	93		50 - 150				03/26/19 10:36	03/26/19 23:26	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: FWG-EV-031919**

**Lab Sample ID: 580-84844-11**

**Date Collected: 03/19/19 14:38**

**Matrix: Water**

**Date Received: 03/25/19 14:53**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		03/26/19 10:36	03/26/19 23:47	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		03/26/19 10:36	03/26/19 23:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	100		50 - 150				03/26/19 10:36	03/26/19 23:47	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: WG-EV-031919**

**Lab Sample ID: 580-84844-12**

Date Collected: 03/19/19 14:25

Matrix: Water

Date Received: 03/25/19 14:53

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.52		0.062	0.062	mg/L		03/26/19 10:36	03/27/19 00:07	1
Motor Oil (>C24-C36)	0.28		0.092	0.092	mg/L		03/26/19 10:36	03/27/19 00:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	89		50 - 150				03/26/19 10:36	03/27/19 00:07	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: S2-BD-031919**

**Lab Sample ID: 580-84844-13**

**Date Collected: 03/19/19 12:18**

**Matrix: Water**

**Date Received: 03/25/19 14:53**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		03/26/19 10:36	03/27/19 00:27	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		03/26/19 10:36	03/27/19 00:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	95		50 - 150				03/26/19 10:36	03/27/19 00:27	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: GW-2-031919**

**Lab Sample ID: 580-84844-14**

**Date Collected: 03/19/19 17:54**

**Matrix: Water**

**Date Received: 03/25/19 14:53**

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		03/26/19 10:36	03/27/19 00:47	1
<b>Motor Oil (&gt;C24-C36)</b>	<b>0.11</b>		0.091	0.091	mg/L		03/26/19 10:36	03/27/19 00:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	107		50 - 150				03/26/19 10:36	03/27/19 00:47	1

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-297119/1-A**  
**Matrix: Water**  
**Analysis Batch: 297203**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 297119**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		03/26/19 10:36	03/26/19 19:05	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		03/26/19 10:36	03/26/19 19:05	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	106		50 - 150				03/26/19 10:36	03/26/19 19:05	1

**Lab Sample ID: LCS 580-297119/2-A**  
**Matrix: Water**  
**Analysis Batch: 297203**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 297119**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
#2 Diesel (C10-C24)	0.500	0.425		mg/L		85	50 - 120
Motor Oil (>C24-C36)	0.500	0.468		mg/L		94	64 - 120
Surrogate	%Recovery	LCS Qualifier	Limits				
<i>o</i> -Terphenyl	91		50 - 150				

**Lab Sample ID: LCSD 580-297119/3-A**  
**Matrix: Water**  
**Analysis Batch: 297203**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 297119**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	0.500	0.396		mg/L		79	50 - 120	7	26
Motor Oil (>C24-C36)	0.500	0.463		mg/L		93	64 - 120	1	24
Surrogate	%Recovery	LCSD Qualifier	Limits						
<i>o</i> -Terphenyl	82		50 - 150						

**Lab Sample ID: MB 580-297217/1-A**  
**Matrix: Water**  
**Analysis Batch: 297262**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 297217**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		03/27/19 07:11	03/27/19 17:16	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		03/27/19 07:11	03/27/19 17:16	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	103		50 - 150				03/27/19 07:11	03/27/19 17:16	1

**Lab Sample ID: LCS 580-297217/2-A**  
**Matrix: Water**  
**Analysis Batch: 297262**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 297217**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
#2 Diesel (C10-C24)	0.500	0.410		mg/L		82	50 - 120
Motor Oil (>C24-C36)	0.500	0.520		mg/L		104	64 - 120

TestAmerica Seattle

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

**Lab Sample ID: LCS 580-297217/2-A**

**Matrix: Water**

**Analysis Batch: 297262**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 297217**

<i>Surrogate</i>	<i>%Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
<i>o-Terphenyl</i>	94		50 - 150

**Lab Sample ID: LCSD 580-297217/3-A**

**Matrix: Water**

**Analysis Batch: 297262**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 297217**

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD Result</i>	<i>LCSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
#2 Diesel (C10-C24)	0.500	0.458		mg/L		92	50 - 120	11	26
Motor Oil (>C24-C36)	0.500	0.530		mg/L		106	64 - 120	2	24

<i>Surrogate</i>	<i>%Recovery</i>	<i>LCSD Qualifier</i>	<i>Limits</i>
<i>o-Terphenyl</i>	93		50 - 150

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

## Client Sample ID: 5-W-43-031919

Lab Sample ID: 580-84844-1

Date Collected: 03/19/19 17:07

Matrix: Water

Date Received: 03/25/19 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			297119	03/26/19 10:36	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	297203	03/26/19 20:05	JCM	TAL SEA

## Client Sample ID: EW-1-031919

Lab Sample ID: 580-84844-2

Date Collected: 03/19/19 16:36

Matrix: Water

Date Received: 03/25/19 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			297119	03/26/19 10:36	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	297203	03/26/19 20:25	JCM	TAL SEA

## Client Sample ID: PZ-8-031919

Lab Sample ID: 580-84844-3

Date Collected: 03/19/19 15:45

Matrix: Water

Date Received: 03/25/19 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			297119	03/26/19 10:36	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	297203	03/26/19 20:46	JCM	TAL SEA

## Client Sample ID: FGW-WV-031919

Lab Sample ID: 580-84844-4

Date Collected: 03/19/19 15:00

Matrix: Water

Date Received: 03/25/19 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			297119	03/26/19 10:36	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	297203	03/26/19 21:06	JCM	TAL SEA

## Client Sample ID: WG-WV-031919

Lab Sample ID: 580-84844-5

Date Collected: 03/19/19 14:20

Matrix: Water

Date Received: 03/25/19 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			297119	03/26/19 10:36	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	297203	03/26/19 21:26	JCM	TAL SEA

## Client Sample ID: S2-BU-031919

Lab Sample ID: 580-84844-6

Date Collected: 03/19/19 11:55

Matrix: Water

Date Received: 03/25/19 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			297119	03/26/19 10:36	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	297203	03/26/19 21:46	JCM	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

## Client Sample ID: S2-AD-031919

Lab Sample ID: 580-84844-7

Date Collected: 03/19/19 11:40

Matrix: Water

Date Received: 03/25/19 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			297217	03/27/19 07:11	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	297262	03/27/19 18:23	W1T	TAL SEA

## Client Sample ID: S2-AU-031919

Lab Sample ID: 580-84844-8

Date Collected: 03/19/19 11:18

Matrix: Water

Date Received: 03/25/19 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			297119	03/26/19 10:36	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	297203	03/26/19 22:46	JCM	TAL SEA

## Client Sample ID: GW-1-031919

Lab Sample ID: 580-84844-9

Date Collected: 03/19/19 17:20

Matrix: Water

Date Received: 03/25/19 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			297119	03/26/19 10:36	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	297203	03/26/19 23:06	JCM	TAL SEA

## Client Sample ID: PZ-75-031919

Lab Sample ID: 580-84844-10

Date Collected: 03/19/19 16:11

Matrix: Water

Date Received: 03/25/19 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			297119	03/26/19 10:36	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	297203	03/26/19 23:26	JCM	TAL SEA

## Client Sample ID: FWG-EV-031919

Lab Sample ID: 580-84844-11

Date Collected: 03/19/19 14:38

Matrix: Water

Date Received: 03/25/19 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			297119	03/26/19 10:36	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	297203	03/26/19 23:47	JCM	TAL SEA

## Client Sample ID: WG-EV-031919

Lab Sample ID: 580-84844-12

Date Collected: 03/19/19 14:25

Matrix: Water

Date Received: 03/25/19 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			297119	03/26/19 10:36	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	297203	03/27/19 00:07	JCM	TAL SEA

TestAmerica Seattle

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

**Client Sample ID: S2-BD-031919**

**Lab Sample ID: 580-84844-13**

**Date Collected: 03/19/19 12:18**

**Matrix: Water**

**Date Received: 03/25/19 14:53**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			297119	03/26/19 10:36	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	297203	03/27/19 00:27	JCM	TAL SEA

**Client Sample ID: GW-2-031919**

**Lab Sample ID: 580-84844-14**

**Date Collected: 03/19/19 17:54**

**Matrix: Water**

**Date Received: 03/25/19 14:53**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			297119	03/26/19 10:36	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	297203	03/27/19 00:47	JCM	TAL SEA

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

## Laboratory: TestAmerica Seattle

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-024	01-19-20
ANAB	DoD / DOE		L2236	01-19-22
ANAB	ISO/IEC 17025		L2236	01-19-22
California	State Program	9	2901	11-05-19
Montana (UST)	State Program	8	N/A	04-30-20
Nevada	State Program	9	WA000502019-1	07-31-19
Oregon	NELAP	10	WA100007	11-05-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-20

# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

TestAmerica Job ID: 580-84844-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-84844-1	5-W-43-031919	Water	03/19/19 17:07	03/25/19 14:53
580-84844-2	EW-1-031919	Water	03/19/19 16:36	03/25/19 14:53
580-84844-3	PZ-8-031919	Water	03/19/19 15:45	03/25/19 14:53
580-84844-4	FGW-WV-031919	Water	03/19/19 15:00	03/25/19 14:53
580-84844-5	WG-WV-031919	Water	03/19/19 14:20	03/25/19 14:53
580-84844-6	S2-BU-031919	Water	03/19/19 11:55	03/25/19 14:53
580-84844-7	S2-AD-031919	Water	03/19/19 11:40	03/25/19 14:53
580-84844-8	S2-AU-031919	Water	03/19/19 11:18	03/25/19 14:53
580-84844-9	GW-1-031919	Water	03/19/19 17:20	03/25/19 14:53
580-84844-10	PZ-75-031919	Water	03/19/19 16:11	03/25/19 14:53
580-84844-11	FWG-EV-031919	Water	03/19/19 14:38	03/25/19 14:53
580-84844-12	WG-EV-031919	Water	03/19/19 14:25	03/25/19 14:53
580-84844-13	S2-BD-031919	Water	03/19/19 12:18	03/25/19 14:53
580-84844-14	GW-2-031919	Water	03/19/19 17:54	03/25/19 14:53



## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-84844-1

**Login Number: 84844**

**List Source: TestAmerica Seattle**

**List Number: 1**

**Creator: Luna, Francisco J**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
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.	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 $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Eurofins TestAmerica, Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

Laboratory Job ID: 580-85506-1

Client Project/Site: BNSF Skykomish Ground Water  
Sampling Event: Skykomish HCC System

**For:**

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Peter Kingston



Authorized for release by:  
4/25/2019 4:05:45 PM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions . . . . .	4
Client Sample Results . . . . .	5
QC Sample Results . . . . .	19
Chronicle . . . . .	21
Certification Summary . . . . .	24
Sample Summary . . . . .	25
Chain of Custody . . . . .	26
Receipt Checklists . . . . .	27

# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

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**Job ID: 580-85506-1**

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**Laboratory: Eurofins TestAmerica, Seattle**

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**Narrative**

**Job Narrative  
580-85506-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 4/17/2019 1:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were -0.1° C, 0.1° C and 1.4° C.

**GC Semi VOA**

Method(s) NWTPH-Dx: The following sample contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: PZ-7S-041619 (580-85506-13).

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

**Organic Prep**

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



## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: S2-BU-041619**

**Lab Sample ID: 580-85506-1**

Date Collected: 04/16/19 10:30

Matrix: Water

Date Received: 04/17/19 13:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.38		0.062	0.062	mg/L		04/22/19 09:30	04/22/19 23:02	1
Motor Oil (>C24-C36)	0.38		0.091	0.091	mg/L		04/22/19 09:30	04/22/19 23:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	94		50 - 150				04/22/19 09:30	04/22/19 23:02	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: S2-BD-041619**

**Lab Sample ID: 580-85506-2**

Date Collected: 04/16/19 10:30

Matrix: Water

Date Received: 04/17/19 13:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		04/22/19 09:30	04/22/19 23:24	1
Motor Oil (>C24-C36)	ND		0.092	0.092	mg/L		04/22/19 09:30	04/22/19 23:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	88		50 - 150				04/22/19 09:30	04/22/19 23:24	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: S2-AU-041619**

**Lab Sample ID: 580-85506-3**

Date Collected: 04/16/19 10:40

Matrix: Water

Date Received: 04/17/19 13:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		04/22/19 09:30	04/22/19 23:46	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		04/22/19 09:30	04/22/19 23:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	94		50 - 150				04/22/19 09:30	04/22/19 23:46	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: S2-AD-041619**

**Lab Sample ID: 580-85506-4**

Date Collected: 04/16/19 11:03

Matrix: Water

Date Received: 04/17/19 13:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		04/22/19 09:30	04/23/19 00:07	1
Motor Oil (>C24-C36)	ND		0.092	0.092	mg/L		04/22/19 09:30	04/23/19 00:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	86		50 - 150				04/22/19 09:30	04/23/19 00:07	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: WG-EV-041619**

**Lab Sample ID: 580-85506-5**

Date Collected: 04/16/19 11:10

Matrix: Water

Date Received: 04/17/19 13:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.50		0.062	0.062	mg/L		04/22/19 09:30	04/23/19 00:29	1
Motor Oil (>C24-C36)	0.50		0.092	0.092	mg/L		04/22/19 09:30	04/23/19 00:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	85		50 - 150				04/22/19 09:30	04/23/19 00:29	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: WG-WV-041619**

**Lab Sample ID: 580-85506-6**

Date Collected: 04/16/19 11:25

Matrix: Water

Date Received: 04/17/19 13:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.17		0.062	0.062	mg/L		04/22/19 09:30	04/23/19 00:51	1
Motor Oil (>C24-C36)	0.25		0.092	0.092	mg/L		04/22/19 09:30	04/23/19 00:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	90		50 - 150				04/22/19 09:30	04/23/19 00:51	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: FWG-EV-041619**

**Lab Sample ID: 580-85506-7**

Date Collected: 04/16/19 12:00

Matrix: Water

Date Received: 04/17/19 13:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		04/22/19 09:30	04/23/19 01:13	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		04/22/19 09:30	04/23/19 01:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	92		50 - 150				04/22/19 09:30	04/23/19 01:13	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: FWG-WV-041619**

**Lab Sample ID: 580-85506-8**

Date Collected: 04/16/19 12:05

Matrix: Water

Date Received: 04/17/19 13:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		04/22/19 09:30	04/23/19 01:57	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		04/22/19 09:30	04/23/19 01:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	86		50 - 150				04/22/19 09:30	04/23/19 01:57	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: 5-W-43-041619**

**Lab Sample ID: 580-85506-9**

Date Collected: 04/16/19 13:54

Matrix: Water

Date Received: 04/17/19 13:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		04/22/19 09:30	04/23/19 02:18	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		04/22/19 09:30	04/23/19 02:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	91		50 - 150				04/22/19 09:30	04/23/19 02:18	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: EW-1-041619**

**Lab Sample ID: 580-85506-10**

Date Collected: 04/16/19 14:07

Matrix: Water

Date Received: 04/17/19 13:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		04/24/19 10:53	04/24/19 17:48	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		04/24/19 10:53	04/24/19 17:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	94		50 - 150				04/24/19 10:53	04/24/19 17:48	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: PZ-8-041619**

**Lab Sample ID: 580-85506-11**

Date Collected: 04/16/19 14:35

Matrix: Water

Date Received: 04/17/19 13:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		04/24/19 10:53	04/24/19 18:09	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		04/24/19 10:53	04/24/19 18:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	93		50 - 150				04/24/19 10:53	04/24/19 18:09	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: GW-1-041619**

**Lab Sample ID: 580-85506-12**

Date Collected: 04/16/19 14:46

Matrix: Water

Date Received: 04/17/19 13:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		04/24/19 10:53	04/24/19 18:31	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		04/24/19 10:53	04/24/19 18:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	93		50 - 150				04/24/19 10:53	04/24/19 18:31	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: PZ-7S-041619**

**Lab Sample ID: 580-85506-13**

Date Collected: 04/16/19 15:24

Matrix: Water

Date Received: 04/17/19 13:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.092		0.062	0.062	mg/L		04/24/19 10:53	04/24/19 18:54	1
Motor Oil (>C24-C36)	0.18		0.091	0.091	mg/L		04/24/19 10:53	04/24/19 18:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150				04/24/19 10:53	04/24/19 18:54	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: GW-2-041619**

**Lab Sample ID: 580-85506-14**

Date Collected: 04/16/19 15:40

Matrix: Water

Date Received: 04/17/19 13:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		04/24/19 10:53	04/24/19 19:15	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		04/24/19 10:53	04/24/19 19:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	96		50 - 150				04/24/19 10:53	04/24/19 19:15	1

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-299050/1-A**

**Matrix: Water**

**Analysis Batch: 299039**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 299050**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		04/22/19 09:30	04/22/19 21:57	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		04/22/19 09:30	04/22/19 21:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
<i>o</i> -Terphenyl	101		50 - 150			04/22/19 09:30	04/22/19 21:57	1	

**Lab Sample ID: LCS 580-299050/2-A**

**Matrix: Water**

**Analysis Batch: 299039**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 299050**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
#2 Diesel (C10-C24)	0.500	0.460		mg/L		92	50 - 120
Motor Oil (>C24-C36)	0.500	0.471		mg/L		94	64 - 120
Surrogate	%Recovery	Qualifier	Limits				
<i>o</i> -Terphenyl	88		50 - 150				

**Lab Sample ID: LCSD 580-299050/3-A**

**Matrix: Water**

**Analysis Batch: 299039**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 299050**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
#2 Diesel (C10-C24)	0.500	0.451		mg/L		90	50 - 120	2	26
Motor Oil (>C24-C36)	0.500	0.499		mg/L		100	64 - 120	6	24
Surrogate	%Recovery	Qualifier	Limits						
<i>o</i> -Terphenyl	89		50 - 150						

**Lab Sample ID: MB 580-299241/1-A**

**Matrix: Water**

**Analysis Batch: 299301**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 299241**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		04/24/19 10:53	04/24/19 16:42	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		04/24/19 10:53	04/24/19 16:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
<i>o</i> -Terphenyl	96		50 - 150			04/24/19 10:53	04/24/19 16:42	1	

**Lab Sample ID: LCS 580-299241/2-A**

**Matrix: Water**

**Analysis Batch: 299301**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 299241**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
#2 Diesel (C10-C24)	0.500	0.451		mg/L		90	50 - 120
Motor Oil (>C24-C36)	0.500	0.460		mg/L		92	64 - 120

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

**Lab Sample ID: LCS 580-299241/2-A**

**Matrix: Water**

**Analysis Batch: 299301**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 299241**

	LCS	LCS	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>o-Terphenyl</i>	92		50 - 150

**Lab Sample ID: LCSD 580-299241/3-A**

**Matrix: Water**

**Analysis Batch: 299301**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 299241**

		Spike		LCSD	LCSD				%Rec.		RPD
<i>Analyte</i>	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>	<i>RPD</i>	<i>Limit</i>		
#2 Diesel (C10-C24)	0.500	0.417		mg/L	-	83	50 - 120	8	26		
Motor Oil (>C24-C36)	0.500	0.465		mg/L	-	93	64 - 120	1	24		

	LCSD	LCSD	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>o-Terphenyl</i>	92		50 - 150

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: S2-BU-041619**

**Lab Sample ID: 580-85506-1**

Date Collected: 04/16/19 10:30

Matrix: Water

Date Received: 04/17/19 13:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299050	04/22/19 09:30	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299039	04/22/19 23:02	CJ	TAL SEA

**Client Sample ID: S2-BD-041619**

**Lab Sample ID: 580-85506-2**

Date Collected: 04/16/19 10:30

Matrix: Water

Date Received: 04/17/19 13:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299050	04/22/19 09:30	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299039	04/22/19 23:24	CJ	TAL SEA

**Client Sample ID: S2-AU-041619**

**Lab Sample ID: 580-85506-3**

Date Collected: 04/16/19 10:40

Matrix: Water

Date Received: 04/17/19 13:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299050	04/22/19 09:30	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299039	04/22/19 23:46	CJ	TAL SEA

**Client Sample ID: S2-AD-041619**

**Lab Sample ID: 580-85506-4**

Date Collected: 04/16/19 11:03

Matrix: Water

Date Received: 04/17/19 13:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299050	04/22/19 09:30	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299039	04/23/19 00:07	CJ	TAL SEA

**Client Sample ID: WG-EV-041619**

**Lab Sample ID: 580-85506-5**

Date Collected: 04/16/19 11:10

Matrix: Water

Date Received: 04/17/19 13:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299050	04/22/19 09:30	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299039	04/23/19 00:29	CJ	TAL SEA

**Client Sample ID: WG-WV-041619**

**Lab Sample ID: 580-85506-6**

Date Collected: 04/16/19 11:25

Matrix: Water

Date Received: 04/17/19 13:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299050	04/22/19 09:30	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299039	04/23/19 00:51	CJ	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: FWG-EV-041619**

**Lab Sample ID: 580-85506-7**

Date Collected: 04/16/19 12:00

Matrix: Water

Date Received: 04/17/19 13:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299050	04/22/19 09:30	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299039	04/23/19 01:13	CJ	TAL SEA

**Client Sample ID: FWG-WV-041619**

**Lab Sample ID: 580-85506-8**

Date Collected: 04/16/19 12:05

Matrix: Water

Date Received: 04/17/19 13:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299050	04/22/19 09:30	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299039	04/23/19 01:57	CJ	TAL SEA

**Client Sample ID: 5-W-43-041619**

**Lab Sample ID: 580-85506-9**

Date Collected: 04/16/19 13:54

Matrix: Water

Date Received: 04/17/19 13:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299050	04/22/19 09:30	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299039	04/23/19 02:18	CJ	TAL SEA

**Client Sample ID: EW-1-041619**

**Lab Sample ID: 580-85506-10**

Date Collected: 04/16/19 14:07

Matrix: Water

Date Received: 04/17/19 13:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299241	04/24/19 10:53	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299301	04/24/19 17:48	ERZ	TAL SEA

**Client Sample ID: PZ-8-041619**

**Lab Sample ID: 580-85506-11**

Date Collected: 04/16/19 14:35

Matrix: Water

Date Received: 04/17/19 13:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299241	04/24/19 10:53	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299301	04/24/19 18:09	ERZ	TAL SEA

**Client Sample ID: GW-1-041619**

**Lab Sample ID: 580-85506-12**

Date Collected: 04/16/19 14:46

Matrix: Water

Date Received: 04/17/19 13:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299241	04/24/19 10:53	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299301	04/24/19 18:31	ERZ	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

**Client Sample ID: PZ-7S-041619**

**Lab Sample ID: 580-85506-13**

Date Collected: 04/16/19 15:24

Matrix: Water

Date Received: 04/17/19 13:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299241	04/24/19 10:53	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299301	04/24/19 18:54	ERZ	TAL SEA

**Client Sample ID: GW-2-041619**

**Lab Sample ID: 580-85506-14**

Date Collected: 04/16/19 15:40

Matrix: Water

Date Received: 04/17/19 13:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			299241	04/24/19 10:53	KO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	299301	04/24/19 19:15	ERZ	TAL SEA

**Laboratory References:**

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



# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

## Laboratory: Eurofins TestAmerica, Seattle

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-024	01-19-20
ANAB	DoD / DOE		L2236	01-19-22
ANAB	ISO/IEC 17025		L2236	01-19-22
California	State Program	9	2901	11-05-19
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-20

# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-85506-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-85506-1	S2-BU-041619	Water	04/16/19 10:30	04/17/19 13:05
580-85506-2	S2-BD-041619	Water	04/16/19 10:30	04/17/19 13:05
580-85506-3	S2-AU-041619	Water	04/16/19 10:40	04/17/19 13:05
580-85506-4	S2-AD-041619	Water	04/16/19 11:03	04/17/19 13:05
580-85506-5	WG-EV-041619	Water	04/16/19 11:10	04/17/19 13:05
580-85506-6	WG-WV-041619	Water	04/16/19 11:25	04/17/19 13:05
580-85506-7	FWG-EV-041619	Water	04/16/19 12:00	04/17/19 13:05
580-85506-8	FWG-WV-041619	Water	04/16/19 12:05	04/17/19 13:05
580-85506-9	5-W-43-041619	Water	04/16/19 13:54	04/17/19 13:05
580-85506-10	EW-1-041619	Water	04/16/19 14:07	04/17/19 13:05
580-85506-11	PZ-8-041619	Water	04/16/19 14:35	04/17/19 13:05
580-85506-12	GW-1-041619	Water	04/16/19 14:46	04/17/19 13:05
580-85506-13	PZ-7S-041619	Water	04/16/19 15:24	04/17/19 13:05
580-85506-14	GW-2-041619	Water	04/16/19 15:40	04/17/19 13:05



## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-85506-1

**Login Number: 85506**

**List Source: Eurofins TestAmerica, Seattle**

**List Number: 1**

**Creator: Blankinship, Tom X**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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?	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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	Insufficient volume received for MS/MSD.
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins TestAmerica, Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

Laboratory Job ID: 580-86180-1

Client Project/Site: BNSF Skykomish Ground Water

**For:**

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Peter Kingston



Authorized for release by:  
5/20/2019 10:37:55 AM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
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[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions . . . . .	4
Client Sample Results . . . . .	5
QC Sample Results . . . . .	19
Chronicle . . . . .	20
Certification Summary . . . . .	23
Sample Summary . . . . .	24
Chain of Custody . . . . .	25
Receipt Checklists . . . . .	26

# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

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**Job ID: 580-86180-1**

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**Laboratory: Eurofins TestAmerica, Seattle**

## Narrative

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### Job Narrative 580-86180-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 5/15/2019 1:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.8° C, 0.8° C and 0.8° C.

#### GC Semi VOA

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: S2-BU-051419 (580-86180-3), WG-EV-051419 (580-86180-6) and WG-WV-051419 (580-86180-7).

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

#### Organic Prep

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

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: S2-BD-051419**

**Lab Sample ID: 580-86180-1**

Date Collected: 05/14/19 09:40

Matrix: Water

Date Received: 05/15/19 13:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		05/19/19 10:12	05/19/19 16:03	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		05/19/19 10:12	05/19/19 16:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	92		50 - 150				05/19/19 10:12	05/19/19 16:03	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: GW-2-051419**

**Lab Sample ID: 580-86180-2**

Date Collected: 05/14/19 09:52

Matrix: Water

Date Received: 05/15/19 13:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		05/19/19 10:12	05/19/19 16:23	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		05/19/19 10:12	05/19/19 16:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	96		50 - 150				05/19/19 10:12	05/19/19 16:23	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: S2-BU-051419**

**Lab Sample ID: 580-86180-3**

Date Collected: 05/14/19 10:15

Matrix: Water

Date Received: 05/15/19 13:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.28		0.061	0.061	mg/L		05/19/19 10:12	05/19/19 16:44	1
Motor Oil (>C24-C36)	0.13		0.091	0.091	mg/L		05/19/19 10:12	05/19/19 16:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150				05/19/19 10:12	05/19/19 16:44	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: S2-AD-051419**

**Lab Sample ID: 580-86180-4**

Date Collected: 05/14/19 10:30

Matrix: Water

Date Received: 05/15/19 13:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		05/19/19 10:12	05/19/19 17:04	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		05/19/19 10:12	05/19/19 17:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	102		50 - 150				05/19/19 10:12	05/19/19 17:04	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: S2-AU-051419**

**Lab Sample ID: 580-86180-5**

Date Collected: 05/14/19 10:50

Matrix: Water

Date Received: 05/15/19 13:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		05/19/19 10:12	05/19/19 17:24	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		05/19/19 10:12	05/19/19 17:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	105		50 - 150				05/19/19 10:12	05/19/19 17:24	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: WG-EV-051419**

**Lab Sample ID: 580-86180-6**

Date Collected: 05/14/19 11:26

Matrix: Water

Date Received: 05/15/19 13:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.52		0.062	0.062	mg/L		05/19/19 10:12	05/19/19 17:44	1
Motor Oil (>C24-C36)	0.31		0.091	0.091	mg/L		05/19/19 10:12	05/19/19 17:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	103		50 - 150				05/19/19 10:12	05/19/19 17:44	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: WG-WV-051419**

**Lab Sample ID: 580-86180-7**

Date Collected: 05/14/19 11:26

Matrix: Water

Date Received: 05/15/19 13:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.22		0.062	0.062	mg/L		05/19/19 10:12	05/19/19 18:04	1
Motor Oil (>C24-C36)	0.21		0.091	0.091	mg/L		05/19/19 10:12	05/19/19 18:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	89		50 - 150				05/19/19 10:12	05/19/19 18:04	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: P2-7S-051419**

**Lab Sample ID: 580-86180-8**

Date Collected: 05/14/19 12:42

Matrix: Water

Date Received: 05/15/19 13:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		05/19/19 10:12	05/19/19 18:44	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		05/19/19 10:12	05/19/19 18:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	99		50 - 150				05/19/19 10:12	05/19/19 18:44	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: FWG-WV-051419**

**Lab Sample ID: 580-86180-9**

Date Collected: 05/14/19 13:40

Matrix: Water

Date Received: 05/15/19 13:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		05/19/19 10:12	05/19/19 19:05	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		05/19/19 10:12	05/19/19 19:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	96		50 - 150				05/19/19 10:12	05/19/19 19:05	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: FWG-EV-051419**

**Lab Sample ID: 580-86180-10**

Date Collected: 05/14/19 13:40

Matrix: Water

Date Received: 05/15/19 13:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		05/19/19 10:12	05/19/19 19:25	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		05/19/19 10:12	05/19/19 19:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	102		50 - 150				05/19/19 10:12	05/19/19 19:25	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: P2-8-051419**

**Lab Sample ID: 580-86180-11**

Date Collected: 05/14/19 14:39

Matrix: Water

Date Received: 05/15/19 13:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		05/19/19 10:12	05/19/19 19:45	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		05/19/19 10:12	05/19/19 19:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	103		50 - 150				05/19/19 10:12	05/19/19 19:45	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: EW-1-051419**

**Lab Sample ID: 580-86180-12**

Date Collected: 05/14/19 15:04

Matrix: Water

Date Received: 05/15/19 13:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		05/19/19 10:12	05/19/19 20:05	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		05/19/19 10:12	05/19/19 20:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	91		50 - 150				05/19/19 10:12	05/19/19 20:05	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: 5-W-43-051419**

**Lab Sample ID: 580-86180-13**

Date Collected: 05/14/19 15:49

Matrix: Water

Date Received: 05/15/19 13:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		05/19/19 10:12	05/19/19 20:25	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		05/19/19 10:12	05/19/19 20:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	101		50 - 150				05/19/19 10:12	05/19/19 20:25	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: GW-1-051419**

**Lab Sample ID: 580-86180-14**

Date Collected: 05/14/19 16:26

Matrix: Water

Date Received: 05/15/19 13:30

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		05/19/19 10:12	05/19/19 20:45	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		05/19/19 10:12	05/19/19 20:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	103		50 - 150				05/19/19 10:12	05/19/19 20:45	1

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-301025/1-A**

**Matrix: Water**

**Analysis Batch: 301027**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 301025**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		05/19/19 10:12	05/19/19 15:03	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		05/19/19 10:12	05/19/19 15:03	1
Surrogate	MB	MB	Limits			D	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
<i>o</i> -Terphenyl	102		50 - 150				05/19/19 10:12	05/19/19 15:03	1

**Lab Sample ID: LCS 580-301025/2-A**

**Matrix: Water**

**Analysis Batch: 301027**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 301025**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
#2 Diesel (C10-C24)	0.500	0.459		mg/L		92	50 - 120
Motor Oil (>C24-C36)	0.500	0.495		mg/L		99	64 - 120
Surrogate	LCS	LCS	Limits			D	%Rec. Limits
	%Recovery	Qualifier					
<i>o</i> -Terphenyl	84		50 - 150				

**Lab Sample ID: LCSD 580-301025/3-A**

**Matrix: Water**

**Analysis Batch: 301027**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 301025**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
#2 Diesel (C10-C24)	0.500	0.456		mg/L		91	50 - 120	0	26
Motor Oil (>C24-C36)	0.500	0.472		mg/L		94	64 - 120	5	24
Surrogate	LCSD	LCSD	Limits			D	%Rec. Limits	RPD	
	%Recovery	Qualifier							
<i>o</i> -Terphenyl	85		50 - 150						

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

## Client Sample ID: S2-BD-051419

Lab Sample ID: 580-86180-1

Date Collected: 05/14/19 09:40

Matrix: Water

Date Received: 05/15/19 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301025	05/19/19 10:12	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	301027	05/19/19 16:03	W1T	TAL SEA

## Client Sample ID: GW-2-051419

Lab Sample ID: 580-86180-2

Date Collected: 05/14/19 09:52

Matrix: Water

Date Received: 05/15/19 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301025	05/19/19 10:12	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	301027	05/19/19 16:23	W1T	TAL SEA

## Client Sample ID: S2-BU-051419

Lab Sample ID: 580-86180-3

Date Collected: 05/14/19 10:15

Matrix: Water

Date Received: 05/15/19 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301025	05/19/19 10:12	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	301027	05/19/19 16:44	W1T	TAL SEA

## Client Sample ID: S2-AD-051419

Lab Sample ID: 580-86180-4

Date Collected: 05/14/19 10:30

Matrix: Water

Date Received: 05/15/19 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301025	05/19/19 10:12	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	301027	05/19/19 17:04	W1T	TAL SEA

## Client Sample ID: S2-AU-051419

Lab Sample ID: 580-86180-5

Date Collected: 05/14/19 10:50

Matrix: Water

Date Received: 05/15/19 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301025	05/19/19 10:12	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	301027	05/19/19 17:24	W1T	TAL SEA

## Client Sample ID: WG-EV-051419

Lab Sample ID: 580-86180-6

Date Collected: 05/14/19 11:26

Matrix: Water

Date Received: 05/15/19 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301025	05/19/19 10:12	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	301027	05/19/19 17:44	W1T	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: WG-WV-051419**

**Lab Sample ID: 580-86180-7**

Date Collected: 05/14/19 11:26

Matrix: Water

Date Received: 05/15/19 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301025	05/19/19 10:12	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	301027	05/19/19 18:04	W1T	TAL SEA

**Client Sample ID: P2-7S-051419**

**Lab Sample ID: 580-86180-8**

Date Collected: 05/14/19 12:42

Matrix: Water

Date Received: 05/15/19 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301025	05/19/19 10:12	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	301027	05/19/19 18:44	W1T	TAL SEA

**Client Sample ID: FWG-WV-051419**

**Lab Sample ID: 580-86180-9**

Date Collected: 05/14/19 13:40

Matrix: Water

Date Received: 05/15/19 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301025	05/19/19 10:12	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	301027	05/19/19 19:05	W1T	TAL SEA

**Client Sample ID: FWG-EV-051419**

**Lab Sample ID: 580-86180-10**

Date Collected: 05/14/19 13:40

Matrix: Water

Date Received: 05/15/19 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301025	05/19/19 10:12	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	301027	05/19/19 19:25	W1T	TAL SEA

**Client Sample ID: P2-8-051419**

**Lab Sample ID: 580-86180-11**

Date Collected: 05/14/19 14:39

Matrix: Water

Date Received: 05/15/19 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301025	05/19/19 10:12	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	301027	05/19/19 19:45	W1T	TAL SEA

**Client Sample ID: EW-1-051419**

**Lab Sample ID: 580-86180-12**

Date Collected: 05/14/19 15:04

Matrix: Water

Date Received: 05/15/19 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301025	05/19/19 10:12	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	301027	05/19/19 20:05	W1T	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

**Client Sample ID: 5-W-43-051419**

**Lab Sample ID: 580-86180-13**

Date Collected: 05/14/19 15:49

Matrix: Water

Date Received: 05/15/19 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301025	05/19/19 10:12	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	301027	05/19/19 20:25	W1T	TAL SEA

**Client Sample ID: GW-1-051419**

**Lab Sample ID: 580-86180-14**

Date Collected: 05/14/19 16:26

Matrix: Water

Date Received: 05/15/19 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			301025	05/19/19 10:12	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	301027	05/19/19 20:45	W1T	TAL SEA

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

## Laboratory: Eurofins TestAmerica, Seattle

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-024	01-19-20
ANAB	DoD		L2236	01-19-22
ANAB	ISO/IEC 17025		L2236	01-19-22
California	State Program	9	2901	11-05-19
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-20

# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-86180-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-86180-1	S2-BD-051419	Water	05/14/19 09:40	05/15/19 13:30
580-86180-2	GW-2-051419	Water	05/14/19 09:52	05/15/19 13:30
580-86180-3	S2-BU-051419	Water	05/14/19 10:15	05/15/19 13:30
580-86180-4	S2-AD-051419	Water	05/14/19 10:30	05/15/19 13:30
580-86180-5	S2-AU-051419	Water	05/14/19 10:50	05/15/19 13:30
580-86180-6	WG-EV-051419	Water	05/14/19 11:26	05/15/19 13:30
580-86180-7	WG-WV-051419	Water	05/14/19 11:26	05/15/19 13:30
580-86180-8	P2-7S-051419	Water	05/14/19 12:42	05/15/19 13:30
580-86180-9	FWG-WV-051419	Water	05/14/19 13:40	05/15/19 13:30
580-86180-10	FWG-EV-051419	Water	05/14/19 13:40	05/15/19 13:30
580-86180-11	P2-8-051419	Water	05/14/19 14:39	05/15/19 13:30
580-86180-12	EW-1-051419	Water	05/14/19 15:04	05/15/19 13:30
580-86180-13	5-W-43-051419	Water	05/14/19 15:49	05/15/19 13:30
580-86180-14	GW-1-051419	Water	05/14/19 16:26	05/15/19 13:30



## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-86180-1

**Login Number: 86180**

**List Number: 1**

**Creator: Vallelunga, Diana L**

**List Source: Eurofins TestAmerica, Seattle**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
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?	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.	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 $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins TestAmerica, Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

Laboratory Job ID: 580-87060-1  
Client Project/Site: BNSF Skykomish Monthly

For:  
Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Peter Kingston



Authorized for release by:  
7/3/2019 10:21:09 AM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions . . . . .	4
Client Sample Results . . . . .	5
QC Sample Results . . . . .	20
Chronicle . . . . .	21
Certification Summary . . . . .	24
Sample Summary . . . . .	25
Chain of Custody . . . . .	26
Receipt Checklists . . . . .	27

# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

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## Job ID: 580-87060-1

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Laboratory: Eurofins TestAmerica, Seattle

### Narrative

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#### Job Narrative 580-87060-1

### Comments

No additional comments.

### Receipt

The samples were received on 6/20/2019 2:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.2° C, 1.4° C and 3.7° C.

### GC Semi VOA

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: S2-BU-061819 (580-87060-10), WG-WV-061819 (580-87060-12), WG-EV-061819 (580-87060-13) and FWG-EV-061819 (580-87060-14).

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

### Organic Prep

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

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: GW-1-061819**

**Lab Sample ID: 580-87060-1**

Date Collected: 06/18/19 09:51

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		07/01/19 15:37	07/02/19 16:26	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		07/01/19 15:37	07/02/19 16:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	92		50 - 150				07/01/19 15:37	07/02/19 16:26	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: PZ-7S-061819**

**Lab Sample ID: 580-87060-2**

Date Collected: 06/18/19 10:00

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.063		mg/L		07/01/19 15:37	07/02/19 16:48	1
Motor Oil (>C24-C36)	ND		0.092		mg/L		07/01/19 15:37	07/02/19 16:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	100		50 - 150				07/01/19 15:37	07/02/19 16:48	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: PZ-8-061819**

**Lab Sample ID: 580-87060-3**

Date Collected: 06/18/19 11:15

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		07/01/19 15:37	07/02/19 17:10	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		07/01/19 15:37	07/02/19 17:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	96		50 - 150				07/01/19 15:37	07/02/19 17:10	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: S-W-43-061819**

**Lab Sample ID: 580-87060-4**

Date Collected: 06/18/19 11:16

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		07/01/19 15:37	07/02/19 17:32	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		07/01/19 15:37	07/02/19 17:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	91		50 - 150				07/01/19 15:37	07/02/19 17:32	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: EW-1-061819**

**Lab Sample ID: 580-87060-5**

Date Collected: 06/18/19 14:18

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		07/01/19 15:37	07/02/19 17:53	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		07/01/19 15:37	07/02/19 17:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	93		50 - 150				07/01/19 15:37	07/02/19 17:53	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: GW-2-061819**

**Lab Sample ID: 580-87060-6**

Date Collected: 06/18/19 14:35

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.063		mg/L		07/01/19 15:37	07/02/19 18:15	1
Motor Oil (>C24-C36)	ND		0.093		mg/L		07/01/19 15:37	07/02/19 18:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	88		50 - 150				07/01/19 15:37	07/02/19 18:15	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: GW-20-061819**

**Lab Sample ID: 580-87060-7**

Date Collected: 06/18/19 14:45

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		07/01/19 15:37	07/02/19 18:37	1
Motor Oil (>C24-C36)	ND		0.092		mg/L		07/01/19 15:37	07/02/19 18:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	91		50 - 150				07/01/19 15:37	07/02/19 18:37	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: S2-BD-061819**

**Lab Sample ID: 580-87060-8**

Date Collected: 06/18/19 14:57

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		07/01/19 15:37	07/02/19 19:21	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		07/01/19 15:37	07/02/19 19:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	94		50 - 150				07/01/19 15:37	07/02/19 19:21	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: S2-AU-061819**

**Lab Sample ID: 580-87060-9**

Date Collected: 06/18/19 15:12

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.064		mg/L		07/01/19 15:37	07/02/19 19:43	1
Motor Oil (>C24-C36)	ND		0.095		mg/L		07/01/19 15:37	07/02/19 19:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	82		50 - 150				07/01/19 15:37	07/02/19 19:43	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: S2-BU-061819**

**Lab Sample ID: 580-87060-10**

Date Collected: 06/18/19 15:30

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.19		0.062		mg/L		07/01/19 15:37	07/02/19 20:05	1
Motor Oil (>C24-C36)	0.16		0.091		mg/L		07/01/19 15:37	07/02/19 20:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	79		50 - 150				07/01/19 15:37	07/02/19 20:05	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: S2-AD-061819**

**Lab Sample ID: 580-87060-11**

Date Collected: 06/18/19 15:39

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		07/01/19 15:37	07/02/19 20:27	1
Motor Oil (>C24-C36)	ND		0.092		mg/L		07/01/19 15:37	07/02/19 20:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	96		50 - 150				07/01/19 15:37	07/02/19 20:27	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: WG-WV-061819**

**Lab Sample ID: 580-87060-12**

Date Collected: 06/18/19 16:05

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		07/01/19 15:37	07/02/19 20:49	1
<b>Motor Oil (&gt;C24-C36)</b>	<b>0.099</b>		0.091		mg/L		07/01/19 15:37	07/02/19 20:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	83		50 - 150				07/01/19 15:37	07/02/19 20:49	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: WG-EV-061819**

**Lab Sample ID: 580-87060-13**

Date Collected: 06/18/19 16:10

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.39		0.063		mg/L		07/01/19 15:37	07/02/19 21:11	1
Motor Oil (>C24-C36)	0.34		0.092		mg/L		07/01/19 15:37	07/02/19 21:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	82		50 - 150				07/01/19 15:37	07/02/19 21:11	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: FWG-EV-061819**

**Lab Sample ID: 580-87060-14**

Date Collected: 06/18/19 16:48

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.068		0.062		mg/L		07/01/19 15:37	07/02/19 21:33	1
Motor Oil (>C24-C36)	0.20		0.092		mg/L		07/01/19 15:37	07/02/19 21:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	88		50 - 150				07/01/19 15:37	07/02/19 21:33	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: FWG-WV-061819**

**Lab Sample ID: 580-87060-15**

Date Collected: 06/18/19 16:52

Matrix: Water

Date Received: 06/20/19 14:05

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		07/01/19 15:37	07/02/19 21:55	1
Motor Oil (>C24-C36)	ND		0.092		mg/L		07/01/19 15:37	07/02/19 21:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	88		50 - 150				07/01/19 15:37	07/02/19 21:55	1

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-304552/1-A**  
**Matrix: Water**  
**Analysis Batch: 304632**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 304552**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		0.065		mg/L		07/01/19 15:37	07/02/19 15:20	1
Motor Oil (>C24-C36)	ND		0.096		mg/L		07/01/19 15:37	07/02/19 15:20	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac	
o-Terphenyl	89		50 - 150			07/01/19 15:37	07/02/19 15:20	1	

**Lab Sample ID: LCS 580-304552/2-A**  
**Matrix: Water**  
**Analysis Batch: 304632**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 304552**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
#2 Diesel (C10-C24)	0.500	0.408		mg/L		82	50 - 120
Motor Oil (>C24-C36)	0.500	0.483		mg/L		97	64 - 120
Surrogate	LCS	LCS	Limits				
o-Terphenyl	90		50 - 150				

**Lab Sample ID: LCSD 580-304552/3-A**  
**Matrix: Water**  
**Analysis Batch: 304632**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 304552**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
#2 Diesel (C10-C24)	0.500	0.374		mg/L		75	50 - 120	9	26
Motor Oil (>C24-C36)	0.500	0.462		mg/L		92	64 - 120	5	24
Surrogate	LCSD	LCSD	Limits						
o-Terphenyl	104		50 - 150						

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: GW-1-061819**

**Lab Sample ID: 580-87060-1**

Date Collected: 06/18/19 09:51

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 16:26	T1W	TAL SEA

**Client Sample ID: PZ-7S-061819**

**Lab Sample ID: 580-87060-2**

Date Collected: 06/18/19 10:00

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 16:48	T1W	TAL SEA

**Client Sample ID: PZ-8-061819**

**Lab Sample ID: 580-87060-3**

Date Collected: 06/18/19 11:15

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 17:10	T1W	TAL SEA

**Client Sample ID: S-W-43-061819**

**Lab Sample ID: 580-87060-4**

Date Collected: 06/18/19 11:16

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 17:32	T1W	TAL SEA

**Client Sample ID: EW-1-061819**

**Lab Sample ID: 580-87060-5**

Date Collected: 06/18/19 14:18

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 17:53	T1W	TAL SEA

**Client Sample ID: GW-2-061819**

**Lab Sample ID: 580-87060-6**

Date Collected: 06/18/19 14:35

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 18:15	T1W	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: GW-20-061819**

**Lab Sample ID: 580-87060-7**

Date Collected: 06/18/19 14:45

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 18:37	T1W	TAL SEA

**Client Sample ID: S2-BD-061819**

**Lab Sample ID: 580-87060-8**

Date Collected: 06/18/19 14:57

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 19:21	T1W	TAL SEA

**Client Sample ID: S2-AU-061819**

**Lab Sample ID: 580-87060-9**

Date Collected: 06/18/19 15:12

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 19:43	T1W	TAL SEA

**Client Sample ID: S2-BU-061819**

**Lab Sample ID: 580-87060-10**

Date Collected: 06/18/19 15:30

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 20:05	T1W	TAL SEA

**Client Sample ID: S2-AD-061819**

**Lab Sample ID: 580-87060-11**

Date Collected: 06/18/19 15:39

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 20:27	T1W	TAL SEA

**Client Sample ID: WG-WV-061819**

**Lab Sample ID: 580-87060-12**

Date Collected: 06/18/19 16:05

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 20:49	T1W	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

**Client Sample ID: WG-EV-061819**

**Lab Sample ID: 580-87060-13**

Date Collected: 06/18/19 16:10

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 21:11	T1W	TAL SEA

**Client Sample ID: FWG-EV-061819**

**Lab Sample ID: 580-87060-14**

Date Collected: 06/18/19 16:48

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 21:33	T1W	TAL SEA

**Client Sample ID: FWG-WV-061819**

**Lab Sample ID: 580-87060-15**

Date Collected: 06/18/19 16:52

Matrix: Water

Date Received: 06/20/19 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			304552	07/01/19 15:37	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	304632	07/02/19 21:55	T1W	TAL SEA

**Laboratory References:**

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

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

## Laboratory: Eurofins TestAmerica, Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C553	02-17-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

Job ID: 580-87060-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-87060-1	GW-1-061819	Water	06/18/19 09:51	06/20/19 14:05	
580-87060-2	PZ-7S-061819	Water	06/18/19 10:00	06/20/19 14:05	
580-87060-3	PZ-8-061819	Water	06/18/19 11:15	06/20/19 14:05	
580-87060-4	S-W-43-061819	Water	06/18/19 11:16	06/20/19 14:05	
580-87060-5	EW-1-061819	Water	06/18/19 14:18	06/20/19 14:05	
580-87060-6	GW-2-061819	Water	06/18/19 14:35	06/20/19 14:05	
580-87060-7	GW-20-061819	Water	06/18/19 14:45	06/20/19 14:05	
580-87060-8	S2-BD-061819	Water	06/18/19 14:57	06/20/19 14:05	
580-87060-9	S2-AU-061819	Water	06/18/19 15:12	06/20/19 14:05	
580-87060-10	S2-BU-061819	Water	06/18/19 15:30	06/20/19 14:05	
580-87060-11	S2-AD-061819	Water	06/18/19 15:39	06/20/19 14:05	
580-87060-12	WG-WV-061819	Water	06/18/19 16:05	06/20/19 14:05	
580-87060-13	WG-EV-061819	Water	06/18/19 16:10	06/20/19 14:05	
580-87060-14	FWG-EV-061819	Water	06/18/19 16:48	06/20/19 14:05	
580-87060-15	FWG-WV-061819	Water	06/18/19 16:52	06/20/19 14:05	



## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-87060-1

**Login Number: 87060**

**List Number: 1**

**Creator: Blankinship, Tom X**

**List Source: Eurofins TestAmerica, Seattle**

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?	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.	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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Eurofins TestAmerica, Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

Laboratory Job ID: 580-87965-1  
Client Project/Site: BNSF-Skykomish

For:  
Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Peter Kingston

*Kristine D. Allen*

Authorized for release by:  
8/9/2019 2:07:01 PM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)



### LINKS

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[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions . . . . .	4
Client Sample Results . . . . .	5
QC Sample Results . . . . .	19
Chronicle . . . . .	21
Certification Summary . . . . .	24
Sample Summary . . . . .	25
Chain of Custody . . . . .	26
Receipt Checklists . . . . .	27

# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

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## Job ID: 580-87965-1

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Laboratory: Eurofins TestAmerica, Seattle

### Narrative

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#### Job Narrative 580-87965-1

### Comments

No additional comments.

### Receipt

The samples were received on 7/27/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.2° C, 4.5° C and 4.6° C.

### GC Semi VOA

Method(s) NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: S2-BU-072519 (580-87965-8), WG-EV-072519 (580-87965-9) and WG-WV-072519 (580-87965-12).

Method(s) NWTPH-Dx: Surrogate recovery for the following sample was outside control limits: FWG-WV-072519 (580-87965-14). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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



# Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

## Qualifiers

### GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside 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
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: S-W-43-072519**

**Lab Sample ID: 580-87965-1**

Date Collected: 07/25/19 11:25

Matrix: Water

Date Received: 07/27/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061		mg/L		08/06/19 13:29	08/08/19 14:16	1
Motor Oil (>C24-C36)	ND		0.090		mg/L		08/06/19 13:29	08/08/19 14:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	90		50 - 150				08/06/19 13:29	08/08/19 14:16	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: EW-1-072519**

**Lab Sample ID: 580-87965-2**

Date Collected: 07/25/19 11:30

Matrix: Water

Date Received: 07/27/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		08/06/19 13:29	08/08/19 14:37	1
Motor Oil (>C24-C36)	ND		0.092		mg/L		08/06/19 13:29	08/08/19 14:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	101		50 - 150				08/06/19 13:29	08/08/19 14:37	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: GW-1-072519**

**Lab Sample ID: 580-87965-3**

Date Collected: 07/25/19 12:20

Matrix: Water

Date Received: 07/27/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061		mg/L		08/06/19 13:29	08/08/19 14:57	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		08/06/19 13:29	08/08/19 14:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	102		50 - 150				08/06/19 13:29	08/08/19 14:57	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: PZ-8-072519**

**Lab Sample ID: 580-87965-4**

Date Collected: 07/25/19 12:30

Matrix: Water

Date Received: 07/27/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.063		mg/L		08/06/19 13:29	08/08/19 15:17	1
Motor Oil (>C24-C36)	ND		0.092		mg/L		08/06/19 13:29	08/08/19 15:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	93		50 - 150				08/06/19 13:29	08/08/19 15:17	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: GW-2-072519**

**Lab Sample ID: 580-87965-5**

Date Collected: 07/25/19 13:12

Matrix: Water

Date Received: 07/27/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		08/06/19 13:29	08/08/19 15:37	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		08/06/19 13:29	08/08/19 15:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	101		50 - 150				08/06/19 13:29	08/08/19 15:37	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: PZ-7S-072519**

**Lab Sample ID: 580-87965-6**

Date Collected: 07/25/19 13:22

Matrix: Water

Date Received: 07/27/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061		mg/L		08/06/19 13:29	08/08/19 16:17	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		08/06/19 13:29	08/08/19 16:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	100		50 - 150				08/06/19 13:29	08/08/19 16:17	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: S2-BD-072519**

**Lab Sample ID: 580-87965-7**

Date Collected: 07/25/19 14:35

Matrix: Water

Date Received: 07/27/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.065		mg/L		08/06/19 13:29	08/08/19 16:38	1
Motor Oil (>C24-C36)	ND		0.096		mg/L		08/06/19 13:29	08/08/19 16:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	94		50 - 150				08/06/19 13:29	08/08/19 16:38	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: S2-BU-072519**

**Lab Sample ID: 580-87965-8**

Date Collected: 07/25/19 14:42

Matrix: Water

Date Received: 07/27/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.19		0.062		mg/L		08/07/19 09:57	08/08/19 17:58	1
Motor Oil (>C24-C36)	0.13		0.092		mg/L		08/07/19 09:57	08/08/19 17:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	103		50 - 150				08/07/19 09:57	08/08/19 17:58	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: WG-EV-072519**

**Lab Sample ID: 580-87965-9**

Date Collected: 07/25/19 14:35

Matrix: Water

Date Received: 07/27/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.38		0.062		mg/L		08/07/19 09:57	08/08/19 18:18	1
Motor Oil (>C24-C36)	0.26		0.091		mg/L		08/07/19 09:57	08/08/19 18:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	55		50 - 150				08/07/19 09:57	08/08/19 18:18	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: S2-AD-072519**

**Lab Sample ID: 580-87965-10**

Date Collected: 07/25/19 15:04

Matrix: Water

Date Received: 07/27/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		08/07/19 09:57	08/08/19 18:39	1
Motor Oil (>C24-C36)	ND		0.092		mg/L		08/07/19 09:57	08/08/19 18:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	100		50 - 150				08/07/19 09:57	08/08/19 18:39	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: S2-AU-072519**

**Lab Sample ID: 580-87965-11**

Date Collected: 07/25/19 15:05

Matrix: Water

Date Received: 07/27/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		08/07/19 09:57	08/08/19 18:59	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		08/07/19 09:57	08/08/19 18:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	73		50 - 150				08/07/19 09:57	08/08/19 18:59	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: WG-WV-072519**

**Lab Sample ID: 580-87965-12**

Date Collected: 07/25/19 15:13

Matrix: Water

Date Received: 07/27/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		08/07/19 09:57	08/08/19 19:19	1
<b>Motor Oil (&gt;C24-C36)</b>	<b>0.098</b>		0.091		mg/L		08/07/19 09:57	08/08/19 19:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	106		50 - 150				08/07/19 09:57	08/08/19 19:19	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: FWG-EV-072519**

**Lab Sample ID: 580-87965-13**

Date Collected: 07/25/19 15:33

Matrix: Water

Date Received: 07/27/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		08/07/19 09:57	08/08/19 19:59	1
Motor Oil (>C24-C36)	ND		0.092		mg/L		08/07/19 09:57	08/08/19 19:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	111		50 - 150				08/07/19 09:57	08/08/19 19:59	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: FWG-WV-072519**

**Lab Sample ID: 580-87965-14**

Date Collected: 07/25/19 15:38

Matrix: Water

Date Received: 07/27/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		08/07/19 09:57	08/08/19 20:19	1
Motor Oil (>C24-C36)	ND		0.092		mg/L		08/07/19 09:57	08/08/19 20:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	39	X	50 - 150				08/07/19 09:57	08/08/19 20:19	1

# QC Sample Results

Client: Farallon Consulting LLC  
Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-307650/1-A**

**Matrix: Water**

**Analysis Batch: 307877**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 307650**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		0.065		mg/L		08/06/19 13:29	08/08/19 12:36	1
Motor Oil (>C24-C36)	ND		0.096		mg/L		08/06/19 13:29	08/08/19 12:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
<i>o</i> -Terphenyl	92		50 - 150			08/06/19 13:29	08/08/19 12:36	1	

**Lab Sample ID: LCS 580-307650/2-A**

**Matrix: Water**

**Analysis Batch: 307877**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 307650**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
#2 Diesel (C10-C24)	0.500	0.398		mg/L		80	50 - 120
Motor Oil (>C24-C36)	0.500	0.521		mg/L		104	64 - 120
Surrogate	%Recovery	Qualifier	Limits				
<i>o</i> -Terphenyl	94		50 - 150				

**Lab Sample ID: LCSD 580-307650/3-A**

**Matrix: Water**

**Analysis Batch: 307877**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 307650**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
#2 Diesel (C10-C24)	0.500	0.388		mg/L		78	50 - 120	3	26
Motor Oil (>C24-C36)	0.500	0.507		mg/L		101	64 - 120	3	24
Surrogate	%Recovery	Qualifier	Limits						
<i>o</i> -Terphenyl	91		50 - 150						

**Lab Sample ID: MB 580-307734/1-A**

**Matrix: Water**

**Analysis Batch: 307877**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 307734**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		0.065		mg/L		08/07/19 09:57	08/08/19 16:58	1
Motor Oil (>C24-C36)	ND		0.096		mg/L		08/07/19 09:57	08/08/19 16:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
<i>o</i> -Terphenyl	111		50 - 150			08/07/19 09:57	08/08/19 16:58	1	

**Lab Sample ID: LCS 580-307734/2-A**

**Matrix: Water**

**Analysis Batch: 307877**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 307734**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
#2 Diesel (C10-C24)	0.500	0.371		mg/L		74	50 - 120
Motor Oil (>C24-C36)	0.500	0.493		mg/L		99	64 - 120

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

**Lab Sample ID: LCS 580-307734/2-A**

**Matrix: Water**

**Analysis Batch: 307877**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 307734**

	LCS	LCS	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>o-Terphenyl</i>	93		50 - 150

**Lab Sample ID: LCSD 580-307734/3-A**

**Matrix: Water**

**Analysis Batch: 307877**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 307734**

	Spike		LCSD	LCSD					%Rec.		RPD	
<i>Analyte</i>	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>	<i>RPD</i>	<i>Limit</i>			
#2 Diesel (C10-C24)	0.500	0.377		mg/L	-	75	50 - 120	2	26			
Motor Oil (>C24-C36)	0.500	0.509		mg/L		102	64 - 120	3	24			

	LCSD	LCSD	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>o-Terphenyl</i>	89		50 - 150

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: S-W-43-072519**

**Lab Sample ID: 580-87965-1**

Date Collected: 07/25/19 11:25

Matrix: Water

Date Received: 07/27/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			307650	08/06/19 13:29	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	307877	08/08/19 14:16	T1W	TAL SEA

**Client Sample ID: EW-1-072519**

**Lab Sample ID: 580-87965-2**

Date Collected: 07/25/19 11:30

Matrix: Water

Date Received: 07/27/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			307650	08/06/19 13:29	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	307877	08/08/19 14:37	T1W	TAL SEA

**Client Sample ID: GW-1-072519**

**Lab Sample ID: 580-87965-3**

Date Collected: 07/25/19 12:20

Matrix: Water

Date Received: 07/27/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			307650	08/06/19 13:29	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	307877	08/08/19 14:57	T1W	TAL SEA

**Client Sample ID: PZ-8-072519**

**Lab Sample ID: 580-87965-4**

Date Collected: 07/25/19 12:30

Matrix: Water

Date Received: 07/27/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			307650	08/06/19 13:29	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	307877	08/08/19 15:17	T1W	TAL SEA

**Client Sample ID: GW-2-072519**

**Lab Sample ID: 580-87965-5**

Date Collected: 07/25/19 13:12

Matrix: Water

Date Received: 07/27/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			307650	08/06/19 13:29	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	307877	08/08/19 15:37	T1W	TAL SEA

**Client Sample ID: PZ-7S-072519**

**Lab Sample ID: 580-87965-6**

Date Collected: 07/25/19 13:22

Matrix: Water

Date Received: 07/27/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			307650	08/06/19 13:29	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	307877	08/08/19 16:17	T1W	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: S2-BD-072519**

**Lab Sample ID: 580-87965-7**

Date Collected: 07/25/19 14:35

Matrix: Water

Date Received: 07/27/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			307650	08/06/19 13:29	N1C	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	307877	08/08/19 16:38	T1W	TAL SEA

**Client Sample ID: S2-BU-072519**

**Lab Sample ID: 580-87965-8**

Date Collected: 07/25/19 14:42

Matrix: Water

Date Received: 07/27/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			307734	08/07/19 09:57	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	307877	08/08/19 17:58	T1W	TAL SEA

**Client Sample ID: WG-EV-072519**

**Lab Sample ID: 580-87965-9**

Date Collected: 07/25/19 14:35

Matrix: Water

Date Received: 07/27/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			307734	08/07/19 09:57	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	307877	08/08/19 18:18	T1W	TAL SEA

**Client Sample ID: S2-AD-072519**

**Lab Sample ID: 580-87965-10**

Date Collected: 07/25/19 15:04

Matrix: Water

Date Received: 07/27/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			307734	08/07/19 09:57	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	307877	08/08/19 18:39	T1W	TAL SEA

**Client Sample ID: S2-AU-072519**

**Lab Sample ID: 580-87965-11**

Date Collected: 07/25/19 15:05

Matrix: Water

Date Received: 07/27/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			307734	08/07/19 09:57	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	307877	08/08/19 18:59	T1W	TAL SEA

**Client Sample ID: WG-WV-072519**

**Lab Sample ID: 580-87965-12**

Date Collected: 07/25/19 15:13

Matrix: Water

Date Received: 07/27/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			307734	08/07/19 09:57	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	307877	08/08/19 19:19	T1W	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

**Client Sample ID: FWG-EV-072519**

**Lab Sample ID: 580-87965-13**

**Date Collected: 07/25/19 15:33**

**Matrix: Water**

**Date Received: 07/27/19 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			307734	08/07/19 09:57	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	307877	08/08/19 19:59	T1W	TAL SEA

**Client Sample ID: FWG-WV-072519**

**Lab Sample ID: 580-87965-14**

**Date Collected: 07/25/19 15:38**

**Matrix: Water**

**Date Received: 07/27/19 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			307734	08/07/19 09:57	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	307877	08/08/19 20:19	T1W	TAL SEA

**Laboratory References:**

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



# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

## Laboratory: Eurofins TestAmerica, Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C553	02-17-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF-Skykomish

Job ID: 580-87965-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-87965-1	S-W-43-072519	Water	07/25/19 11:25	07/27/19 10:00	
580-87965-2	EW-1-072519	Water	07/25/19 11:30	07/27/19 10:00	
580-87965-3	GW-1-072519	Water	07/25/19 12:20	07/27/19 10:00	
580-87965-4	PZ-8-072519	Water	07/25/19 12:30	07/27/19 10:00	
580-87965-5	GW-2-072519	Water	07/25/19 13:12	07/27/19 10:00	
580-87965-6	PZ-7S-072519	Water	07/25/19 13:22	07/27/19 10:00	
580-87965-7	S2-BD-072519	Water	07/25/19 14:35	07/27/19 10:00	
580-87965-8	S2-BU-072519	Water	07/25/19 14:42	07/27/19 10:00	
580-87965-9	WG-EV-072519	Water	07/25/19 14:35	07/27/19 10:00	
580-87965-10	S2-AD-072519	Water	07/25/19 15:04	07/27/19 10:00	
580-87965-11	S2-AU-072519	Water	07/25/19 15:05	07/27/19 10:00	
580-87965-12	WG-WV-072519	Water	07/25/19 15:13	07/27/19 10:00	
580-87965-13	FWG-EV-072519	Water	07/25/19 15:33	07/27/19 10:00	
580-87965-14	FWG-WV-072519	Water	07/25/19 15:38	07/27/19 10:00	

 <b>CHAIN OF CUSTODY</b>	<b>LABORATORY INFORMATION</b>				LAB WORK ORDER:			
	Laboratory:		Project Manager:		<b>SHIPMENT INFO</b>			
	Address:		Phone:		Shipment Method:			
City/State/ZIP:		Fax:		Tracking Number:				
<b>BNSF PROJECT INFORMATION</b>			<b>CONSULTANT INFORMATION</b>					
Project State of Origin:			Project Number: <b>683-067</b>					
BNSF Project Number: <b>683-067</b>		Project City: <b>Skykomish</b>		Project Manager: <b>Pete Klymston</b>				
BNSF Project Name: <b>BNSF - Skykomish</b>		Company: <b>Farallon Consulting</b>		Email: <b>pklymston@farallonconsulting.com</b>				
BNSF Contact:		Address: <b>975 5th Ave NW</b>		Phone: <b>425-295-0800</b>				
BNSF Work Order No.:		City/State/ZIP: <b>Issaquah WA 98027</b>		Fax:				
<b>TURNAROUND TIME</b>		<b>DELIVERABLES</b>		<b>METHODS FOR ANALYSIS</b>				
<input type="checkbox"/> 1-day Rush <input type="checkbox"/> 2-day Rush <input checked="" type="checkbox"/> 3-day Rush <input type="checkbox"/> 5- to 8-day Rush <input type="checkbox"/> Standard 10-Day <input type="checkbox"/> Other: _____		<input type="checkbox"/> Other Deliverables? <input checked="" type="checkbox"/> BNSF Standard (Level II) <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/> EDD Req. Format?		Therm. ID: <b>5</b> Cor: <b>4.5</b> ° Unc: <b>4.6</b> ° Cooler Dsc: <b>L G</b> Packing: <b>Bub</b> Cust. Seal: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Blue Ice, <input checked="" type="checkbox"/> Wet, Dry, None FedEx: _____ UPS: _____ Lab Cour: _____ Other: <b>CD</b>				
<b>SAMPLE INFORMATION</b>								
Sample Identification	Containers	Sample Collection			Filtered Y/N	Type (Comp/Grab)	Matrix	LAB USE
		Date	Time	Sampler				
1 5-W-43-072519	2	7/25/19	1125		N	G	W	X
2 EW-1-072519			1130					X
3 GW-1-072519			1220					X
4 P7-8-072519			1230					X
5 GW-2-072519			1312					X
6 P2-75-072519			1322					X
7 S2-BD-072519			1435					X
8 S2-AU-072519			1442					X
9 WG-EV-072519			1435					X
10 S2-AD-072519			1504					X
11 S2-AU-072519			1505					X
12 WG-WV-072519			1513					X
13 FWG-EV-072519			1533					X
14 FWG-WV-072519			1538					X
15								
Relinquished By:	Date/Time: <b>7/25/19 0800</b>	Received By:	Date/Time:	Comments and			 580-87965 Chain of Custody	
Relinquished By:	Date/Time: <b>7/27/19 1000</b>	Received By:	Date/Time: <b>7/27/19 1000</b>					
Relinquished By:	Date/Time:	Received By:	Date/Time:					
Received by Laboratory:	Date/Time:	Lab Remarks:	Lab Custody Intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.	BNSF COC No.			

ORIGINAL - RETURN TO LABORATORY WITH SAMPLES

DUPLICATE - CONSULTANT

TAL-1001 (0912)



## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-87965-1

**Login Number: 87965**

**List Source: Eurofins TestAmerica, Seattle**

**List Number: 1**

**Creator: Hobbs, Kenneth F**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
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?	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.	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 $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins TestAmerica, Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

Laboratory Job ID: 580-88597-1

Client Project/Site: BNSF Skykomish Ground Water

**For:**

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Peter Kingston



Authorized for release by:  
8/30/2019 5:12:16 PM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions . . . . .	4
Client Sample Results . . . . .	5
QC Sample Results . . . . .	19
Chronicle . . . . .	20
Certification Summary . . . . .	23
Sample Summary . . . . .	24
Chain of Custody . . . . .	25
Receipt Checklists . . . . .	26

# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

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## Job ID: 580-88597-1

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Laboratory: Eurofins TestAmerica, Seattle

### Narrative

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#### Job Narrative 580-88597-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 8/21/2019 12:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.5° C, 0.6° C and 2.0° C.

#### Receipt Exceptions

The container labels for the following sample did not match the information listed on the Chain-of-Custody (COC): PZ-8-082019 (580-88597-8). The container labels list the sampling time 12:28, while the COC lists 11:50. The sample is logged in per COC.

One hydrochloric acid preserved amber for the following sample was received broken: PZ-8-082019 (580-88597-8).

#### GC Semi VOA

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

#### Organic Prep

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

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: S2-BD-082019**

**Lab Sample ID: 580-88597-1**

Date Collected: 08/20/19 10:36

Matrix: Water

Date Received: 08/21/19 12:50

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		08/28/19 10:15	08/29/19 13:52	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		08/28/19 10:15	08/29/19 13:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150				08/28/19 10:15	08/29/19 13:52	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: S2-BU-082019**

**Lab Sample ID: 580-88597-2**

Date Collected: 08/20/19 11:05

Matrix: Water

Date Received: 08/21/19 12:50

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>#2 Diesel (C10-C24)</b>	<b>0.098</b>		0.062	0.062	mg/L		08/28/19 10:15	08/29/19 14:12	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		08/28/19 10:15	08/29/19 14:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	108		50 - 150				08/28/19 10:15	08/29/19 14:12	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: EW1-082019**

**Lab Sample ID: 580-88597-3**

Date Collected: 08/20/19 11:15

Matrix: Water

Date Received: 08/21/19 12:50

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		08/28/19 10:15	08/29/19 14:32	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		08/28/19 10:15	08/29/19 14:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	102		50 - 150				08/28/19 10:15	08/29/19 14:32	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: 5-W-43-082019**

**Lab Sample ID: 580-88597-4**

Date Collected: 08/20/19 11:18

Matrix: Water

Date Received: 08/21/19 12:50

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		08/28/19 10:15	08/29/19 14:53	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		08/28/19 10:15	08/29/19 14:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150				08/28/19 10:15	08/29/19 14:53	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: S2-AD-082019**

**Lab Sample ID: 580-88597-5**

Date Collected: 08/20/19 11:35

Matrix: Water

Date Received: 08/21/19 12:50

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		08/28/19 10:15	08/29/19 15:13	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		08/28/19 10:15	08/29/19 15:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	107		50 - 150				08/28/19 10:15	08/29/19 15:13	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: S2-AU-082019**

**Lab Sample ID: 580-88597-6**

Date Collected: 08/20/19 12:05

Matrix: Water

Date Received: 08/21/19 12:50

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		08/28/19 10:15	08/29/19 15:33	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		08/28/19 10:15	08/29/19 15:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	99		50 - 150				08/28/19 10:15	08/29/19 15:33	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: GW-1-082019**

**Lab Sample ID: 580-88597-7**

Date Collected: 08/20/19 12:17

Matrix: Water

Date Received: 08/21/19 12:50

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		08/28/19 10:15	08/29/19 15:53	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		08/28/19 10:15	08/29/19 15:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	104		50 - 150				08/28/19 10:15	08/29/19 15:53	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: PZ-8-082019**

**Lab Sample ID: 580-88597-8**

Date Collected: 08/20/19 11:50

Matrix: Water

Date Received: 08/21/19 12:50

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		08/28/19 10:15	08/29/19 16:33	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		08/28/19 10:15	08/29/19 16:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	99		50 - 150				08/28/19 10:15	08/29/19 16:33	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: WG-EV-082019**

**Lab Sample ID: 580-88597-9**

Date Collected: 08/20/19 14:05

Matrix: Water

Date Received: 08/21/19 12:50

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.39		0.062	0.062	mg/L		08/28/19 10:15	08/29/19 16:54	1
Motor Oil (>C24-C36)	0.23		0.091	0.091	mg/L		08/28/19 10:15	08/29/19 16:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	95		50 - 150				08/28/19 10:15	08/29/19 16:54	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: WG-WV-082019**

**Lab Sample ID: 580-88597-10**

Date Collected: 08/20/19 14:35

Matrix: Water

Date Received: 08/21/19 12:50

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.27		0.062	0.062	mg/L		08/28/19 10:15	08/29/19 17:14	1
Motor Oil (>C24-C36)	0.50		0.091	0.091	mg/L		08/28/19 10:15	08/29/19 17:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	81		50 - 150				08/28/19 10:15	08/29/19 17:14	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: PZ-7S-082019**

**Lab Sample ID: 580-88597-11**

Date Collected: 08/20/19 14:29

Matrix: Water

Date Received: 08/21/19 12:50

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		08/28/19 10:15	08/29/19 17:34	1
<b>Motor Oil (&gt;C24-C36)</b>	<b>0.12</b>		0.091	0.091	mg/L		08/28/19 10:15	08/29/19 17:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	100		50 - 150				08/28/19 10:15	08/29/19 17:34	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: GW-2-082019**

**Lab Sample ID: 580-88597-12**

Date Collected: 08/20/19 14:30

Matrix: Water

Date Received: 08/21/19 12:50

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.063	0.063	mg/L		08/28/19 10:15	08/29/19 17:54	1
Motor Oil (>C24-C36)	ND		0.093	0.093	mg/L		08/28/19 10:15	08/29/19 17:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	95		50 - 150				08/28/19 10:15	08/29/19 17:54	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: FWG-EV-082019**

**Lab Sample ID: 580-88597-13**

Date Collected: 08/20/19 15:08

Matrix: Water

Date Received: 08/21/19 12:50

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.073		0.062	0.062	mg/L		08/28/19 10:15	08/29/19 18:14	1
Motor Oil (>C24-C36)	0.15		0.091	0.091	mg/L		08/28/19 10:15	08/29/19 18:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	99		50 - 150				08/28/19 10:15	08/29/19 18:14	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: FWG-WV-082019**

**Lab Sample ID: 580-88597-14**

Date Collected: 08/20/19 15:09

Matrix: Water

Date Received: 08/21/19 12:50

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		08/28/19 10:15	08/29/19 18:34	1
<b>Motor Oil (&gt;C24-C36)</b>	<b>0.11</b>		0.091	0.091	mg/L		08/28/19 10:15	08/29/19 18:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	93		50 - 150				08/28/19 10:15	08/29/19 18:34	1

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-309550/1-A**

**Matrix: Water**

**Analysis Batch: 309725**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 309550**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		08/28/19 10:14	08/29/19 12:52	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		08/28/19 10:14	08/29/19 12:52	1
Surrogate	MB	MB	Limits			D	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
<i>o</i> -Terphenyl	98		50 - 150				08/28/19 10:14	08/29/19 12:52	1

**Lab Sample ID: LCS 580-309550/2-A**

**Matrix: Water**

**Analysis Batch: 309725**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 309550**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
#2 Diesel (C10-C24)	0.500	0.437		mg/L		87	50 - 120
Motor Oil (>C24-C36)	0.500	0.569		mg/L		114	64 - 120
Surrogate	LCS	LCS	Limits			D	%Rec. Limits
	%Recovery	Qualifier					
<i>o</i> -Terphenyl	91		50 - 150				

**Lab Sample ID: LCSD 580-309550/3-A**

**Matrix: Water**

**Analysis Batch: 309725**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 309550**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
#2 Diesel (C10-C24)	0.500	0.410		mg/L		82	50 - 120	6	26
Motor Oil (>C24-C36)	0.500	0.544		mg/L		109	64 - 120	5	24
Surrogate	LCSD	LCSD	Limits			D	%Rec. Limits	RPD	
	%Recovery	Qualifier							
<i>o</i> -Terphenyl	89		50 - 150						

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: S2-BD-082019**

**Lab Sample ID: 580-88597-1**

Date Collected: 08/20/19 10:36

Matrix: Water

Date Received: 08/21/19 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			309550	08/28/19 10:15	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	309725	08/29/19 13:52	JCM	TAL SEA

**Client Sample ID: S2-BU-082019**

**Lab Sample ID: 580-88597-2**

Date Collected: 08/20/19 11:05

Matrix: Water

Date Received: 08/21/19 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			309550	08/28/19 10:15	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	309725	08/29/19 14:12	JCM	TAL SEA

**Client Sample ID: EW1-082019**

**Lab Sample ID: 580-88597-3**

Date Collected: 08/20/19 11:15

Matrix: Water

Date Received: 08/21/19 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			309550	08/28/19 10:15	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	309725	08/29/19 14:32	JCM	TAL SEA

**Client Sample ID: 5-W-43-082019**

**Lab Sample ID: 580-88597-4**

Date Collected: 08/20/19 11:18

Matrix: Water

Date Received: 08/21/19 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			309550	08/28/19 10:15	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	309725	08/29/19 14:53	JCM	TAL SEA

**Client Sample ID: S2-AD-082019**

**Lab Sample ID: 580-88597-5**

Date Collected: 08/20/19 11:35

Matrix: Water

Date Received: 08/21/19 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			309550	08/28/19 10:15	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	309725	08/29/19 15:13	JCM	TAL SEA

**Client Sample ID: S2-AU-082019**

**Lab Sample ID: 580-88597-6**

Date Collected: 08/20/19 12:05

Matrix: Water

Date Received: 08/21/19 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			309550	08/28/19 10:15	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	309725	08/29/19 15:33	JCM	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

## Client Sample ID: GW-1-082019

Lab Sample ID: 580-88597-7

Date Collected: 08/20/19 12:17

Matrix: Water

Date Received: 08/21/19 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			309550	08/28/19 10:15	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	309725	08/29/19 15:53	JCM	TAL SEA

## Client Sample ID: PZ-8-082019

Lab Sample ID: 580-88597-8

Date Collected: 08/20/19 11:50

Matrix: Water

Date Received: 08/21/19 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			309550	08/28/19 10:15	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	309725	08/29/19 16:33	JCM	TAL SEA

## Client Sample ID: WG-EV-082019

Lab Sample ID: 580-88597-9

Date Collected: 08/20/19 14:05

Matrix: Water

Date Received: 08/21/19 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			309550	08/28/19 10:15	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	309725	08/29/19 16:54	JCM	TAL SEA

## Client Sample ID: WG-WV-082019

Lab Sample ID: 580-88597-10

Date Collected: 08/20/19 14:35

Matrix: Water

Date Received: 08/21/19 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			309550	08/28/19 10:15	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	309725	08/29/19 17:14	JCM	TAL SEA

## Client Sample ID: PZ-7S-082019

Lab Sample ID: 580-88597-11

Date Collected: 08/20/19 14:29

Matrix: Water

Date Received: 08/21/19 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			309550	08/28/19 10:15	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	309725	08/29/19 17:34	JCM	TAL SEA

## Client Sample ID: GW-2-082019

Lab Sample ID: 580-88597-12

Date Collected: 08/20/19 14:30

Matrix: Water

Date Received: 08/21/19 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			309550	08/28/19 10:15	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	309725	08/29/19 17:54	JCM	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

**Client Sample ID: FWG-EV-082019**

**Lab Sample ID: 580-88597-13**

**Date Collected: 08/20/19 15:08**

**Matrix: Water**

**Date Received: 08/21/19 12:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			309550	08/28/19 10:15	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	309725	08/29/19 18:14	JCM	TAL SEA

**Client Sample ID: FWG-WV-082019**

**Lab Sample ID: 580-88597-14**

**Date Collected: 08/20/19 15:09**

**Matrix: Water**

**Date Received: 08/21/19 12:50**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			309550	08/28/19 10:15	T1L	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	309725	08/29/19 18:34	JCM	TAL SEA

**Laboratory References:**

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



## Accreditation/Certification Summary

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

### Laboratory: Eurofins TestAmerica, 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	17-024	01-19-22
Alaska (UST)	State Program	17-024	01-19-20
ANAB	Dept. of Defense ELAP	L2236	01-19-22
ANAB	DoD	L2236	01-19-22
ANAB	ISO/IEC 17025	L2236	01-19-22
ANAB	ISO/IEC 17025	L2236	01-19-22
California	State	2901	11-05-19
California	State Program	2901	11-05-19
Montana (UST)	State	NA	04-13-21
Montana (UST)	State Program	N/A	04-30-20
Oregon	NELAP	WA100007	11-05-19
Oregon	NELAP	WA100007	11-05-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P330-14-00126	02-10-20
USDA	US Federal Programs	P330-17-00039	02-10-20
Washington	State	C553	02-17-20
Washington	State Program	C553	02-17-20



# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-88597-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-88597-1	S2-BD-082019	Water	08/20/19 10:36	08/21/19 12:50	
580-88597-2	S2-BU-082019	Water	08/20/19 11:05	08/21/19 12:50	
580-88597-3	EW1-082019	Water	08/20/19 11:15	08/21/19 12:50	
580-88597-4	5-W-43-082019	Water	08/20/19 11:18	08/21/19 12:50	
580-88597-5	S2-AD-082019	Water	08/20/19 11:35	08/21/19 12:50	
580-88597-6	S2-AU-082019	Water	08/20/19 12:05	08/21/19 12:50	
580-88597-7	GW-1-082019	Water	08/20/19 12:17	08/21/19 12:50	
580-88597-8	PZ-8-082019	Water	08/20/19 11:50	08/21/19 12:50	
580-88597-9	WG-EV-082019	Water	08/20/19 14:05	08/21/19 12:50	
580-88597-10	WG-WV-082019	Water	08/20/19 14:35	08/21/19 12:50	
580-88597-11	PZ-7S-082019	Water	08/20/19 14:29	08/21/19 12:50	
580-88597-12	GW-2-082019	Water	08/20/19 14:30	08/21/19 12:50	
580-88597-13	FWG-EV-082019	Water	08/20/19 15:08	08/21/19 12:50	
580-88597-14	FWG-WV-082019	Water	08/20/19 15:09	08/21/19 12:50	



## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-88597-1

**Login Number: 88597**

**List Source: Eurofins TestAmerica, Seattle**

**List Number: 1**

**Creator: Blankinship, Tom X**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Refer to Job Narrative for details.
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 $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins TestAmerica, Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

Laboratory Job ID: 580-89413-1

Client Project/Site: BNSF Skykomish Ground Water

**For:**

Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Peter Kingston



Authorized for release by:  
10/4/2019 4:29:57 PM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
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**TotalAccess**

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[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions . . . . .	4
Client Sample Results . . . . .	5
QC Sample Results . . . . .	21
Chronicle . . . . .	22
Certification Summary . . . . .	25
Sample Summary . . . . .	26
Chain of Custody . . . . .	27
Receipt Checklists . . . . .	29

# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

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## Job ID: 580-89413-1

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Laboratory: Eurofins TestAmerica, Seattle

### Narrative

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#### Job Narrative 580-89413-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 9/20/2019 2:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were -0.2° C and 1.0° C.

#### Receipt Exceptions

The container label for Sample 580-89413-6 did not match the information listed on the Chain-of-Custody (COC): The Sample label listed EW-100-091919, while the COC listed EW-10-091919.

#### GC Semi VOA

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

#### Organic Prep

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



## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: GW-1-091919**

**Lab Sample ID: 580-89413-1**

Date Collected: 09/19/19 08:20

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 15:37	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 15:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	84		50 - 150				10/02/19 12:48	10/03/19 15:37	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: 5-W-43-091919**

**Lab Sample ID: 580-89413-2**

Date Collected: 09/19/19 08:22

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 15:57	1
Motor Oil (>C24-C36)	ND		0.092	0.092	mg/L		10/02/19 12:48	10/03/19 15:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	83		50 - 150				10/02/19 12:48	10/03/19 15:57	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: PZ-75-091919**

**Lab Sample ID: 580-89413-3**

Date Collected: 09/19/19 08:24

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 16:17	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 16:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	59		50 - 150				10/02/19 12:48	10/03/19 16:17	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: PZ-8-091919**

**Lab Sample ID: 580-89413-4**

Date Collected: 09/19/19 09:20

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 16:37	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 16:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	73		50 - 150				10/02/19 12:48	10/03/19 16:37	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: EW-1-091919**

**Lab Sample ID: 580-89413-5**

Date Collected: 09/19/19 09:21

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 16:58	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 16:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	84		50 - 150				10/02/19 12:48	10/03/19 16:58	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: EW-10-091919**

**Lab Sample ID: 580-89413-6**

Date Collected: 09/19/19 09:25

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 17:18	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 17:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	68		50 - 150				10/02/19 12:48	10/03/19 17:18	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: GW-2-091919**

**Lab Sample ID: 580-89413-7**

Date Collected: 09/19/19 09:21

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 17:38	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 17:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	71		50 - 150				10/02/19 12:48	10/03/19 17:38	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: WG-WV-091919**

**Lab Sample ID: 580-89413-8**

Date Collected: 09/19/19 10:09

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.24		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 18:18	1
Motor Oil (>C24-C36)	0.14		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 18:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	57		50 - 150				10/02/19 12:48	10/03/19 18:18	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: FWG-WV-091919**

**Lab Sample ID: 580-89413-9**

Date Collected: 09/19/19 10:25

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 18:38	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 18:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	80		50 - 150				10/02/19 12:48	10/03/19 18:38	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: WG-EV-091919**

**Lab Sample ID: 580-89413-10**

Date Collected: 09/19/19 10:25

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.47		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 18:59	1
Motor Oil (>C24-C36)	0.23		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 18:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	84		50 - 150				10/02/19 12:48	10/03/19 18:59	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: FWG-EV-091919**

**Lab Sample ID: 580-89413-11**

Date Collected: 09/19/19 10:47

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 19:19	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 19:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	84		50 - 150				10/02/19 12:48	10/03/19 19:19	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: S2-AU-091919**

**Lab Sample ID: 580-89413-12**

Date Collected: 09/19/19 11:15

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 19:39	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 19:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	58		50 - 150				10/02/19 12:48	10/03/19 19:39	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: S2-AD-091919**

**Lab Sample ID: 580-89413-13**

Date Collected: 09/19/19 11:22

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 19:59	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 19:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	88		50 - 150				10/02/19 12:48	10/03/19 19:59	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: S2-BD-091919**

**Lab Sample ID: 580-89413-14**

Date Collected: 09/19/19 11:28

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061	0.061	mg/L		10/02/19 12:48	10/03/19 20:19	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 20:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	85		50 - 150				10/02/19 12:48	10/03/19 20:19	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: S2-BU-091919**

**Lab Sample ID: 580-89413-15**

Date Collected: 09/19/19 11:30

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.42		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 20:39	1
Motor Oil (>C24-C36)	0.20		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 20:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	87		50 - 150				10/02/19 12:48	10/03/19 20:39	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: GW-20-091919**

**Lab Sample ID: 580-89413-16**

Date Collected: 09/19/19 16:30

Matrix: Water

Date Received: 09/20/19 14:15

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/02/19 12:48	10/03/19 21:00	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/02/19 12:48	10/03/19 21:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	84		50 - 150				10/02/19 12:48	10/03/19 21:00	1



# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-313064/1-A**

**Matrix: Water**

**Analysis Batch: 313198**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 313064**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		10/02/19 12:47	10/03/19 14:36	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		10/02/19 12:47	10/03/19 14:36	1
Surrogate	MB	MB	Limits			D	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
<i>o</i> -Terphenyl	85		50 - 150				10/02/19 12:47	10/03/19 14:36	1

**Lab Sample ID: LCS 580-313064/2-A**

**Matrix: Water**

**Analysis Batch: 313198**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 313064**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits	
		Result	Qualifier					
#2 Diesel (C10-C24)	0.500	0.378		mg/L		76	50 - 120	
Motor Oil (>C24-C36)	0.500	0.506		mg/L		101	64 - 120	
Surrogate	LCS	LCS	Limits			D	%Rec	%Rec. Limits
	%Recovery	Qualifier						
<i>o</i> -Terphenyl	74		50 - 150					

**Lab Sample ID: LCSD 580-313064/3-A**

**Matrix: Water**

**Analysis Batch: 313198**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 313064**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
#2 Diesel (C10-C24)	0.500	0.381		mg/L		76	50 - 120	1	26
Motor Oil (>C24-C36)	0.500	0.503		mg/L		101	64 - 120	1	24
Surrogate	LCSD	LCSD	Limits			D	%Rec	%Rec. Limits	RPD
	%Recovery	Qualifier							
<i>o</i> -Terphenyl	73		50 - 150						

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

## Client Sample ID: GW-1-091919

Lab Sample ID: 580-89413-1

Date Collected: 09/19/19 08:20

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 15:37	ERZ	TAL SEA

## Client Sample ID: 5-W-43-091919

Lab Sample ID: 580-89413-2

Date Collected: 09/19/19 08:22

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 15:57	ERZ	TAL SEA

## Client Sample ID: PZ-75-091919

Lab Sample ID: 580-89413-3

Date Collected: 09/19/19 08:24

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 16:17	ERZ	TAL SEA

## Client Sample ID: PZ-8-091919

Lab Sample ID: 580-89413-4

Date Collected: 09/19/19 09:20

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 16:37	ERZ	TAL SEA

## Client Sample ID: EW-1-091919

Lab Sample ID: 580-89413-5

Date Collected: 09/19/19 09:21

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 16:58	ERZ	TAL SEA

## Client Sample ID: EW-10-091919

Lab Sample ID: 580-89413-6

Date Collected: 09/19/19 09:25

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 17:18	ERZ	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

**Client Sample ID: GW-2-091919**

**Lab Sample ID: 580-89413-7**

Date Collected: 09/19/19 09:21

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 17:38	ERZ	TAL SEA

**Client Sample ID: WG-WV-091919**

**Lab Sample ID: 580-89413-8**

Date Collected: 09/19/19 10:09

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 18:18	ERZ	TAL SEA

**Client Sample ID: FWG-WV-091919**

**Lab Sample ID: 580-89413-9**

Date Collected: 09/19/19 10:25

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 18:38	ERZ	TAL SEA

**Client Sample ID: WG-EV-091919**

**Lab Sample ID: 580-89413-10**

Date Collected: 09/19/19 10:25

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 18:59	ERZ	TAL SEA

**Client Sample ID: FWG-EV-091919**

**Lab Sample ID: 580-89413-11**

Date Collected: 09/19/19 10:47

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 19:19	ERZ	TAL SEA

**Client Sample ID: S2-AU-091919**

**Lab Sample ID: 580-89413-12**

Date Collected: 09/19/19 11:15

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 19:39	ERZ	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

## Client Sample ID: S2-AD-091919

Lab Sample ID: 580-89413-13

Date Collected: 09/19/19 11:22

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 19:59	ERZ	TAL SEA

## Client Sample ID: S2-BD-091919

Lab Sample ID: 580-89413-14

Date Collected: 09/19/19 11:28

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 20:19	ERZ	TAL SEA

## Client Sample ID: S2-BU-091919

Lab Sample ID: 580-89413-15

Date Collected: 09/19/19 11:30

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 20:39	ERZ	TAL SEA

## Client Sample ID: GW-20-091919

Lab Sample ID: 580-89413-16

Date Collected: 09/19/19 16:30

Matrix: Water

Date Received: 09/20/19 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			313064	10/02/19 12:48	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	313198	10/03/19 21:00	ERZ	TAL SEA

### Laboratory References:

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

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

## Laboratory: Eurofins TestAmerica, 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	17-024	01-19-22
ANAB	Dept. of Defense ELAP	L2236	01-19-22
ANAB	ISO/IEC 17025	L2236	01-19-22
California	State	2901	11-05-19
Montana (UST)	State	NA	04-13-21
Oregon	NELAP	WA100007	11-05-19
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00039	02-10-20
Washington	State	C553	02-17-20

# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Ground Water

Job ID: 580-89413-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-89413-1	GW-1-091919	Water	09/19/19 08:20	09/20/19 14:15	
580-89413-2	5-W-43-091919	Water	09/19/19 08:22	09/20/19 14:15	
580-89413-3	PZ-75-091919	Water	09/19/19 08:24	09/20/19 14:15	
580-89413-4	PZ-8-091919	Water	09/19/19 09:20	09/20/19 14:15	
580-89413-5	EW-1-091919	Water	09/19/19 09:21	09/20/19 14:15	
580-89413-6	EW-10-091919	Water	09/19/19 09:25	09/20/19 14:15	
580-89413-7	GW-2-091919	Water	09/19/19 09:21	09/20/19 14:15	
580-89413-8	WG-WV-091919	Water	09/19/19 10:09	09/20/19 14:15	
580-89413-9	FWG-WV-091919	Water	09/19/19 10:25	09/20/19 14:15	
580-89413-10	WG-EV-091919	Water	09/19/19 10:25	09/20/19 14:15	
580-89413-11	FWG-EV-091919	Water	09/19/19 10:47	09/20/19 14:15	
580-89413-12	S2-AU-091919	Water	09/19/19 11:15	09/20/19 14:15	
580-89413-13	S2-AD-091919	Water	09/19/19 11:22	09/20/19 14:15	
580-89413-14	S2-BD-091919	Water	09/19/19 11:28	09/20/19 14:15	
580-89413-15	S2-BU-091919	Water	09/19/19 11:30	09/20/19 14:15	
580-89413-16	GW-20-091919	Water	09/19/19 16:30	09/20/19 14:15	



 <b>CHAIN OF CUSTODY</b>	<b>LABORATORY INFORMATION</b>						LAB WORK ORDER:		
	Laboratory:			Project Manager:			<b>SHIPMENT INFORMATION</b>		
	Address:			Phone:			Shipment Method:		
City/State/ZIP:			Fax:			Tracking Number:			
<b>BNSF PROJECT INFORMATION</b>			<b>CONSULTANT INFORMATION</b>			Project Number: <b>683-067</b>			
BNSF Project Number: <b>683-067</b>			Project City: <b>Slykomish</b>			Project Manager: <b>Pete Kingston</b>			
BNSF Project Name: <b>BNSF Slykomish - Monthly</b>			Company: <b>Farallon</b>			Email: <b>pkings@farallonconsulting.com</b>			
BNSF Contact:			BNSF Work Order No.:			City/State/ZIP: <b>Issaquah, WA 98027</b>			
<b>TURNAROUND TIME</b> <input type="checkbox"/> 1-day Rush <input type="checkbox"/> 5- to 8-day Rush <input type="checkbox"/> 2-day Rush <input type="checkbox"/> Standard 10-Day <input checked="" type="checkbox"/> 3-day Rush <input type="checkbox"/> Other _____			<b>DELIVERABLES</b> <input type="checkbox"/> BNSF Standard (Level II) <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/> Other Deliverables? _____ <input type="checkbox"/> EDD Req. Format? _____			<b>METHODS FOR ANALYSIS</b>  <div style="border: 1px solid black; padding: 5px; display: inline-block; transform: rotate(-90deg); transform-origin: left top;">         AWTPH-DX       </div>			
<b>SAMPLE INFORMATION</b>									
Sample Identification	Containers	Sample Collection			Filtered Y/N	Type (Comp/Grab)	Matrix	COMMENTS	LAB USE
		Date	Time	Sampler					
<b>GW-20-091919</b>	<b>2</b>	<b>9/19/19</b>	<b>0430</b>	<b>GP</b>	<b>N</b>	<b>G</b>	<b>W</b>	<b>X</b>	
Relinquished By:	Date/Time: <b>9/21/19 0730</b>	Received By:	<b>SEA TA</b>		Date/Time: <b>9/20/19 1415</b>	Comments and Special Analytical Requirements:			
Relinquished By:	Date/Time:	Received By:			Date/Time:				
Relinquished By:	Date/Time:	Received By:			Date/Time:				
Received by Laboratory:	Date/Time:	Lab Remarks:			Lab Custody Intact? <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.	BNSF COC No.		

ORIGINAL - RETURN TO LABORATORY WITH SAMPLES

DUPLICATE - CONSULTANT

TAL-1001 (0912)



## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-89413-1

**Login Number: 89413**

**List Source: Eurofins TestAmerica, Seattle**

**List Number: 1**

**Creator: McMorris, Regan**

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.	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?	True	
There are no discrepancies between the containers received and the COC.	False	IDs on containers do not match the COC. Logged in per COC.
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Eurofins TestAmerica, Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

Laboratory Job ID: 580-90157-1  
Client Project/Site: BNSF Skykomish Monthly

For:  
Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Peter Kingston



Authorized for release by:  
10/28/2019 1:32:57 PM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions . . . . .	4
Client Sample Results . . . . .	5
QC Sample Results . . . . .	19
Chronicle . . . . .	20
Certification Summary . . . . .	23
Sample Summary . . . . .	24
Chain of Custody . . . . .	25
Receipt Checklists . . . . .	26

# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

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## Job ID: 580-90157-1

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Laboratory: Eurofins TestAmerica, Seattle

### Narrative

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#### Job Narrative 580-90157-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/18/2019 3:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.4° C, 0.7° C and 3.2° C.

#### GC Semi VOA

Method NWTPH-Dx: The surrogate o-Terphenyl of CCV associated with batch analytical batch 580-315231 have %D lower control limit. Since the %Recovery is within the acceptance criteria, the data have been reported. (CCVRT 580-315231/3)

Method NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: S2-BU-101719 (580-90157-3), PZ-7S-101719 (580-90157-4), WG-EV-101719 (580-90157-7) and WG-WV-101719 (580-90157-9).

Method NWTPH-Dx: Surrogate recovery for the following samples were outside control limits: GW-2-101719 (580-90157-1), S2-BU-101719 (580-90157-3), PZ-7S-101719 (580-90157-4), S2-AD-101719 (580-90157-5) and GW-1-101719 (580-90157-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

#### Organic Prep

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

# Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

## Qualifiers

### GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside 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
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: GW-2-101719**

**Lab Sample ID: 580-90157-1**

Date Collected: 10/17/19 11:04

Matrix: Water

Date Received: 10/18/19 15:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/25/19 11:21	10/26/19 16:14	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/25/19 11:21	10/26/19 16:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	33	X	50 - 150				10/25/19 11:21	10/26/19 16:14	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: S2-BD-101719**

**Lab Sample ID: 580-90157-2**

Date Collected: 10/17/19 11:16

Matrix: Water

Date Received: 10/18/19 15:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061	0.061	mg/L		10/25/19 11:21	10/26/19 16:34	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/25/19 11:21	10/26/19 16:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	74		50 - 150				10/25/19 11:21	10/26/19 16:34	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: S2-BU-101719**

**Lab Sample ID: 580-90157-3**

Date Collected: 10/17/19 11:45

Matrix: Water

Date Received: 10/18/19 15:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.39		0.061	0.061	mg/L		10/25/19 11:21	10/26/19 16:54	1
Motor Oil (>C24-C36)	0.26		0.091	0.091	mg/L		10/25/19 11:21	10/26/19 16:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	37	X	50 - 150				10/25/19 11:21	10/26/19 16:54	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: PZ-7S-101719**

**Lab Sample ID: 580-90157-4**

Date Collected: 10/17/19 12:06

Matrix: Water

Date Received: 10/18/19 15:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/25/19 11:21	10/26/19 17:14	1
<b>Motor Oil (&gt;C24-C36)</b>	<b>0.092</b>		0.091	0.091	mg/L		10/25/19 11:21	10/26/19 17:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	30	X	50 - 150				10/25/19 11:21	10/26/19 17:14	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: S2-AD-101719**

**Lab Sample ID: 580-90157-5**

Date Collected: 10/17/19 12:18

Matrix: Water

Date Received: 10/18/19 15:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/25/19 11:21	10/26/19 17:34	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/25/19 11:21	10/26/19 17:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	44	X	50 - 150				10/25/19 11:21	10/26/19 17:34	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: S2-2-AU-101719**

**Lab Sample ID: 580-90157-6**

Date Collected: 10/17/19 12:43

Matrix: Water

Date Received: 10/18/19 15:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061	0.061	mg/L		10/25/19 11:21	10/26/19 17:55	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/25/19 11:21	10/26/19 17:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	51		50 - 150				10/25/19 11:21	10/26/19 17:55	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: WG-EV-101719**

**Lab Sample ID: 580-90157-7**

Date Collected: 10/17/19 14:15

Matrix: Water

Date Received: 10/18/19 15:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.58		0.061	0.061	mg/L		10/25/19 11:21	10/26/19 18:35	1
Motor Oil (>C24-C36)	0.39		0.091	0.091	mg/L		10/25/19 11:21	10/26/19 18:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	92		50 - 150				10/25/19 11:21	10/26/19 18:35	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: GW-1-101719**

**Lab Sample ID: 580-90157-8**

Date Collected: 10/17/19 14:21

Matrix: Water

Date Received: 10/18/19 15:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061	0.061	mg/L		10/25/19 11:21	10/26/19 18:55	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/25/19 11:21	10/26/19 18:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	39	X	50 - 150				10/25/19 11:21	10/26/19 18:55	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: WG-WV-101719**

**Lab Sample ID: 580-90157-9**

Date Collected: 10/17/19 14:53

Matrix: Water

Date Received: 10/18/19 15:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.070		0.062	0.062	mg/L		10/25/19 11:21	10/26/19 19:15	1
Motor Oil (>C24-C36)	0.12		0.091	0.091	mg/L		10/25/19 11:21	10/26/19 19:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	69		50 - 150				10/25/19 11:21	10/26/19 19:15	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: FWG-EV-101719**

**Lab Sample ID: 580-90157-10**

Date Collected: 10/17/19 15:12

Matrix: Water

Date Received: 10/18/19 15:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/25/19 11:21	10/26/19 19:35	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/25/19 11:21	10/26/19 19:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	83		50 - 150				10/25/19 11:21	10/26/19 19:35	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: FWG-WV-101719**

**Lab Sample ID: 580-90157-11**

Date Collected: 10/17/19 15:47

Matrix: Water

Date Received: 10/18/19 15:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/25/19 11:21	10/26/19 19:55	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/25/19 11:21	10/26/19 19:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	64		50 - 150				10/25/19 11:21	10/26/19 19:55	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: 5-W-43-101719**

**Lab Sample ID: 580-90157-12**

Date Collected: 10/17/19 15:27

Matrix: Water

Date Received: 10/18/19 15:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/25/19 11:21	10/26/19 20:16	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/25/19 11:21	10/26/19 20:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	86		50 - 150				10/25/19 11:21	10/26/19 20:16	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: EW-1-101719**

**Lab Sample ID: 580-90157-13**

Date Collected: 10/17/19 16:38

Matrix: Water

Date Received: 10/18/19 15:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/25/19 11:21	10/26/19 20:36	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/25/19 11:21	10/26/19 20:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	78		50 - 150				10/25/19 11:21	10/26/19 20:36	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: PZ-8-101719**

**Lab Sample ID: 580-90157-14**

Date Collected: 10/17/19 17:24

Matrix: Water

Date Received: 10/18/19 15:25

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		10/25/19 11:21	10/26/19 20:56	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		10/25/19 11:21	10/26/19 20:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	52		50 - 150				10/25/19 11:21	10/26/19 20:56	1

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-315161/1-A**  
**Matrix: Water**  
**Analysis Batch: 315231**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 315161**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		10/25/19 11:21	10/26/19 14:53	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		10/25/19 11:21	10/26/19 14:53	1
Surrogate	MB	MB	Limits			D	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
<i>o</i> -Terphenyl	84		50 - 150				10/25/19 11:21	10/26/19 14:53	1

**Lab Sample ID: LCS 580-315161/2-A**  
**Matrix: Water**  
**Analysis Batch: 315231**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 315161**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits	
		Result	Qualifier					
#2 Diesel (C10-C24)	0.500	0.368		mg/L		74	50 - 120	
Motor Oil (>C24-C36)	0.500	0.418		mg/L		84	64 - 120	
Surrogate	LCS	LCS	Limits			D	%Rec	%Rec. Limits
	%Recovery	Qualifier						
<i>o</i> -Terphenyl	82		50 - 150					

**Lab Sample ID: LCSD 580-315161/3-A**  
**Matrix: Water**  
**Analysis Batch: 315231**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 315161**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
#2 Diesel (C10-C24)	0.500	0.394		mg/L		79	50 - 120	7	26
Motor Oil (>C24-C36)	0.500	0.438		mg/L		88	64 - 120	5	24
Surrogate	LCSD	LCSD	Limits			D	%Rec	%Rec. Limits	RPD
	%Recovery	Qualifier							
<i>o</i> -Terphenyl	82		50 - 150						

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: GW-2-101719**

**Lab Sample ID: 580-90157-1**

Date Collected: 10/17/19 11:04

Matrix: Water

Date Received: 10/18/19 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			315161	10/25/19 11:21	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	315231	10/26/19 16:14	CJ	TAL SEA

**Client Sample ID: S2-BD-101719**

**Lab Sample ID: 580-90157-2**

Date Collected: 10/17/19 11:16

Matrix: Water

Date Received: 10/18/19 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			315161	10/25/19 11:21	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	315231	10/26/19 16:34	CJ	TAL SEA

**Client Sample ID: S2-BU-101719**

**Lab Sample ID: 580-90157-3**

Date Collected: 10/17/19 11:45

Matrix: Water

Date Received: 10/18/19 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			315161	10/25/19 11:21	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	315231	10/26/19 16:54	CJ	TAL SEA

**Client Sample ID: PZ-7S-101719**

**Lab Sample ID: 580-90157-4**

Date Collected: 10/17/19 12:06

Matrix: Water

Date Received: 10/18/19 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			315161	10/25/19 11:21	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	315231	10/26/19 17:14	CJ	TAL SEA

**Client Sample ID: S2-AD-101719**

**Lab Sample ID: 580-90157-5**

Date Collected: 10/17/19 12:18

Matrix: Water

Date Received: 10/18/19 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			315161	10/25/19 11:21	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	315231	10/26/19 17:34	CJ	TAL SEA

**Client Sample ID: S2-2-AU-101719**

**Lab Sample ID: 580-90157-6**

Date Collected: 10/17/19 12:43

Matrix: Water

Date Received: 10/18/19 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			315161	10/25/19 11:21	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	315231	10/26/19 17:55	CJ	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: WG-EV-101719**

**Lab Sample ID: 580-90157-7**

Date Collected: 10/17/19 14:15

Matrix: Water

Date Received: 10/18/19 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			315161	10/25/19 11:21	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	315231	10/26/19 18:35	CJ	TAL SEA

**Client Sample ID: GW-1-101719**

**Lab Sample ID: 580-90157-8**

Date Collected: 10/17/19 14:21

Matrix: Water

Date Received: 10/18/19 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			315161	10/25/19 11:21	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	315231	10/26/19 18:55	CJ	TAL SEA

**Client Sample ID: WG-WV-101719**

**Lab Sample ID: 580-90157-9**

Date Collected: 10/17/19 14:53

Matrix: Water

Date Received: 10/18/19 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			315161	10/25/19 11:21	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	315231	10/26/19 19:15	CJ	TAL SEA

**Client Sample ID: FWG-EV-101719**

**Lab Sample ID: 580-90157-10**

Date Collected: 10/17/19 15:12

Matrix: Water

Date Received: 10/18/19 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			315161	10/25/19 11:21	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	315231	10/26/19 19:35	CJ	TAL SEA

**Client Sample ID: FWG-WV-101719**

**Lab Sample ID: 580-90157-11**

Date Collected: 10/17/19 15:47

Matrix: Water

Date Received: 10/18/19 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			315161	10/25/19 11:21	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	315231	10/26/19 19:55	CJ	TAL SEA

**Client Sample ID: 5-W-43-101719**

**Lab Sample ID: 580-90157-12**

Date Collected: 10/17/19 15:27

Matrix: Water

Date Received: 10/18/19 15:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			315161	10/25/19 11:21	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	315231	10/26/19 20:16	CJ	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

**Client Sample ID: EW-1-101719**

**Lab Sample ID: 580-90157-13**

**Date Collected: 10/17/19 16:38**

**Matrix: Water**

**Date Received: 10/18/19 15:25**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			315161	10/25/19 11:21	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	315231	10/26/19 20:36	CJ	TAL SEA

**Client Sample ID: PZ-8-101719**

**Lab Sample ID: 580-90157-14**

**Date Collected: 10/17/19 17:24**

**Matrix: Water**

**Date Received: 10/18/19 15:25**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			315161	10/25/19 11:21	PRO	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	315231	10/26/19 20:56	CJ	TAL SEA

**Laboratory References:**

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



# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

## Laboratory: Eurofins TestAmerica, 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	17-024	01-19-22
ANAB	Dept. of Defense ELAP	L2236	01-19-22
ANAB	ISO/IEC 17025	L2236	01-19-22
California	State	2901	11-05-19
Montana (UST)	State	NA	04-13-21
Oregon	NELAP	WA100007	11-05-19
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00039	02-10-20
Washington	State	C553	02-17-20



# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Monthly

Job ID: 580-90157-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-90157-1	GW-2-101719	Water	10/17/19 11:04	10/18/19 15:25	
580-90157-2	S2-BD-101719	Water	10/17/19 11:16	10/18/19 15:25	
580-90157-3	S2-BU-101719	Water	10/17/19 11:45	10/18/19 15:25	
580-90157-4	PZ-7S-101719	Water	10/17/19 12:06	10/18/19 15:25	
580-90157-5	S2-AD-101719	Water	10/17/19 12:18	10/18/19 15:25	
580-90157-6	S2-2-AU-101719	Water	10/17/19 12:43	10/18/19 15:25	
580-90157-7	WG-EV-101719	Water	10/17/19 14:15	10/18/19 15:25	
580-90157-8	GW-1-101719	Water	10/17/19 14:21	10/18/19 15:25	
580-90157-9	WG-WV-101719	Water	10/17/19 14:53	10/18/19 15:25	
580-90157-10	FWG-EV-101719	Water	10/17/19 15:12	10/18/19 15:25	
580-90157-11	FWG-WV-101719	Water	10/17/19 15:47	10/18/19 15:25	
580-90157-12	5-W-43-101719	Water	10/17/19 15:27	10/18/19 15:25	
580-90157-13	EW-1-101719	Water	10/17/19 16:38	10/18/19 15:25	
580-90157-14	PZ-8-101719	Water	10/17/19 17:24	10/18/19 15:25	



CHAIN OF CUSTODY

LABORATORY INFORMATION

LAB WORK ORDER: 90157

Laboratory: \_\_\_\_\_ Project Manager: \_\_\_\_\_  
 Address: \_\_\_\_\_ Phone: \_\_\_\_\_  
 City/State/ZIP: \_\_\_\_\_ Fax: \_\_\_\_\_

SHIPMENT INFORMATION  
 Shipment Method: \_\_\_\_\_  
 Tracking Number: \_\_\_\_\_

BNSF PROJECT INFORMATION  
 Project State of Origin: WA  
 BNSF Project Number: 683-067  
 Project City: Skykomish  
 BNSF Project Name: BNSF Skykomish Monthly  
 BNSF Contact: \_\_\_\_\_  
 BNSF Work Order No.: \_\_\_\_\_

CONSULTANT INFORMATION  
 Project Number: 683-067  
 Company: Farelon Consulting  
 Project Manager: Pete Kingston  
 Address: 975 5th AVE NW  
 Email: pkingston@farelonconsulting.com  
 City/State/ZIP: Issaquah WA 98027  
 Phone: 425-295-0800 Fax: \_\_\_\_\_

TURNAROUND TIME  
 1-day Rush  
 2-day Rush  
 3-day Rush  
 5- to 8-day Rush  
 Standard 10-Day  
 Other \_\_\_\_\_

DELIVERABLES  Other Deliverables?  
 BNSF Standard (Level II)  
 Level III  
 Level IV  
 EDD Req. Format?

METHODS FOR ANALYSIS



580-90157 Chain of Custody

SAMPLE INFORMATION

Sample Identification	Containers	Sample Collection			Filtered Y/N	Type (Comp/Grab)	Matrix	N	W	T	P	H	D	A
		Date	Time	Sampler										
1 GW-2-101719	2	10/17/19	1104	GP	N	G	W	X						
2 S2-BD-101719			1116					X						
3 S2-BU-101719			1145					X						
4 P2-75-101719			1206					X						
5 S2-AD-101719			1218					X						
6 S2-2-AU-101719			1243					X						
7 WG-EV-101719			1415					X						
8 GW-1-101719			1421					X						
9 WG-WV-101719			1453					X						
10 FWG-EV-101719			1512					X						
11 FWG-WV-101719			1547					X						
12 5-W-43-101719			1527					X						
13 EW-1-101719			1638					X						
14 P2-8-101719			1724					X						

COMMENTS LAB USE

Therm. ID: A1 Cor: 0.7 ° Unc: 0.8 °  
 Cooler Dsc: 1kg Green  
 Packing: Bub  
 Cust. Seal: Yes No X Lab Cour: X  
 Blue Ice: (Wet) Dry, None Other: \_\_\_\_\_

Therm. ID: 107 Cor: 3.2 ° Unc: 3.5 °  
 Cooler Dsc: 1kg Blue  
 Packing: Bub  
 Cust. Seal: Yes No X Lab Cour: X  
 Blue Ice: (Wet) Dry, None Other: \_\_\_\_\_

Therm. ID: M1 Cor: 0.4 ° Unc: 0.5 °  
 Cooler Dsc: 1kg Blue  
 Packing: Bub  
 Cust. Seal: Yes No X Lab Cour: R  
 Blue Ice: (Wet) Dry, None Other: \_\_\_\_\_

Relinquished By: [Signature] Date/Time: 10/18/19 0817 Received By: [Signature] SEA TA Date/Time: 10-18-19 1525  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by Laboratory: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Lab Remarks: \_\_\_\_\_ Lab Custody Intact?  Yes  No Custody Seal No. \_\_\_\_\_ BNSF COC No. \_\_\_\_\_

ORIGINAL - RETURN TO LABORATORY WITH SAMPLES      DUPLICATE - CONSULTANT      TAL-1001 (0912)

## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-90157-1

**Login Number: 90157**

**List Number: 1**

**Creator: Blankinship, Tom X**

**List Source: Eurofins TestAmerica, Seattle**

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?	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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	Insufficient volume received for MS/MSD.
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.	True	



## ANALYTICAL REPORT

Eurofins TestAmerica, Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

Laboratory Job ID: 580-90933-1  
Client Project/Site: BNSF Skykomish NPDES

For:  
Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Peter Kingston



Authorized for release by:  
11/27/2019 1:07:32 PM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)



### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions . . . . .	4
Client Sample Results . . . . .	5
QC Sample Results . . . . .	19
Chronicle . . . . .	20
Certification Summary . . . . .	23
Sample Summary . . . . .	24
Chain of Custody . . . . .	25
Receipt Checklists . . . . .	27

# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

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## Job ID: 580-90933-1

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Laboratory: Eurofins TestAmerica, Seattle

### Narrative

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#### Job Narrative 580-90933-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/20/2019 1:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.6° C, 1.5° C and 1.6° C.

#### GC Semi VOA

Method NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: S2-BU-111919 (580-90933-1), GW-1-111919 (580-90933-5), WG-WV-111919 (580-90933-7), WG-EV-111919 (580-90933-13) and PZ-7S-111919 (580-90933-14).

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

#### Organic Prep

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

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: S2-BU-111919**

**Lab Sample ID: 580-90933-1**

Date Collected: 11/19/19 10:25

Matrix: Water

Date Received: 11/20/19 13:55

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.20		0.062		mg/L		11/26/19 09:23	11/26/19 17:34	1
Motor Oil (>C24-C36)	0.17		0.092		mg/L		11/26/19 09:23	11/26/19 17:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	87		50 - 150				11/26/19 09:23	11/26/19 17:34	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: GW-2-111919**

**Lab Sample ID: 580-90933-2**

Date Collected: 11/19/19 10:45

Matrix: Water

Date Received: 11/20/19 13:55

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		11/26/19 09:23	11/26/19 17:57	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		11/26/19 09:23	11/26/19 17:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	77		50 - 150				11/26/19 09:23	11/26/19 17:57	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: S2-BD-111919**

**Lab Sample ID: 580-90933-3**

Date Collected: 11/19/19 10:58

Matrix: Water

Date Received: 11/20/19 13:55

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		11/26/19 09:23	11/26/19 18:18	1
Motor Oil (>C24-C36)	ND		0.092		mg/L		11/26/19 09:23	11/26/19 18:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	79		50 - 150				11/26/19 09:23	11/26/19 18:18	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: S2-AD-111919**

**Lab Sample ID: 580-90933-4**

Date Collected: 11/19/19 11:28

Matrix: Water

Date Received: 11/20/19 13:55

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		11/26/19 09:23	11/26/19 18:40	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		11/26/19 09:23	11/26/19 18:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	74		50 - 150				11/26/19 09:23	11/26/19 18:40	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: GW-1-111919**

**Lab Sample ID: 580-90933-5**

Date Collected: 11/19/19 11:42

Matrix: Water

Date Received: 11/20/19 13:55

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.065		mg/L		11/26/19 09:23	11/26/19 19:02	1
<b>Motor Oil (&gt;C24-C36)</b>	<b>0.11</b>		0.095		mg/L		11/26/19 09:23	11/26/19 19:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	80		50 - 150				11/26/19 09:23	11/26/19 19:02	1



# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: S2-AU-111919**

**Lab Sample ID: 580-90933-6**

Date Collected: 11/19/19 12:00

Matrix: Water

Date Received: 11/20/19 13:55

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		11/26/19 09:23	11/26/19 19:24	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		11/26/19 09:23	11/26/19 19:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	79		50 - 150				11/26/19 09:23	11/26/19 19:24	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: WG-WV-111919**

**Lab Sample ID: 580-90933-7**

Date Collected: 11/19/19 12:35

Matrix: Water

Date Received: 11/20/19 13:55

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.076		0.062		mg/L		11/26/19 09:23	11/26/19 19:46	1
Motor Oil (>C24-C36)	0.18		0.092		mg/L		11/26/19 09:23	11/26/19 19:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	86		50 - 150				11/26/19 09:23	11/26/19 19:46	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: 5-W-43-111919**

**Lab Sample ID: 580-90933-8**

Date Collected: 11/19/19 12:36

Matrix: Water

Date Received: 11/20/19 13:55

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.064		mg/L		11/26/19 09:23	11/26/19 20:30	1
Motor Oil (>C24-C36)	ND		0.094		mg/L		11/26/19 09:23	11/26/19 20:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	77		50 - 150				11/26/19 09:23	11/26/19 20:30	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: EW-1-111919**

**Lab Sample ID: 580-90933-9**

Date Collected: 11/19/19 13:31

Matrix: Water

Date Received: 11/20/19 13:55

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.063		mg/L		11/26/19 09:23	11/26/19 20:52	1
Motor Oil (>C24-C36)	ND		0.094		mg/L		11/26/19 09:23	11/26/19 20:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	80		50 - 150				11/26/19 09:23	11/26/19 20:52	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: FWG-WV-111919**

**Lab Sample ID: 580-90933-10**

Date Collected: 11/19/19 13:39

Matrix: Water

Date Received: 11/20/19 13:55

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		11/26/19 09:23	11/26/19 21:14	1
Motor Oil (>C24-C36)	ND		0.092		mg/L		11/26/19 09:23	11/26/19 21:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	71		50 - 150				11/26/19 09:23	11/26/19 21:14	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: FWG-EV-111919**

**Lab Sample ID: 580-90933-11**

Date Collected: 11/19/19 14:15

Matrix: Water

Date Received: 11/20/19 13:55

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		11/26/19 09:23	11/26/19 21:35	1
Motor Oil (>C24-C36)	ND		0.091		mg/L		11/26/19 09:23	11/26/19 21:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	55		50 - 150				11/26/19 09:23	11/26/19 21:35	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: PZ-8-111919**

**Lab Sample ID: 580-90933-12**

Date Collected: 11/19/19 14:25

Matrix: Water

Date Received: 11/20/19 13:55

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.066		mg/L		11/26/19 09:23	11/26/19 21:57	1
Motor Oil (>C24-C36)	ND		0.097		mg/L		11/26/19 09:23	11/26/19 21:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	70		50 - 150				11/26/19 09:23	11/26/19 21:57	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: WG-EV-111919**

**Lab Sample ID: 580-90933-13**

Date Collected: 11/19/19 14:46

Matrix: Water

Date Received: 11/20/19 13:55

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.45		0.062		mg/L		11/26/19 09:23	11/26/19 22:19	1
Motor Oil (>C24-C36)	0.41		0.092		mg/L		11/26/19 09:23	11/26/19 22:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	92		50 - 150				11/26/19 09:23	11/26/19 22:19	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: PZ-7S-111919**

**Lab Sample ID: 580-90933-14**

Date Collected: 11/19/19 15:22

Matrix: Water

Date Received: 11/20/19 13:55

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062		mg/L		11/26/19 09:23	11/26/19 22:40	1
<b>Motor Oil (&gt;C24-C36)</b>	<b>0.12</b>		0.092		mg/L		11/26/19 09:23	11/26/19 22:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	74		50 - 150				11/26/19 09:23	11/26/19 22:40	1

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-317671/1-A**

**Matrix: Water**

**Analysis Batch: 317751**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 317671**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		0.065		mg/L		11/26/19 09:23	11/26/19 16:29	1
Motor Oil (>C24-C36)	ND		0.096		mg/L		11/26/19 09:23	11/26/19 16:29	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac	
	%Recovery	Qualifier							
<i>o</i> -Terphenyl	75		50 - 150			11/26/19 09:23	11/26/19 16:29	1	

**Lab Sample ID: LCS 580-317671/2-A**

**Matrix: Water**

**Analysis Batch: 317751**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 317671**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
#2 Diesel (C10-C24)	0.500	0.486		mg/L		97	50 - 120
Motor Oil (>C24-C36)	0.500	0.497		mg/L		99	64 - 120
Surrogate	LCS	LCS	Limits			%Rec	
	%Recovery	Qualifier					
<i>o</i> -Terphenyl	112		50 - 150				

**Lab Sample ID: LCSD 580-317671/3-A**

**Matrix: Water**

**Analysis Batch: 317751**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 317671**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
#2 Diesel (C10-C24)	0.500	0.481		mg/L		96	50 - 120	1	26
Motor Oil (>C24-C36)	0.500	0.490		mg/L		98	64 - 120	1	24
Surrogate	LCSD	LCSD	Limits			%Rec			
	%Recovery	Qualifier							
<i>o</i> -Terphenyl	123		50 - 150						

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: S2-BU-111919**

**Lab Sample ID: 580-90933-1**

Date Collected: 11/19/19 10:25

Matrix: Water

Date Received: 11/20/19 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			317671	11/26/19 09:23	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317751	11/26/19 17:34	T1W	TAL SEA

**Client Sample ID: GW-2-111919**

**Lab Sample ID: 580-90933-2**

Date Collected: 11/19/19 10:45

Matrix: Water

Date Received: 11/20/19 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			317671	11/26/19 09:23	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317751	11/26/19 17:57	T1W	TAL SEA

**Client Sample ID: S2-BD-111919**

**Lab Sample ID: 580-90933-3**

Date Collected: 11/19/19 10:58

Matrix: Water

Date Received: 11/20/19 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			317671	11/26/19 09:23	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317751	11/26/19 18:18	T1W	TAL SEA

**Client Sample ID: S2-AD-111919**

**Lab Sample ID: 580-90933-4**

Date Collected: 11/19/19 11:28

Matrix: Water

Date Received: 11/20/19 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			317671	11/26/19 09:23	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317751	11/26/19 18:40	T1W	TAL SEA

**Client Sample ID: GW-1-111919**

**Lab Sample ID: 580-90933-5**

Date Collected: 11/19/19 11:42

Matrix: Water

Date Received: 11/20/19 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			317671	11/26/19 09:23	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317751	11/26/19 19:02	T1W	TAL SEA

**Client Sample ID: S2-AU-111919**

**Lab Sample ID: 580-90933-6**

Date Collected: 11/19/19 12:00

Matrix: Water

Date Received: 11/20/19 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			317671	11/26/19 09:23	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317751	11/26/19 19:24	T1W	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: WG-WV-111919**

**Lab Sample ID: 580-90933-7**

Date Collected: 11/19/19 12:35

Matrix: Water

Date Received: 11/20/19 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			317671	11/26/19 09:23	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317751	11/26/19 19:46	T1W	TAL SEA

**Client Sample ID: 5-W-43-111919**

**Lab Sample ID: 580-90933-8**

Date Collected: 11/19/19 12:36

Matrix: Water

Date Received: 11/20/19 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			317671	11/26/19 09:23	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317751	11/26/19 20:30	T1W	TAL SEA

**Client Sample ID: EW-1-111919**

**Lab Sample ID: 580-90933-9**

Date Collected: 11/19/19 13:31

Matrix: Water

Date Received: 11/20/19 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			317671	11/26/19 09:23	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317751	11/26/19 20:52	T1W	TAL SEA

**Client Sample ID: FWG-WV-111919**

**Lab Sample ID: 580-90933-10**

Date Collected: 11/19/19 13:39

Matrix: Water

Date Received: 11/20/19 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			317671	11/26/19 09:23	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317751	11/26/19 21:14	T1W	TAL SEA

**Client Sample ID: FWG-EV-111919**

**Lab Sample ID: 580-90933-11**

Date Collected: 11/19/19 14:15

Matrix: Water

Date Received: 11/20/19 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			317671	11/26/19 09:23	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317751	11/26/19 21:35	T1W	TAL SEA

**Client Sample ID: PZ-8-111919**

**Lab Sample ID: 580-90933-12**

Date Collected: 11/19/19 14:25

Matrix: Water

Date Received: 11/20/19 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			317671	11/26/19 09:23	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317751	11/26/19 21:57	T1W	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

**Client Sample ID: WG-EV-111919**

**Lab Sample ID: 580-90933-13**

**Date Collected: 11/19/19 14:46**

**Matrix: Water**

**Date Received: 11/20/19 13:55**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			317671	11/26/19 09:23	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317751	11/26/19 22:19	T1W	TAL SEA

**Client Sample ID: PZ-7S-111919**

**Lab Sample ID: 580-90933-14**

**Date Collected: 11/19/19 15:22**

**Matrix: Water**

**Date Received: 11/20/19 13:55**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			317671	11/26/19 09:23	NRF	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	317751	11/26/19 22:40	T1W	TAL SEA

**Laboratory References:**

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



# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish NPDES

Job ID: 580-90933-1

## Laboratory: Eurofins TestAmerica, Seattle

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State Program	C553	02-17-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
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# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish NPDES

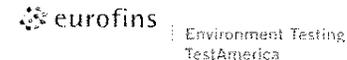
Job ID: 580-90933-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-90933-1	S2-BU-111919	Water	11/19/19 10:25	11/20/19 13:55	
580-90933-2	GW-2-111919	Water	11/19/19 10:45	11/20/19 13:55	
580-90933-3	S2-BD-111919	Water	11/19/19 10:58	11/20/19 13:55	
580-90933-4	S2-AD-111919	Water	11/19/19 11:28	11/20/19 13:55	
580-90933-5	GW-1-111919	Water	11/19/19 11:42	11/20/19 13:55	
580-90933-6	S2-AU-111919	Water	11/19/19 12:00	11/20/19 13:55	
580-90933-7	WG-WV-111919	Water	11/19/19 12:35	11/20/19 13:55	
580-90933-8	5-W-43-111919	Water	11/19/19 12:36	11/20/19 13:55	
580-90933-9	EW-1-111919	Water	11/19/19 13:31	11/20/19 13:55	
580-90933-10	FWG-WV-111919	Water	11/19/19 13:39	11/20/19 13:55	
580-90933-11	FWG-EV-111919	Water	11/19/19 14:15	11/20/19 13:55	
580-90933-12	PZ-8-111919	Water	11/19/19 14:25	11/20/19 13:55	
580-90933-13	WG-EV-111919	Water	11/19/19 14:46	11/20/19 13:55	
580-90933-14	PZ-7S-111919	Water	11/19/19 15:22	11/20/19 13:55	

**Eurofins TestAmerica, Seattle**

5755 8th Street East  
Tacoma, WA 98424  
Phone: 253-922-2310 Fax: 253-922-5047

**Chain of Custody Record**



<b>Client Information</b>		Sampler: <u>C. Banfield/L. Thompson</u>		Lab PM: Allen, Kristine D		Carrier Tracking No(s): <u>90933</u>		COC No: 580-36547-11727.1	
Client Contact: Peter Kingston		Phone: <u>425 295 0800</u>		E-Mail: kristine.allen@testamericainc.com				Page: Page 1 of 2	
Company: Farallon Consulting LLC						<b>Analysis Requested</b>		Job #: <u>633-067</u>	
Address: 975 5th Avenue NW Suite 100		Due Date Requested:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) NWTPH_Dx - Standard reporting list for NWTPH-Dx				<b>Preservation Codes:</b> A - HCL                      M - Hexane B - NaOH                    N - None C - Zn Acetate              O - AsNaO2 D - Nitric Acid              P - Na2O4S E - NaHSO4                Q - Na2SO3 F - MeOH                    R - Na2S2O3 G - Amchlor                S - H2SO4 H - Ascorbic Acid        T - TSP Dodecahydrate I - Ice                        U - Acetone J - DI Water                V - MCAA K - EDTA                    W - pH 4-5 L - EDA                      Z - other (specify)	
City: Issaquah		TAT Requested (days): <u>3</u>							
State, Zip: WA, 98027		PO #: TT0100-Q11							
Phone: <u>(425) 295-0800</u>		WO #: Tax Code 8800 BF10007215							
Email: pkingston@farallonconsulting.com		Project #: 58005923							
Project Name: BNSF Skykomish NPDES		SSOW#:							
Site: Washington									
<b>Sample Identification</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (C=comp, G=grab)</b>		<b>Matrix (W=water, S=solid, O=waste/oil, BT=BIOSIDE, AA=AI)</b>	
								<b>Special Instructions/Note:</b>	
-1	<u>S2-BU-111919</u>	<u>11/19/19</u>	<u>1025</u>	<u>G</u>	<u>Water</u>	<u>X</u>			
	<u>GW-2-111919</u>		<u>1045</u>		<u>Water</u>				
-3	<u>S2-BD-111919</u>		<u>1058</u>		<u>Water</u>				
	<u>S2-AD-111919</u>		<u>1128</u>		<u>Water</u>				
-5	<u>GW-1-111919</u>		<u>1142</u>		<u>Water</u>				
	<u>S2-AU-111919</u>		<u>1200</u>		<u>Water</u>				
-7	<u>WG-WV-111919</u>		<u>1235</u>		<u>Water</u>				
	<u>S-W-43-111919</u>		<u>1236</u>		<u>Water</u>				
-9	<u>EW-1-111919</u>		<u>1331</u>		<u>Water</u>				
	<u>FWG-WV-111919</u>		<u>1339</u>		<u>Water</u>				
-11	<u>FWG-EV-111919</u>		<u>1415</u>		<u>Water</u>				
<b>Possible Hazard Identification</b>					<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>				
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:				
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:			
Relinquished by: <u>Chantal Banfield</u>		Date/Time: <u>11/19/19 @ 1745</u>		Company: <u>Farallon</u>		Received by: <u>Tom Banfield</u>		Date/Time: <u>11/20/19 1355</u>	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:					





## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-90933-1

**Login Number: 90933**

**List Number: 1**

**Creator: Blankinship, Tom X**

**List Source: Eurofins TestAmerica, Seattle**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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?	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.	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 $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Eurofins TestAmerica, Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

Laboratory Job ID: 580-91664-1

Client Project/Site: BNSF Skykomish Former Maintenance  
Sampling Event: Skykomish HCC System

For:  
Farallon Consulting LLC  
975 5th Avenue NW  
Suite 100  
Issaquah, Washington 98027

Attn: Peter Kingston



Authorized for release by:  
1/6/2020 1:39:51 PM

Kristine Allen, Manager of Project Management  
(253)248-4970  
[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions . . . . .	4
Client Sample Results . . . . .	5
QC Sample Results . . . . .	20
Chronicle . . . . .	21
Certification Summary . . . . .	24
Sample Summary . . . . .	25
Chain of Custody . . . . .	26
Receipt Checklists . . . . .	30

# Case Narrative

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

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**Job ID: 580-91664-1**

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**Laboratory: Eurofins TestAmerica, Seattle**

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## Narrative

**Job Narrative  
580-91664-1**

### Comments

No additional comments.

### Receipt

The samples were received on 12/20/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.6° C, 2.0° C and 2.2° C.

### GC Semi VOA

Method NWTPH-Dx: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern were later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: WG-WV-121819 (580-91664-8) and PZ-7S-121819 (580-91664-13).

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

### Organic Prep

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

## Definitions/Glossary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: PZ-80-121819**

**Lab Sample ID: 580-91664-1**

Date Collected: 12/18/19 11:25

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.063	0.063	mg/L		12/31/19 09:53	01/02/20 16:18	1
Motor Oil (>C24-C36)	ND		0.093	0.093	mg/L		12/31/19 09:53	01/02/20 16:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	71		50 - 150				12/31/19 09:53	01/02/20 16:18	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: S2-AU-121819**

**Lab Sample ID: 580-91664-2**

Date Collected: 12/18/19 13:32

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/31/19 09:53	01/02/20 16:39	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/31/19 09:53	01/02/20 16:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	70		50 - 150				12/31/19 09:53	01/02/20 16:39	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: GW-1-121819**

**Lab Sample ID: 580-91664-3**

Date Collected: 12/18/19 13:55

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/31/19 09:53	01/02/20 17:01	1
Motor Oil (>C24-C36)	ND		0.092	0.092	mg/L		12/31/19 09:53	01/02/20 17:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	85		50 - 150				12/31/19 09:53	01/02/20 17:01	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: S2-AD-121819**

**Lab Sample ID: 580-91664-4**

Date Collected: 12/18/19 11:38

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/31/19 09:53	01/02/20 17:44	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/31/19 09:53	01/02/20 17:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	81		50 - 150				12/31/19 09:53	01/02/20 17:44	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: EW-1-121819**

**Lab Sample ID: 580-91664-5**

Date Collected: 12/18/19 10:30

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.063	0.063	mg/L		12/31/19 09:53	01/02/20 18:06	1
Motor Oil (>C24-C36)	ND		0.093	0.093	mg/L		12/31/19 09:53	01/02/20 18:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	78		50 - 150				12/31/19 09:53	01/02/20 18:06	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: S2-BD-121819**

**Lab Sample ID: 580-91664-6**

Date Collected: 12/18/19 09:47

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/31/19 09:53	01/02/20 18:28	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/31/19 09:53	01/02/20 18:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	80		50 - 150				12/31/19 09:53	01/02/20 18:28	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: 5-W-43-121819**

**Lab Sample ID: 580-91664-7**

Date Collected: 12/18/19 09:28

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/31/19 09:53	01/02/20 18:50	1
Motor Oil (>C24-C36)	ND		0.092	0.092	mg/L		12/31/19 09:53	01/02/20 18:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	82		50 - 150				12/31/19 09:53	01/02/20 18:50	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: WG-WV-121819**

**Lab Sample ID: 580-91664-8**

Date Collected: 12/18/19 13:54

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.061	0.061	mg/L		12/31/19 09:53	01/02/20 19:11	1
<b>Motor Oil (&gt;C24-C36)</b>	<b>0.17</b>		0.091	0.091	mg/L		12/31/19 09:53	01/02/20 19:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	93		50 - 150				12/31/19 09:53	01/02/20 19:11	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: FWG-EV-121819**

**Lab Sample ID: 580-91664-9**

Date Collected: 12/18/19 14:35

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/31/19 09:53	01/02/20 19:33	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/31/19 09:53	01/02/20 19:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	84		50 - 150				12/31/19 09:53	01/02/20 19:33	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: S2-BU-121819**

**Lab Sample ID: 580-91664-10**

Date Collected: 12/18/19 10:18

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.11		0.062	0.062	mg/L		12/31/19 09:53	01/02/20 19:55	1
Motor Oil (>C24-C36)	0.10		0.091	0.091	mg/L		12/31/19 09:53	01/02/20 19:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	84		50 - 150				12/31/19 09:53	01/02/20 19:55	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: FWG-WV-121819**

**Lab Sample ID: 580-91664-11**

Date Collected: 12/18/19 15:00

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/31/19 09:53	01/02/20 20:17	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/31/19 09:53	01/02/20 20:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	76		50 - 150				12/31/19 09:53	01/02/20 20:17	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: WG-EV-121819**

**Lab Sample ID: 580-91664-12**

Date Collected: 12/18/19 10:49

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.45		0.061	0.061	mg/L		12/31/19 09:53	01/02/20 20:38	1
Motor Oil (>C24-C36)	0.45		0.091	0.091	mg/L		12/31/19 09:53	01/02/20 20:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	97		50 - 150				12/31/19 09:53	01/02/20 20:38	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: PZ-7S-121819**

**Lab Sample ID: 580-91664-13**

Date Collected: 12/18/19 14:52

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.063	0.063	mg/L		12/31/19 09:53	01/02/20 21:00	1
<b>Motor Oil (&gt;C24-C36)</b>	<b>0.11</b>		0.092	0.092	mg/L		12/31/19 09:53	01/02/20 21:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i>	83		50 - 150				12/31/19 09:53	01/02/20 21:00	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: GW-2-121819**

**Lab Sample ID: 580-91664-14**

Date Collected: 12/18/19 15:48

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/31/19 09:53	01/02/20 21:43	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/31/19 09:53	01/02/20 21:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	79		50 - 150				12/31/19 09:53	01/02/20 21:43	1

# Client Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: GW-20-121819**

**Lab Sample ID: 580-91664-15**

Date Collected: 12/18/19 15:55

Matrix: Water

Date Received: 12/20/19 10:00

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.062	0.062	mg/L		12/31/19 09:53	01/02/20 22:05	1
Motor Oil (>C24-C36)	ND		0.091	0.091	mg/L		12/31/19 09:53	01/02/20 22:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	87		50 - 150				12/31/19 09:53	01/02/20 22:05	1

# QC Sample Results

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

**Lab Sample ID: MB 580-319908/1-A**

**Matrix: Water**

**Analysis Batch: 319958**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 319908**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
#2 Diesel (C10-C24)	ND		0.065	0.065	mg/L		12/31/19 09:53	01/02/20 13:45	1
Motor Oil (>C24-C36)	ND		0.096	0.096	mg/L		12/31/19 09:53	01/02/20 13:45	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac	
<i>o</i> -Terphenyl	81		50 - 150			12/31/19 09:53	01/02/20 13:45	1	

**Lab Sample ID: LCS 580-319908/2-A**

**Matrix: Water**

**Analysis Batch: 319958**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 319908**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
		Result	Qualifier				Limits	
#2 Diesel (C10-C24)	0.500	0.448		mg/L		90	50 - 120	
Motor Oil (>C24-C36)	0.500	0.493		mg/L		99	64 - 120	
Surrogate	LCS	LCS	Limits			%Recovery		
<i>o</i> -Terphenyl		107	50 - 150					

**Lab Sample ID: LCSD 580-319908/3-A**

**Matrix: Water**

**Analysis Batch: 319958**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 319908**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	Limit
		Result	Qualifier				Limits		
#2 Diesel (C10-C24)	0.500	0.456		mg/L		91	50 - 120	2	26
Motor Oil (>C24-C36)	0.500	0.483		mg/L		97	64 - 120	2	24
Surrogate	LCSD	LCSD	Limits			%Recovery			
<i>o</i> -Terphenyl		108	50 - 150						

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

## Client Sample ID: PZ-80-121819

Lab Sample ID: 580-91664-1

Date Collected: 12/18/19 11:25

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 16:18	T1W	TAL SEA

## Client Sample ID: S2-AU-121819

Lab Sample ID: 580-91664-2

Date Collected: 12/18/19 13:32

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 16:39	T1W	TAL SEA

## Client Sample ID: GW-1-121819

Lab Sample ID: 580-91664-3

Date Collected: 12/18/19 13:55

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 17:01	T1W	TAL SEA

## Client Sample ID: S2-AD-121819

Lab Sample ID: 580-91664-4

Date Collected: 12/18/19 11:38

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 17:44	T1W	TAL SEA

## Client Sample ID: EW-1-121819

Lab Sample ID: 580-91664-5

Date Collected: 12/18/19 10:30

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 18:06	T1W	TAL SEA

## Client Sample ID: S2-BD-121819

Lab Sample ID: 580-91664-6

Date Collected: 12/18/19 09:47

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 18:28	T1W	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
 Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

**Client Sample ID: 5-W-43-121819**

**Lab Sample ID: 580-91664-7**

Date Collected: 12/18/19 09:28

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 18:50	T1W	TAL SEA

**Client Sample ID: WG-WV-121819**

**Lab Sample ID: 580-91664-8**

Date Collected: 12/18/19 13:54

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 19:11	T1W	TAL SEA

**Client Sample ID: FWG-EV-121819**

**Lab Sample ID: 580-91664-9**

Date Collected: 12/18/19 14:35

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 19:33	T1W	TAL SEA

**Client Sample ID: S2-BU-121819**

**Lab Sample ID: 580-91664-10**

Date Collected: 12/18/19 10:18

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 19:55	T1W	TAL SEA

**Client Sample ID: FWG-WV-121819**

**Lab Sample ID: 580-91664-11**

Date Collected: 12/18/19 15:00

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 20:17	T1W	TAL SEA

**Client Sample ID: WG-EV-121819**

**Lab Sample ID: 580-91664-12**

Date Collected: 12/18/19 10:49

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 20:38	T1W	TAL SEA

# Lab Chronicle

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

## Client Sample ID: PZ-7S-121819

Lab Sample ID: 580-91664-13

Date Collected: 12/18/19 14:52

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 21:00	T1W	TAL SEA

## Client Sample ID: GW-2-121819

Lab Sample ID: 580-91664-14

Date Collected: 12/18/19 15:48

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 21:43	T1W	TAL SEA

## Client Sample ID: GW-20-121819

Lab Sample ID: 580-91664-15

Date Collected: 12/18/19 15:55

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			319908	12/31/19 09:53	JCM	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	319958	01/02/20 22:05	T1W	TAL SEA

### Laboratory References:

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

# Accreditation/Certification Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

## Laboratory: Eurofins TestAmerica, 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	17-024	01-19-22
ANAB	Dept. of Defense ELAP	L2236	01-19-22
ANAB	ISO/IEC 17025	L2236	01-19-22
California	State	2901	11-05-20
Montana (UST)	State	NA	04-13-21
Oregon	NELAP	WA100007	11-06-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00039	02-10-20
Washington	State	C553	02-17-20

# Sample Summary

Client: Farallon Consulting LLC  
Project/Site: BNSF Skykomish Former Maintenance

Job ID: 580-91664-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-91664-1	PZ-80-121819	Water	12/18/19 11:25	12/20/19 10:00	
580-91664-2	S2-AU-121819	Water	12/18/19 13:32	12/20/19 10:00	
580-91664-3	GW-1-121819	Water	12/18/19 13:55	12/20/19 10:00	
580-91664-4	S2-AD-121819	Water	12/18/19 11:38	12/20/19 10:00	
580-91664-5	EW-1-121819	Water	12/18/19 10:30	12/20/19 10:00	
580-91664-6	S2-BD-121819	Water	12/18/19 09:47	12/20/19 10:00	
580-91664-7	5-W-43-121819	Water	12/18/19 09:28	12/20/19 10:00	
580-91664-8	WG-WV-121819	Water	12/18/19 13:54	12/20/19 10:00	
580-91664-9	FWG-EV-121819	Water	12/18/19 14:35	12/20/19 10:00	
580-91664-10	S2-BU-121819	Water	12/18/19 10:18	12/20/19 10:00	
580-91664-11	FWG-WV-121819	Water	12/18/19 15:00	12/20/19 10:00	
580-91664-12	WG-EV-121819	Water	12/18/19 10:49	12/20/19 10:00	
580-91664-13	PZ-7S-121819	Water	12/18/19 14:52	12/20/19 10:00	
580-91664-14	GW-2-121819	Water	12/18/19 15:48	12/20/19 10:00	
580-91664-15	GW-20-121819	Water	12/18/19 15:55	12/20/19 10:00	

 <b>CHAIN OF CUSTODY</b>	<b>LABORATORY INFORMATION</b>				LAB WORK ORDER:					
	Laboratory: <u>Eurofins, West America</u>		Project Manager: <u>Kristine Allen</u>		<b>SHIPMENT INFORMATION</b>					
	Address: <u>5755 9th St E</u>		Phone: <u>253-922-2310</u>		Shipment Method: <u>CARRIER</u>					
City/State/ZIP: <u>Tacoma, WA 98424</u>		Fax:		Tracking Number:						
<b>BNSF PROJECT INFORMATION</b>			<b>CONSULTANT INFORMATION</b>			Project Number: <u>603-067</u>				
BNSF Project Number: <u>603-067</u>		Project State of Origin: <u>WA</u>	Company: <u>Farallon Consulting</u>		Project Manager: <u>PETE KINGSTON</u>					
BNSF Project Name: <u>BNSF FORMER MAINTENANCE</u>		Project City: <u>Skykomish</u>	Address: <u>475 5th Ave NW</u>		Email: <u>pkinston@farallonconsulting.com</u>					
BNSF Contact:		BNSF Work Order No.:	City/State/ZIP: <u>Ksagwah, WA 98023</u>		Phone: <u>4252950800</u>					
<b>TURNAROUND TIME</b>		<b>DELIVERABLES</b>		<b>METHODS FOR ANALYSIS</b>						
<input type="checkbox"/> 1-day Rush <input type="checkbox"/> 2-day Rush <input type="checkbox"/> 3-day Rush <input type="checkbox"/> 5- to 8-day Rush <input checked="" type="checkbox"/> Standard 10-Day <input type="checkbox"/> Other _____		<input type="checkbox"/> BNSF Standard (Level II) <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/> Other Deliverables? <input type="checkbox"/> EDD Req. Format?		NUTPH-DX						
<b>SAMPLE INFORMATION</b>										
Sample Identification		Containers	Sample Collection			Filtered Y/N	Type (Comp/Grab)	Matrix	COMMENTS	LAB USE
			Date	Time	Sampler					
1 PE-8-12-1819		1	12/18/19	1125	CB	N	G	W		
2 S2-AD-121819				1332						
3 GW-1-121819				1355						
4 S2-AD-121819				1138						
5 EW-1-121819				1030						
6 S2-BD-121819				0947						
7 S-W-43-121819				0928						
8 WG-WV-121819				1354						
9 FWG-EV				1435						
10 S2-BD-121819				1018						
11 FWG-WV-121819				1500						
12 WG-EV-121819				1049						
13 PE-7S-121819				1452						
14 GW-2-121819				1548						
15 GW-20-121819				1555						
Relinquished By: <u>Catalisa</u>		Date/Time: <u>12/20/19</u>	Received By: <u>Q. Powell</u>		Date/Time: <u>12-20-19 18:20</u>		Comments and Special Analytical Requirements:			
Relinquished By: <u>Q. Powell</u>		Date/Time: <u>12/20/19 18:11</u>	Received By: <u>Kenny</u>		Date/Time: <u>12-20-19 10:00</u>					
Relinquished By:		Date/Time:	Received By:		Date/Time:					
Received by Laboratory:		Date/Time:	Lab Remarks:		Lab: Custody Intact? <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.	BNSF COC No.		

ORIGINAL - RETURN TO LABORATORY WITH SAMPLES

DUPLICATE - CONSULTANT

TAL-1001 (0912)





Therm. ID: A1 Cor: 3.5 ° Inc: 3.6 °  
 Cooler Desc: LB FedEx: AB  
 Packing: B26 UPS: \_\_\_\_\_  
 Cust. Seal: Yes \_\_\_ No X Lab Cour: X  
 Blue Ice, Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A1 Cor: 2.5 ° Inc: 2.3 °  
 Cooler Desc: \_\_\_\_\_ FedEx: \_\_\_\_\_  
 Packing: \_\_\_\_\_ UPS: \_\_\_\_\_  
 Cust. Seal: Yes \_\_\_ No \_\_\_ Lab Cour: \_\_\_\_\_  
 Blue Ice, Wet, Dry, None Other: \_\_\_\_\_

← 91VV -

Therm. ID: A1 Cor: 0.4 ° Inc: 0.4 °  
 Cooler Desc: \_\_\_\_\_ FedEx: \_\_\_\_\_  
 Packing: \_\_\_\_\_ UPS: \_\_\_\_\_  
 Cust. Seal: Yes \_\_\_ No \_\_\_ Lab Cour: X  
 Blue Ice, Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A1 Cor: 0.6 ° Inc: 0.7 °  
 Cooler Desc: \_\_\_\_\_ FedEx: \_\_\_\_\_  
 Packing: \_\_\_\_\_ UPS: \_\_\_\_\_  
 Cust. Seal: Yes \_\_\_ No \_\_\_ Lab Cour: \_\_\_\_\_  
 Blue Ice, Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A1 Cor: 1.3 ° Inc: 1.4 °  
 Cooler Desc: \_\_\_\_\_ FedEx: \_\_\_\_\_  
 Packing: \_\_\_\_\_ UPS: \_\_\_\_\_  
 Cust. Seal: Yes \_\_\_ No \_\_\_ Lab Cour: \_\_\_\_\_  
 Blue Ice, Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A1 Cor: 2.2 ° Inc: 2.3 °  
 Cooler Desc: \_\_\_\_\_ FedEx: \_\_\_\_\_  
 Packing: \_\_\_\_\_ UPS: \_\_\_\_\_  
 Cust. Seal: Yes \_\_\_ No \_\_\_ Lab Cour: \_\_\_\_\_  
 Blue Ice, Wet, Dry, None Other: \_\_\_\_\_

BNSF 91VV4  
 FORMER  
 ← MAINTENANCE

Therm. ID: A1 Cor: 2.4 ° Inc: 2.4 °  
 Cooler Desc: \_\_\_\_\_ FedEx: \_\_\_\_\_  
 Packing: \_\_\_\_\_ UPS: \_\_\_\_\_  
 Cust. Seal: Yes \_\_\_ No \_\_\_ Lab Cour: \_\_\_\_\_  
 Blue Ice, Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A1 Cor: 1.5 ° Inc: 2.1 °  
 Cooler Desc: \_\_\_\_\_ FedEx: \_\_\_\_\_  
 Packing: \_\_\_\_\_ UPS: \_\_\_\_\_  
 Cust. Seal: Yes \_\_\_ No \_\_\_ Lab Cour: \_\_\_\_\_  
 Blue Ice, Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A1 Cor: 2.4 ° Inc: 0.7 °  
 Cooler Desc: \_\_\_\_\_ FedEx: \_\_\_\_\_  
 Packing: \_\_\_\_\_ UPS: \_\_\_\_\_  
 Cust. Seal: Yes \_\_\_ No \_\_\_ Lab Cour: \_\_\_\_\_  
 Blue Ice, Wet, Dry, None Other: \_\_\_\_\_

Therm. ID: A1 Cor: 1.3 ° Inc: 1.4 °  
 Cooler Desc: \_\_\_\_\_ FedEx: \_\_\_\_\_  
 Packing: \_\_\_\_\_ UPS: \_\_\_\_\_  
 Cust. Seal: Yes \_\_\_ No \_\_\_ Lab Cour: \_\_\_\_\_  
 Blue Ice, Wet, Dry, None Other: \_\_\_\_\_



1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11

Therm. ID: A1 Cor: 1.3 Unc: 1.4  
Cooler Desc: 12-20-19 MW  
Packing: \_\_\_\_\_  
Cust. Seal: Yes  No   
Blue Ice, Wet, Dry, None  
Lab Cour: \_\_\_\_\_  
Other: \_\_\_\_\_

Therm. ID: A1 Cor: 0.7 Unc: 0.7  
Cooler Desc: 12-20-19 MW  
Packing: \_\_\_\_\_  
Cust. Seal: Yes  No   
Blue Ice, Wet, Dry, None  
Lab Cour: \_\_\_\_\_  
Other: \_\_\_\_\_

Therm. ID: A1 Cor: 2.1 Unc: 2.1  
Cooler Desc: 12-20-19 MW  
Packing: \_\_\_\_\_  
Cust. Seal: Yes  No   
Blue Ice, Wet, Dry, None  
Lab Cour: \_\_\_\_\_  
Other: \_\_\_\_\_

Therm. ID: A1 Cor: 2.4 Unc: 2.4  
Cooler Desc: 12-20-19 MW  
Packing: \_\_\_\_\_  
Cust. Seal: Yes  No   
Blue Ice, Wet, Dry, None  
Lab Cour: \_\_\_\_\_  
Other: \_\_\_\_\_

Therm. ID: A1 Cor: 2.2 Unc: 2.3  
Cooler Desc: \_\_\_\_\_  
Packing: \_\_\_\_\_  
Cust. Seal: Yes  No   
Blue Ice, Wet, Dry, None  
Lab Cour: \_\_\_\_\_  
Other: \_\_\_\_\_

Therm. ID: A1 Cor: 1.3 Unc: 1.4  
Cooler Desc: \_\_\_\_\_  
Packing: \_\_\_\_\_  
Cust. Seal: Yes  No   
Blue Ice, Wet, Dry, None  
Lab Cour: \_\_\_\_\_  
Other: \_\_\_\_\_

Therm. ID: A1 Cor: 0.6 Unc: 0.7  
Cooler Desc: \_\_\_\_\_  
Packing: \_\_\_\_\_  
Cust. Seal: Yes  No   
Blue Ice, Wet, Dry, None  
Lab Cour: \_\_\_\_\_  
Other: \_\_\_\_\_

Therm. ID: A1 Cor: 0.9 Unc: 0.9  
Cooler Desc: \_\_\_\_\_  
Packing: \_\_\_\_\_  
Cust. Seal: Yes  No   
Blue Ice, Wet, Dry, None  
Lab Cour: \_\_\_\_\_  
Other: \_\_\_\_\_

Therm. ID: A1 Cor: 2.0 Unc: 2.3  
Cooler Desc: 12-20-19 MW  
Packing: \_\_\_\_\_  
Cust. Seal: Yes  No   
Blue Ice, Wet, Dry, None  
Lab Cour: \_\_\_\_\_  
Other: \_\_\_\_\_

Therm. ID: A1 Cor: 3.5 Unc: 3.6  
Cooler Desc: \_\_\_\_\_  
Packing: \_\_\_\_\_  
Cust. Seal: Yes  No   
Blue Ice, Wet, Dry, None  
Lab Cour: \_\_\_\_\_  
Other: \_\_\_\_\_

BNSF  
FORMER 91664  
← FORWARD  
← MAINTENANCE

← 91664

← 91664

← 91664

## Login Sample Receipt Checklist

Client: Farallon Consulting LLC

Job Number: 580-91664-1

**Login Number: 91664**

**List Source: Eurofins TestAmerica, Seattle**

**List Number: 1**

**Creator: Vallelunga, Diana L**

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

**APPENDIX B  
DATA VALIDATION REPORTS**

HYDRAULIC CONTROL AND CONTAINMENT SYSTEM  
PASSIVE OPERATION PILOT STUDY REPORT  
BNSF Former Maintenance and Fueling Facility  
Skykomish, Washington  
Consent Decree No. 07-2-33672-9 SEA

Farallon PN: 683-067



## DATA VALIDATION REPORT

### *Skykomish Groundwater Monitoring December 2018 Data*

Prepared for:  
Farallon Consulting, LLC  
975 5<sup>th</sup> Avenue NW  
Issaquah, Washington 98027

January 23, 2019

### 1.0 Introduction

Data validation was performed on the following water samples:

Sample ID	Sample Date/Time	Lab ID	Analyses
1B-W-23-121118	12/11/2018 12:00	580-82652-5	TPH-Dx
1B-W-3-121218	12/12/2018 10:40	580-82652-27	TPH-Dx
1C-W-1-121218	12/12/2018 09:40	580-82652-24	TPH-Dx
1C-W-7-121118	12/11/2018 16:10	580-82652-11	TPH-Dx
1C-W-8-121218	12/12/2018 09:41	580-82652-25	TPH-Dx
2A-W-10-121118	12/11/2018 10:30	580-82652-3	TPH-Dx
2A-W-40-121118	12/11/2018 09:23	580-82652-13	TPH-Dx
2A-W-410-121218	12/12/2018 11:20	580-82652-29	TPH-Dx
2A-W-41-121218	12/12/2018 11:01	580-82652-28	TPH-Dx, TPHSG
2A-W-42-121118	12/11/2018 16:12	580-82652-10	TPH-Dx
2A-W-9-121118	12/11/2018 10:44	580-82652-4	TPH-Dx
2B-W-4-121218	12/12/2018 12:23	580-82652-35	TPH-Dx
5-W-14-121218	12/12/2018 13:27	580-82652-37	TPH-Dx
5-W-16-121218	12/12/2018 12:24	580-82652-36	TPH-Dx
5-W-17-121218	12/12/2018 11:03	580-82652-30	TPH-Dx
5-W-18-121118	12/11/2018 15:35	580-82652-20	TPH-Dx
5-W-19-121118	12/11/2018 15:20	580-82652-19	TPH-Dx
5-W-43-121118	12/11/2018 12:35	580-82652-23	TPH-Dx
5-W-51-121218	12/12/2018 09:51	580-82652-26	TPH-Dx
5-W-55-121118	12/11/2018 16:45	580-82652-21	TPH-Dx
5-W-56-121118	12/11/2018 17:12	580-82652-22	TPH-Dx
EW-1-121218	12/12/2018 11:50	580-82652-18	TPH-Dx
EW-2A-121118	12/11/2018 14:49	580-82652-8	TPH-Dx
FWG-EV-121218	12/12/2018 12:40	580-82652-32	TPH-Dx
FWG-WV-121218	12/12/2018 11:40	580-82652-31	TPH-Dx
GW-1-121118	12/11/2018 11:15	580-82652-15	TPH-Dx
GW-20-121118	12/11/2018 10:05	580-82652-16	TPH-Dx
GW-2-121118	12/11/2018 09:50	580-82652-12	TPH-Dx
GW-30-121118	12/11/2018 12:30	580-82652-7	TPH-Dx
GW-3-121118	12/11/2018 12:12	580-82652-6	TPH-Dx, TPHSG

Sample ID	Sample Date/Time	Lab ID	Analyses
GW-4-121118	12/11/2018 15:00	580-82652-9	TPH-Dx
MW-3-121118	12/11/2018 09:43	580-82652-2	TPH-Dx
MW-4-121118	12/11/2018 09:40	580-82652-1	TPH-Dx
MW-555-121813	12/13/2018 11:10	580-82660-17	TPH-Dx
PZ-7S-12118	12/11/2018 11:24	580-82652-17	TPH-Dx
PZ-8-121118	12/11/2018 12:42	580-82652-14	TPH-Dx
S1-AD-121218	12/12/2018 16:06	580-82660-4	TPH-Dx
S1-AU-121218	12/12/2018 16:00	580-82660-3	TPH-Dx
S1-BD-121218	12/12/2018 16:00	580-82660-2	TPH-Dx
S1-BU-121218	12/12/2018 16:00	580-82660-1	TPH-Dx
S2-AD-121218	12/12/2018 13:40	580-82652-38	TPH-Dx
S2-AU-121218	12/12/2018 13:13	580-82652-39	TPH-Dx
S2-BD-121218	12/12/2018 13:55	580-82652-40	TPH-Dx
S2-BU-121218	12/12/2018 13:55	580-82652-41	TPH-Dx
S3-AD-121318	12/13/2018 08:50	580-82660-6	TPH-Dx
S3-AU-121318	12/13/2018 08:45	580-82660-5	TPH-Dx
S3-BD-121318	12/13/2018 09:00	580-82660-7	TPH-Dx
S3-BU-121318	12/13/2018 09:03	580-82660-8	TPH-Dx
S3-CD-121318	12/13/2018 09:15	580-82660-9	TPH-Dx
S3-CU-121318	12/13/2018 09:20	580-82660-10	TPH-Dx
S4-AD-121318	12/13/2018 10:10	580-82660-12	TPH-Dx
S4-AU-121318	12/13/2018 10:10	580-82660-11	TPH-Dx
S4-BD-121318	12/13/2018 10:12	580-82660-13	TPH-Dx
S4-BU-121318	12/13/2018 10:15	580-82660-14	TPH-Dx
S4-CD-121318	12/13/2018 10:50	580-82660-16	TPH-Dx
S4-CU-121318	12/13/2018 10:41	580-82660-15	TPH-Dx
WG-EV-121218	12/12/2018 12:40	580-82652-34	TPH-Dx
WG-WV-121218	12/12/2018 13:15	580-82652-33	TPH-Dx

Samples were analyzed by Test America, Tacoma, Washington.

A stage 2A summary validation was performed on the analytical results including both the hardcopy (portable document format) and electronic data deliverable, earning EPA OSWER validation label code S2AVEM. Validation was performed by Cari Saylor.

Data qualifiers are assigned based only on the criteria reviewed and do not include calibration or instrument performance issues unless noted in the laboratory narrative.

Qualifiers are summarized in section 4.0 of this report.

## 2.0 Precision, Accuracy, Representativeness, Comparability, and Completeness

Sample analysis frequencies: Quarterly sampling includes 25 water sample locations, and semi-annual sampling includes an additional 29 water sample locations. Additionally, 20 of the 29 semi-annual locations are sentry wells which must be sampled if the HCC system has been down for more than 48 hours in the previous quarter. For this round of sampling, quarterly and sentry locations were required. Samples were collected from all required locations and the required analysis was completed by the laboratory for each collected sample. Please note that 6 additional samples associated with the HCC system vaults were also sampled and analyzed.

Analysis methods: Each sample was analyzed by method NWTPH-Dx and prepared by method SW3510C. These methods are approved EPA methods and therefore meet comparability requirements. Additionally, samples 2A-W-41-121218 and GW-3-121118 were prepared with method SW3510C a second time, cleaned up with method SW3630C (silica gel) and analyzed by NWTPH-Dx.

Precision, accuracy and completeness: Accuracy and precision measurements were within control limits. A data completeness of 100% was calculated based on 45 of 45 intended sample analyses completed. This meets the project goal of 90%.

### 3.0 Diesel Range Petroleum Hydrocarbon Analysis

Quality control analysis frequencies: The method specifies that a method blank must be analyzed one per analytical batch or one per twenty samples, whichever is more frequent, and a laboratory duplicate must be analyzed one per ten samples. In addition, surrogate compounds must be measured in each field and quality control sample.

Each batch included a method blank, laboratory control sample (LCS), and LCS duplicate (LCSD), as well as appropriate surrogates. Data qualifiers are not required due to a lack of laboratory duplicate results.

Holding times: Unpreserved water samples must be extracted within 7 days of collection. Preserved water samples must be extracted within 14 days of collection. Extracts must be analyzed within 40 days of extraction. Samples were extracted and analyzed within holding with two exceptions:

Sample ID	Days, Sample to Extraction	Days, Extraction to Analysis	Days, Sample to Analysis
GW-3-121118 RE	19	0	19
GW-3-121118 RE	19	0	19
GW-3-121118 (w/ SG)	19	0	19
GW-3-121118 (w/ SG)	19	0	19

These results are qualified as estimated.

Laboratory and field blank results: Criteria for blanks are that analyte concentrations must be below the PQL, or below 5% of the lowest associated sample concentration. No target compounds were detected in the method or field blanks.

Surrogate recoveries: Laboratory control limits were 50-150%. Surrogate recoveries were within limits with one exception:

Sample ID	Surrogate	% Recovery	Lab Control Limit
5-W-56-121118	o-Terphenyl	2894	50 - 150

The laboratory noted matrix interference, and no qualifiers are assigned.

LCS recoveries: Laboratory control limits were 50-120% and 64-120%. LCS recoveries were within limits with one exception:

QC ID	Analyte	% Recovery	Lab Control Limit
LCSD 580-291536/3-B	Motor Oil (>C24-C36)	130	64 - 120

Motor Oil was not detected in the associated sample and no qualifiers are required.

LCS/LCSD RPDs: The laboratory control limit ranged from <24 to <26%. LCS/LCSD RPD values were within limits.

QC ID	Analyte	RPD	Lab Control Limit
LCSD 580-291573/3-A	#2 Diesel (C10-C24)	40	26
LCSD 580-291573/3-A	Motor Oil (>C24-C36)	36	24

Neither diesel nor motor oil were detected in the associated samples, and no qualifiers are required.

Field duplicate RPDs: For concentrations above five times the reporting limit, RPDs were below 50%. For concentrations below five times the reporting limits, concentrations were within +/- two times the reporting limit with two exceptions:

FD ID	Analyte	FD Result (mg/L)	Sample Result (mg/L)	RL (mg/L)
GW-20-121118 / GW-2-121118	#2 Diesel (C10-C24)	0.46	0.13	0.062
GW-20-121118 / GW-2-121118	Motor Oil (>C24-C36)	1	0.27	0.091

These analytes are qualified as estimated in the sample and field duplicate.

Reporting limits: The reporting limit goals are 0.1 mg/L for both diesel range hydrocarbons and oil range hydrocarbons. These goals were met.

Laboratory narrative and flags: No qualifiers were added based on a review of the laboratory narrative.

Diesel and oil range petroleum hydrocarbon data are acceptable for use as qualified.

#### 4.0 Validation Qualifiers

Client ID	Analyte(s)	Qualifier	Reason
GW-20-121118	#2 Diesel (C10-C24), Motor Oil (>C24-C36)	J	High FD Difference
GW-2-121118	#2 Diesel (C10-C24), Motor Oil (>C24-C36)	J	High FD Difference
GW-3-121118 RE	#2 Diesel (C10-C24), Motor Oil (>C24-C36)	J	Extraction hold time exceeded
GW-3-121118 (w/ SG)	#2 Diesel (C10-C24)	J	Extraction hold time exceeded
GW-3-121118 (w/ SG)	Motor Oil (>C24-C36)	UJ	Extraction hold time exceeded

#### 5.0 Abbreviations and Definitions

##### DV Qualifier

U

##### Definition

The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample reporting limit or the amount of contaminant detected in the sample.

<u>DV Qualifier</u>	<u>Definition</u>
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.
UJ	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample result is rejected. The presence or absence of the analyte cannot be verified and data are not usable.
R1	The sample result has been replaced by a more reliable or more conservative result.
R2	The sample result has been replaced by a result from a different analysis method.

<u>Abbreviation</u>	<u>Definition</u>
DV	Data Validation
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MS	Matrix spike
MSD	Matrix spike duplicate
RL	Reporting limit
RPD	Relative percent difference
RSD	Relative standard deviation

## 6.0 References

*USEPA Contract Laboratory Program National Functional Guidelines For Superfund Organic Methods Data Review*, Office of Superfund Remediation and Technology Innovation, U.S. Environmental Protection Agency, June 2008, USEPA-540-R-008-01.

*USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, January 2009, EPA 540-R-08-005.



## DATA VALIDATION REPORT

### *Skykomish Hydraulic Control and Containment Pilot Study February 2019 Data*

Prepared for:

Farallon Consulting, LLC  
975 5<sup>th</sup> Avenue NW  
Issaquah, Washington 98027

March 12, 2019

### 1.0 Introduction

Data validation was performed on the following water samples:

Sample ID	Sample Date/Time	Lab ID	Analyses
S2-AU-021919	02/19/2019 13:35	580-84026-1	TPH-Dx
PZ-8-022019	02/20/2019 10:59	580-84026-10	TPH-Dx
EW-1-022019	02/20/2019 11:39	580-84026-11	TPH-Dx
5-W-43-022019	02/20/2019 12:21	580-84026-12	TPH-Dx
GW-1-022019	02/20/2019 13:06	580-84026-13	TPH-Dx
GW-2-022019	02/20/2019 14:32	580-84026-14	TPH-Dx
S2-AD-021919	02/19/2019 13:40	580-84026-2	TPH-Dx
S2-BU-021919	02/19/2019 13:50	580-84026-3	TPH-Dx
S2-BD-021919	02/19/2019 13:51	580-84026-4	TPH-Dx
WG-WV-021919	02/19/2019 15:14	580-84026-5	TPH-Dx
WG-EV-021919	02/19/2019 15:05	580-84026-6	TPH-Dx
FWG-EV-021919	02/19/2019 15:50	580-84026-7	TPH-Dx
FWG-WV-021919	02/19/2019 15:55	580-84026-8	TPH-Dx
PZ-7S-022019	02/20/2019 10:07	580-84026-9	TPH-Dx

Samples were analyzed by Test America, Tacoma, Washington.

A stage 2A summary validation was performed on the analytical results including both the hardcopy (portable document format) and electronic data deliverable, earning EPA OSWER validation label code S2AVEM. Validation was performed by Cari Saylor.

Data qualifiers are assigned based only on the criteria reviewed and do not include calibration or instrument performance issues unless noted in the laboratory narrative. No qualifiers were assigned based on this review.

### 2.0 Precision, Accuracy, Representativeness, Comparability, and Completeness

Sample analysis frequencies: 14 locations are sampled monthly. Samples were collected from required locations and the required analysis was completed by the laboratory for each collected sample.

Analysis methods: Each sample was analyzed by method NWTPH-Dx and prepared by method SW3510C. These methods are approved EPA methods and therefore meet comparability requirements.

Precision, accuracy and completeness: Accuracy and precision measurements were within control limits. A data completeness of 100% was calculated based on 14 of 14 intended sample analyses completed. This meets the project goal of 90%.

### 3.0 Diesel Range Petroleum Hydrocarbon Analysis

Quality control analysis frequencies: The method specifies that a method blank must be analyzed one per analytical batch or one per twenty samples, whichever is more frequent, and a laboratory duplicate must be analyzed one per ten samples. In addition, surrogate compounds must be measured in each field and quality control sample.

This batch included a method blank, laboratory control sample (LCS), and LCS duplicate (LCSD), as well as appropriate surrogates. Data qualifiers are not required due to a lack of laboratory duplicate results.

Holding times: Unpreserved water samples must be extracted within 7 days of collection. Preserved water samples must be extracted within 14 days of collection. Extracts must be analyzed within 40 days of extraction. Samples were extracted and analyzed within holding times.

Laboratory and field blank results: Criteria for blanks are that analyte concentrations must be below the PQL, or below 5% of the lowest associated sample concentration. No target compounds were detected in the method or field blanks.

Surrogate recoveries: Laboratory control limits were 50-150%. Surrogate recoveries were within limits.

LCS recoveries: Laboratory control limits were 50-120% and 64-120%. LCS recoveries were within limits.

LCS/LCSD RPDs: The laboratory control limits were <24 and <26%. LCS/LCSD RPD values were within limits.

Reporting limits: The reporting limit goals are 0.1 mg/L for both diesel range hydrocarbons and oil range hydrocarbons. These goals were met.

Laboratory narrative and flags: No qualifiers were added based on a review of the laboratory narrative.

Diesel and oil range petroleum hydrocarbon data are acceptable for use as reported.

### 4.0 Abbreviations and Definitions

<u>DV Qualifier</u>	<u>Definition</u>
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample reporting limit or the amount of contaminant detected in the sample.

<u>DV Qualifier</u>	<u>Definition</u>
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.
UJ	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample result is rejected. The presence or absence of the analyte cannot be verified and data are not usable.
R1	The sample result has been replaced by a more reliable or more conservative result.
R2	The sample result has been replaced by a result from a different analysis method.

<u>Abbreviation</u>	<u>Definition</u>
DV	Data Validation
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MS	Matrix spike
MSD	Matrix spike duplicate
RL	Reporting limit
RPD	Relative percent difference
RSD	Relative standard deviation

## 5.0 References

*USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, Office of Superfund Remediation and Technology Innovation, U.S. Environmental Protection Agency. January 2017, EPA-540-R-2017-002.

*USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, January 2009, EPA 540-R-08-005.



## DATA VALIDATION REPORT

### *Skykomish Hydraulic Control and Containment Pilot Study March 2019 Data*

Prepared for:  
Farallon Consulting, LLC  
975 5<sup>th</sup> Avenue NW  
Issaquah, Washington 98027

April 22, 2019

### 1.0 Introduction

Data validation was performed on the following water samples:

Sample ID*	Sample Date/Time	Lab ID	Analyses
5-W-43-031919	03/19/2019 17:07	580-84844-1	TPH-Dx
EW-1-031919	03/19/2019 16:36	580-84844-2	TPH-Dx
FGW-WV-031919	03/19/2019 15:00	580-84844-4	TPH-Dx
FWG-EV-031919	03/19/2019 14:38	580-84844-11	TPH-Dx
GW-1-031919	03/19/2019 17:20	580-84844-9	TPH-Dx
GW-2-031919	03/19/2019 17:54	580-84844-14	TPH-Dx
PZ-7S-031919	03/19/2019 16:11	580-84844-10	TPH-Dx
PZ-8-031919	03/19/2019 15:45	580-84844-3	TPH-Dx
S2-AD-031919	03/19/2019 11:40	580-84844-7	TPH-Dx
S2-AU-031919	03/19/2019 11:18	580-84844-8	TPH-Dx
S2-BD-031919	03/19/2019 12:18	580-84844-13	TPH-Dx
S2-BU-031919	03/19/2019 11:55	580-84844-6	TPH-Dx
WG-EV-031919	03/19/2019 14:25	580-84844-12	TPH-Dx
WG-WV-031919	03/19/2019 14:20	580-84844-5	TPH-Dx

\* Sample PZ-7S-031919 was reported by the laboratory as PZ-75-031919. The correct sample ID is used in the above table.

Samples were analyzed by Test America, Tacoma, Washington.

A stage 2A summary validation was performed on the analytical results including both the hardcopy (portable document format) and electronic data deliverable, earning EPA OSWER validation label code S2AVEM. Validation was performed by Cari Saylor.

Data qualifiers are assigned based only on the criteria reviewed and do not include calibration or instrument performance issues unless noted in the laboratory narrative. No qualifiers were assigned based on this review.

## 2.0 Precision, Accuracy, Representativeness, Comparability, and Completeness

Sample analysis frequencies: 14 locations are sampled monthly. Samples were collected from required locations and the required analysis was completed by the laboratory for each collected sample.

Analysis methods: Each sample was analyzed by method NWTPH-Dx and prepared by method SW3510C. These methods are approved EPA methods and therefore meet comparability requirements.

Precision, accuracy and completeness: Accuracy and precision measurements were within control limits. A data completeness of 100% was calculated based on 14 of 14 intended sample analyses completed. This meets the project goal of 90%.

## 3.0 Diesel Range Petroleum Hydrocarbon Analysis

Quality control analysis frequencies: The method specifies that a method blank must be analyzed one per analytical batch or one per twenty samples, whichever is more frequent, and a laboratory duplicate must be analyzed one per ten samples. In addition, surrogate compounds must be measured in each field and quality control sample.

Each batch included a method blank, laboratory control sample (LCS), and LCS duplicate (LCSD), as well as appropriate surrogates. Data qualifiers are not required due to a lack of laboratory duplicate results.

Holding times: Unpreserved water samples must be extracted within 7 days of collection. Preserved water samples must be extracted within 14 days of collection. Extracts must be analyzed within 40 days of extraction. Samples were extracted and analyzed within holding times.

Laboratory and field blank results: Criteria for blanks are that analyte concentrations must be below the PQL, or below 5% of the lowest associated sample concentration. No target compounds were detected in the method or field blanks.

Surrogate recoveries: Laboratory control limits were 50-150%. Surrogate recoveries were within limits.

LCS recoveries: Laboratory control limits were 50-120% and 64-120%. LCS recoveries were within limits.

LCS/LCSD RPDs: The laboratory control limits were <24 and <26%. LCS/LCSD RPD values were within limits.

Reporting limits: The reporting limit goals are 0.1 mg/L for both diesel range hydrocarbons and oil range hydrocarbons. These goals were met.

Laboratory narrative and flags: No qualifiers were added based on a review of the laboratory narrative.

Diesel and oil range petroleum hydrocarbon data are acceptable for use as reported.

## 4.0 Abbreviations and Definitions

<u>DV Qualifier</u>	<u>Definition</u>
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample reporting limit or the amount of contaminant detected in the sample.
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.
UJ	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample result is rejected. The presence or absence of the analyte cannot be verified and data are not usable.
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<u>Abbreviation</u>	<u>Definition</u>
DV	Data Validation
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MS	Matrix spike
MSD	Matrix spike duplicate
RL	Reporting limit
RPD	Relative percent difference
RSD	Relative standard deviation

## 5.0 References

*USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, Office of Superfund Remediation and Technology Innovation, U.S. Environmental Protection Agency. January 2017, EPA-540-R-2017-002.

*USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, January 2009, EPA 540-R-08-005.



## DATA VALIDATION REPORT

### *Skykomish Hydraulic Control and Containment Pilot Study April 2019 Data*

Prepared for:

Farallon Consulting, LLC  
975 5<sup>th</sup> Avenue NW  
Issaquah, Washington 98027

May 08, 2019

### 1.0 Introduction

Data validation was performed on the following water samples:

Sample ID	Sample Date/Time	Lab ID	Analyses
5-W-43-041619	04/16/2019 13:54	580-85506-9	TPH-Dx
EW-1-041619	04/16/2019 14:07	580-85506-10	TPH-Dx
FWG-EV-041619	04/16/2019 12:00	580-85506-7	TPH-Dx
FWG-WV-041619	04/16/2019 12:05	580-85506-8	TPH-Dx
GW-1-041619	04/16/2019 14:46	580-85506-12	TPH-Dx
GW-2-041619	04/16/2019 15:40	580-85506-14	TPH-Dx
PZ-7S-041619	04/16/2019 15:24	580-85506-13	TPH-Dx
PZ-8-041619	04/16/2019 14:35	580-85506-11	TPH-Dx
S2-AD-041619	04/16/2019 11:03	580-85506-4	TPH-Dx
S2-AU-041619	04/16/2019 10:40	580-85506-3	TPH-Dx
S2-BD-041619	04/16/2019 10:30	580-85506-2	TPH-Dx
S2-BU-041619	04/16/2019 10:30	580-85506-1	TPH-Dx
WG-EV-041619	04/16/2019 11:10	580-85506-5	TPH-Dx
WG-WV-041619	04/16/2019 11:25	580-85506-6	TPH-Dx

Samples were analyzed by Test America, Tacoma, Washington.

A stage 2A summary validation was performed on the analytical results including both the hardcopy (portable document format) and electronic data deliverable, earning EPA OSWER validation label code S2AVEM. Validation was performed by Cari Sayer.

Data qualifiers are assigned based only on the criteria reviewed and do not include calibration or instrument performance issues unless noted in the laboratory narrative. No qualifiers were assigned based on this review.

### 2.0 Precision, Accuracy, Representativeness, Comparability, and Completeness

Sample analysis frequencies: 14 locations are sampled monthly. Samples were collected from required locations and the required analysis was completed by the laboratory for each collected sample.

Analysis methods: Each sample was analyzed by method NWTPH-Dx and prepared by method SW3510C. These methods are approved EPA methods and therefore meet comparability requirements.

Precision, accuracy and completeness: Accuracy and precision measurements were within control limits. A data completeness of 100% was calculated based on 14 of 14 intended sample analyses completed. This meets the project goal of 90%.

### 3.0 Diesel Range Petroleum Hydrocarbon Analysis

Quality control analysis frequencies: The method specifies that a method blank must be analyzed one per analytical batch or one per twenty samples, whichever is more frequent, and a laboratory duplicate must be analyzed one per ten samples. In addition, surrogate compounds must be measured in each field and quality control sample.

Each batch included a method blank, laboratory control sample (LCS), and LCS duplicate (LCSD), as well as appropriate surrogates. Data qualifiers are not required due to a lack of laboratory duplicate results.

Holding times: Unpreserved water samples must be extracted within 7 days of collection. Preserved water samples must be extracted within 14 days of collection. Extracts must be analyzed within 40 days of extraction. Samples were extracted and analyzed within holding times.

Laboratory blank results: Criteria for blanks are that analyte concentrations must be below the PQL, or below 5% of the lowest associated sample concentration. No target compounds were detected in the method blanks.

Surrogate recoveries: Laboratory control limits were 50-150%. Surrogate recoveries were within limits.

LCS recoveries: Laboratory control limits were 50-120% and 64-120%. LCS recoveries were within limits.

LCS/LCSD RPDs: The laboratory control limits were <24 and <26%. LCS/LCSD RPD values were within limits.

Reporting limits: The reporting limit goals are 0.1 mg/L for both diesel range hydrocarbons and oil range hydrocarbons. These goals were met.

Laboratory narrative and flags: No qualifiers were added based on a review of the laboratory narrative.

Diesel and oil range petroleum hydrocarbon data are acceptable for use as reported.

### 4.0 Abbreviations and Definitions

<u>DV Qualifier</u>	<u>Definition</u>
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample reporting limit or the amount of contaminant detected in the sample.

<u>DV Qualifier</u>	<u>Definition</u>
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.
UJ	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample result is rejected. The presence or absence of the analyte cannot be verified and data are not usable.
R1	The sample result has been replaced by a more reliable or more conservative result.
R2	The sample result has been replaced by a result from a different analysis method.

<u>Abbreviation</u>	<u>Definition</u>
DV	Data Validation
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MS	Matrix spike
MSD	Matrix spike duplicate
RL	Reporting limit
RPD	Relative percent difference
RSD	Relative standard deviation

## 5.0 References

*USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, Office of Superfund Remediation and Technology Innovation, U.S. Environmental Protection Agency. January 2017, EPA-540-R-2017-002.

*USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, January 2009, EPA 540-R-08-005.



## DATA VALIDATION REPORT

### *Skykomish Hydraulic Control and Containment Pilot Study May 2019 Data*

Prepared for:

Farallon Consulting, LLC

975 5<sup>th</sup> Avenue NW

Issaquah, Washington 98027

June 13, 2019

### 1.0 Introduction

Data validation was performed on the following water samples:

Sample ID	Sample Date/Time	Lab ID	Analyses
S2-BD-051419	05/14/2019 09:40	580-86180-1	TPH-Dx
FWG-EV-051419	05/14/2019 13:40	580-86180-10	TPH-Dx
PZ-8-051419	05/14/2019 14:39	580-86180-11	TPH-Dx
EW-1-051419	05/14/2019 15:04	580-86180-12	TPH-Dx
5-W-43-051419	05/14/2019 15:49	580-86180-13	TPH-Dx
GW-1-051419	05/14/2019 16:26	580-86180-14	TPH-Dx
GW-2-051419	05/14/2019 09:52	580-86180-2	TPH-Dx
S2-BU-051419	05/14/2019 10:15	580-86180-3	TPH-Dx
S2-AD-051419	05/14/2019 10:30	580-86180-4	TPH-Dx
S2-AU-051419	05/14/2019 10:50	580-86180-5	TPH-Dx
WG-EV-051419	05/14/2019 11:26	580-86180-6	TPH-Dx
WG-WV-051419	05/14/2019 11:26	580-86180-7	TPH-Dx
PZ-7S-051419	05/14/2019 12:42	580-86180-8	TPH-Dx
FWG-WV-051419	05/14/2019 13:40	580-86180-9	TPH-Dx

Samples were analyzed by Test America, Tacoma, Washington.

A stage 2A summary validation was performed on the analytical results including both the hardcopy (portable document format) and electronic data deliverable, earning EPA OSWER validation label code S2AVEM. Validation was performed by Cari Sayer.

Data qualifiers are assigned based only on the criteria reviewed and do not include calibration or instrument performance issues unless noted in the laboratory narrative. No qualifiers were assigned based on this review.

### 2.0 Precision, Accuracy, Representativeness, Comparability, and Completeness

Sample analysis frequencies: 14 locations are sampled monthly. Samples were collected from required locations and the required analysis was completed by the laboratory for each collected

sample. Please note: samples PZ-8-051419 and PZ-7S-051419 were reported by the laboratory with an 'S' instead of a 'Z'. The correct sample ID has been used in the above table.

Analysis methods: Each sample was analyzed by method NWTPH-Dx and prepared by method SW3510C. These methods are approved EPA methods and therefore meet comparability requirements.

Precision, accuracy and completeness: Accuracy and precision measurements were within control limits. A data completeness of 100% was calculated based on 14 of 14 intended sample analyses completed. This meets the project goal of 90%.

### **3.0 Diesel Range Petroleum Hydrocarbon Analysis**

Quality control analysis frequencies: The method specifies that a method blank must be analyzed one per analytical batch or one per twenty samples, whichever is more frequent, and a laboratory duplicate must be analyzed one per ten samples. In addition, surrogate compounds must be measured in each field and quality control sample.

This batch included a method blank, laboratory control sample (LCS), and LCS duplicate (LCSD), as well as appropriate surrogates. Data qualifiers are not required due to a lack of laboratory duplicate results.

Holding times: Unpreserved water samples must be extracted within 7 days of collection. Preserved water samples must be extracted within 14 days of collection. Extracts must be analyzed within 40 days of extraction. Samples were extracted and analyzed within holding times.

Laboratory blank results: Criteria for blanks are that analyte concentrations must be below the PQL, or below 5% of the lowest associated sample concentration. No target compounds were detected in the method blanks.

Surrogate recoveries: Laboratory control limits were 50-150%. Surrogate recoveries were within limits.

LCS recoveries: Laboratory control limits were 50-120% and 64-120%. LCS recoveries were within limits.

LCS/LCSD RPDs: The laboratory control limits were <24 and <26%. LCS/LCSD RPD values were within limits.

Reporting limits: The reporting limit goals are 0.1 mg/L for both diesel range hydrocarbons and oil range hydrocarbons. These goals were met.

Laboratory narrative and flags: No qualifiers were added based on a review of the laboratory narrative.

Diesel and oil range petroleum hydrocarbon data are acceptable for use as reported.

## 4.0 Abbreviations and Definitions

<u>DV Qualifier</u>	<u>Definition</u>
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample reporting limit or the amount of contaminant detected in the sample.
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.
UJ	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample result is rejected. The presence or absence of the analyte cannot be verified and data are not usable.
R1	The sample result has been replaced by a more reliable or more conservative result.
R2	The sample result has been replaced by a result from a different analysis method.

<u>Abbreviation</u>	<u>Definition</u>
DV	Data Validation
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MS	Matrix spike
MSD	Matrix spike duplicate
RL	Reporting limit
RPD	Relative percent difference
RSD	Relative standard deviation

## 5.0 References

*USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, Office of Superfund Remediation and Technology Innovation, U.S. Environmental Protection Agency. January 2017, EPA-540-R-2017-002.

*USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, January 2009, EPA 540-R-08-005.



## DATA VALIDATION REPORT

### *Skykomish Hydraulic Control and Containment Pilot Study June 2019 Data*

Prepared for:  
Farallon Consulting, LLC  
975 5<sup>th</sup> Avenue NW  
Issaquah, Washington 98027

July 19, 2019

#### 1.0 Introduction

Data validation was performed on the following water samples:

Sample ID	Sample Date/Time	Lab ID	Analyses
GW-1-061819	06/18/2019 09:51	580-87060-1	TPH-Dx
S2-BU-061819	06/18/2019 15:30	580-87060-10	TPH-Dx
S2-AD-061819	06/18/2019 15:39	580-87060-11	TPH-Dx
WG-WV-061819	06/18/2019 16:05	580-87060-12	TPH-Dx
WG-EV-061819	06/18/2019 16:10	580-87060-13	TPH-Dx
FWG-EV-061819	06/18/2019 16:48	580-87060-14	TPH-Dx
FWG-WV-061819	06/18/2019 16:52	580-87060-15	TPH-Dx
PZ-7S-061819	06/18/2019 10:00	580-87060-2	TPH-Dx
PZ-8-061819	06/18/2019 11:15	580-87060-3	TPH-Dx
5-W-43-061819	06/18/2019 11:16	580-87060-4	TPH-Dx
EW-1-061819	06/18/2019 14:18	580-87060-5	TPH-Dx
GW-2-061819	06/18/2019 14:35	580-87060-6	TPH-Dx
GW-20-061819	06/18/2019 14:45	580-87060-7	TPH-Dx
S2-BD-061819	06/18/2019 14:57	580-87060-8	TPH-Dx
S2-AU-061819	06/18/2019 15:12	580-87060-9	TPH-Dx

Samples were analyzed by Test America, Tacoma, Washington. A stage 2A summary validation was performed on the analytical results including both the hardcopy (portable document format) and electronic data deliverable, earning EPA OSWER validation label code S2AVEM. Validation was performed by Cari Saylor.

Data qualifiers are assigned based only on the criteria reviewed and do not include calibration or instrument performance issues unless noted in the laboratory narrative. No qualifiers were assigned based on this review.

## 2.0 Precision, Accuracy, Representativeness, Comparability, and Completeness

Sample analysis frequencies: 14 locations are sampled monthly. Samples were collected from required locations and the required analysis was completed by the laboratory for each collected sample. Sample identifiers matched the chain of custody with one exception: Sample 5-W-43-061819 was listed as S-W-43-061819. The corrected sample ID has been used in the above table.

Analysis methods: Each sample was analyzed by method NWTPH-Dx and prepared by method SW3510C. These methods are approved EPA methods and therefore meet comparability requirements.

Precision, accuracy and completeness: Accuracy and precision measurements were within control limits. A data completeness of 100% was calculated based on 14 of 14 intended sample analyses completed. This meets the project goal of 90%.

## 3.0 Diesel Range Petroleum Hydrocarbon Analysis

Quality control analysis frequencies: The method specifies that a method blank must be analyzed one per analytical batch or one per twenty samples, whichever is more frequent, and a laboratory duplicate must be analyzed one per ten samples. In addition, surrogate compounds must be measured in each field and quality control sample.

This batch included a method blank, laboratory control sample (LCS), and LCS duplicate (LCSD), as well as appropriate surrogates. Data qualifiers are not required due to a lack of laboratory duplicate results.

Holding times: Unpreserved water samples must be extracted within 7 days of collection. Preserved water samples must be extracted within 14 days of collection. Extracts must be analyzed within 40 days of extraction. Samples were extracted and analyzed within holding times.

Laboratory blank results: Criteria for blanks are that analyte concentrations must be below the PQL, or below 5% of the lowest associated sample concentration. No target compounds were detected in the method blanks.

Surrogate recoveries: Laboratory control limits were 50-150%. Surrogate recoveries were within limits.

LCS recoveries: Laboratory control limits were 50-120% and 64-120%. LCS recoveries were within limits.

LCS/LCSD RPDs: The laboratory control limits were <24 and <26%. LCS/LCSD RPD values were within limits.

Field duplicate variability: Target analytes were not detected in the sample or field duplicate, showing good agreement.

Reporting limits: The reporting limit goals are 0.1 mg/L for both diesel range hydrocarbons and oil range hydrocarbons. These goals were met.

Laboratory narrative and flags: No qualifiers were added based on a review of the laboratory narrative.

Diesel and oil range petroleum hydrocarbon data are acceptable for use as reported.

#### 4.0 Abbreviations and Definitions

<u>DV Qualifier</u>	<u>Definition</u>
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample reporting limit or the amount of contaminant detected in the sample.
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.
UJ	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample result is rejected. The presence or absence of the analyte cannot be verified and data are not usable.
R1	The sample result has been replaced by a more reliable or more conservative result.
R2	The sample result has been replaced by a result from a different analysis method.

<u>Abbreviation</u>	<u>Definition</u>
DV	Data Validation
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MS	Matrix spike
MSD	Matrix spike duplicate
RL	Reporting limit
RPD	Relative percent difference
RSD	Relative standard deviation

#### 5.0 References

*USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, Office of Superfund Remediation and Technology Innovation, U.S. Environmental Protection Agency. January 2017, EPA-540-R-2017-002.

*USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, January 2009, EPA 540-R-08-005.



## DATA VALIDATION REPORT

### *Skykomish Hydraulic Control and Containment Pilot Study July 2019 Data*

Prepared for:  
Farallon Consulting, LLC  
975 5<sup>th</sup> Avenue NW  
Issaquah, Washington 98027

August 19, 2019

### 1.0 Introduction

Data validation was performed on the following water samples:

Sample ID	Sample Date/Time	Lab ID	Analyses
5-W-43-072519	07/25/2019 11:25	580-87965-1	TPH-Dx
S2-AD-072519	07/25/2019 15:04	580-87965-10	TPH-Dx
S2-AU-072519	07/25/2019 15:05	580-87965-11	TPH-Dx
WG-WV-072519	07/25/2019 15:13	580-87965-12	TPH-Dx
FWG-EV-072519	07/25/2019 15:33	580-87965-13	TPH-Dx
FWG-WV-072519	07/25/2019 15:38	580-87965-14	TPH-Dx
EW-1-072519	07/25/2019 11:30	580-87965-2	TPH-Dx
GW-1-072519	07/25/2019 12:20	580-87965-3	TPH-Dx
PZ-8-072519	07/25/2019 12:30	580-87965-4	TPH-Dx
GW-2-072519	07/25/2019 13:12	580-87965-5	TPH-Dx
PZ-7S-072519	07/25/2019 13:22	580-87965-6	TPH-Dx
S2-BD-072519	07/25/2019 14:35	580-87965-7	TPH-Dx
S2-BU-072519	07/25/2019 14:42	580-87965-8	TPH-Dx
WG-EV-072519	07/25/2019 14:35	580-87965-9	TPH-Dx

Samples were analyzed by Test America, Tacoma, Washington.

A stage 2A summary validation was performed on the analytical results including both the hardcopy (portable document format) and electronic data deliverable, earning EPA OSWER validation label code S2AVEM. Validation was performed by Cari Sayer.

Data qualifiers are assigned based only on the criteria reviewed and do not include calibration or instrument performance issues unless noted in the laboratory narrative. No qualifiers were assigned based on this review.

### 2.0 Precision, Accuracy, Representativeness, Comparability, and Completeness

Sample analysis frequencies: 14 locations are sampled monthly. Samples were collected from required locations and the required analysis was completed by the laboratory for each collected

sample. Please note: sample 5-W-43-072519 was reported by the laboratory beginning with an 'S' instead of a '5'. The correct sample ID has been used in the above table.

Analysis methods: Each sample was analyzed by method NWTPH-Dx and prepared by method SW3510C. These methods are approved EPA methods and therefore meet comparability requirements.

Precision, accuracy and completeness: Accuracy and precision measurements were within control limits. A data completeness of 100% was calculated based on 14 of 14 intended sample analyses completed. This meets the project goal of 90%.

### 3.0 Diesel Range Petroleum Hydrocarbon Analysis

Quality control analysis frequencies: The method specifies that a method blank must be analyzed one per analytical batch or one per twenty samples, whichever is more frequent, and a laboratory duplicate must be analyzed one per ten samples. In addition, surrogate compounds must be measured in each field and quality control sample.

Each batch included a method blank, laboratory control sample (LCS), and LCS duplicate (LCSD), as well as appropriate surrogates. Data qualifiers are not required due to a lack of laboratory duplicate results.

Holding times: Unpreserved water samples must be extracted within 7 days of collection. Preserved water samples must be extracted within 14 days of collection. Extracts must be analyzed within 40 days of extraction. Samples were extracted and analyzed within holding times.

Laboratory blank results: Criteria for blanks are that analyte concentrations must be below the PQL, or below 5% of the lowest associated sample concentration. No target compounds were detected in the method blanks.

Surrogate recoveries: Laboratory control limits were 50-150%. Surrogate recoveries were within limits with one exception:

Sample ID	Surrogate	% Recovery	Lab Control Limit
FWG-WV-072519	o-Terphenyl	39	50 - 150

The laboratory noted matrix interference, and no qualifiers are assigned.

LCS recoveries: Laboratory control limits were 50-120% and 64-120%. LCS recoveries were within limits.

LCS/LCSD RPDs: The laboratory control limits were <24 and <26%. LCS/LCSD RPD values were within limits.

Reporting limits: The reporting limit goals are 0.1 mg/L for both diesel range hydrocarbons and oil range hydrocarbons. These goals were met.

Laboratory narrative and flags: No qualifiers were added based on a review of the laboratory narrative.

Diesel and oil range petroleum hydrocarbon data are acceptable for use as reported.

## 4.0 Abbreviations and Definitions

<u>DV Qualifier</u>	<u>Definition</u>
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample reporting limit or the amount of contaminant detected in the sample.
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.
UJ	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample result is rejected. The presence or absence of the analyte cannot be verified and data are not usable.
R1	The sample result has been replaced by a more reliable or more conservative result.
R2	The sample result has been replaced by a result from a different analysis method.

<u>Abbreviation</u>	<u>Definition</u>
DV	Data Validation
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MS	Matrix spike
MSD	Matrix spike duplicate
RL	Reporting limit
RPD	Relative percent difference
RSD	Relative standard deviation

## 5.0 References

*USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, Office of Superfund Remediation and Technology Innovation, U.S. Environmental Protection Agency. January 2017, EPA-540-R-2017-002.

*USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, January 2009, EPA 540-R-08-005.



## DATA VALIDATION REPORT

### *Skykomish Hydraulic Control and Containment Pilot Study August 2019 Data*

Prepared for:

Farallon Consulting, LLC  
975 5<sup>th</sup> Avenue NW  
Issaquah, Washington 98027

July 19, 2019

#### 1.0 Introduction

Data validation was performed on the following water samples:

Sample ID	Sample Date/Time	Lab ID	Analyses
S2-BD-082019	08/20/2019 10:36	580-88597-1	TPH-Dx
S2-BU-082019	08/20/2019 11:05	580-88597-2	TPH-Dx
EW1-082019	08/20/2019 11:15	580-88597-3	TPH-Dx
5-W-43-082019	08/20/2019 11:18	580-88597-4	TPH-Dx
S2-AD-082019	08/20/2019 11:35	580-88597-5	TPH-Dx
S2-AU-082019	08/20/2019 12:05	580-88597-6	TPH-Dx
GW-1-082019	08/20/2019 12:17	580-88597-7	TPH-Dx
PZ-8-082019	08/20/2019 11:50	580-88597-8	TPH-Dx
WG-EV-082019	08/20/2019 14:05	580-88597-9	TPH-Dx
WG-WV-082019	08/20/2019 14:35	580-88597-10	TPH-Dx
PZ-7S-082019	08/20/2019 14:29	580-88597-11	TPH-Dx
GW-2-082019	08/20/2019 14:30	580-88597-12	TPH-Dx
FWG-EV-082019	08/20/2019 15:08	580-88597-13	TPH-Dx
FWG-WV-082019	08/20/2019 15:09	580-88597-14	TPH-Dx

Samples were analyzed by Test America, Tacoma, Washington.

A stage 2A summary validation was performed on the analytical results including both the hardcopy (portable document format) and electronic data deliverable, earning EPA OSWER validation label code S2AVEM. Validation was performed by Cari Saylor.

Data qualifiers are assigned based only on the criteria reviewed and do not include calibration or instrument performance issues unless noted in the laboratory narrative. No qualifiers were assigned based on this review.

#### 2.0 Precision, Accuracy, Representativeness, Comparability, and Completeness

Sample analysis frequencies: 14 locations are sampled monthly. Samples were collected from required locations and the required analysis was completed by the laboratory for each collected sample.

Analysis methods: Each sample was analyzed by method NWTPH-Dx and prepared by method SW3510C. These methods are approved EPA methods and therefore meet comparability requirements.

Precision, accuracy and completeness: Accuracy and precision measurements were within control limits. A data completeness of 100% was calculated based on 14 of 14 intended sample analyses completed. This meets the project goal of 90%.

### 3.0 Diesel Range Petroleum Hydrocarbon Analysis

Quality control analysis frequencies: The method specifies that a method blank must be analyzed one per analytical batch or one per twenty samples, whichever is more frequent, and a laboratory duplicate must be analyzed one per ten samples. In addition, surrogate compounds must be measured in each field and quality control sample.

Each batch included a method blank, laboratory control sample (LCS), and LCS duplicate (LCSD), as well as appropriate surrogates. Data qualifiers are not required due to a lack of laboratory duplicate results.

Holding times: Unpreserved water samples must be extracted within 7 days of collection. Preserved water samples must be extracted within 14 days of collection. Extracts must be analyzed within 40 days of extraction. Samples were extracted and analyzed within holding times.

Laboratory blank results: Criteria for blanks are that analyte concentrations must be below the PQL, or below 5% of the lowest associated sample concentration. No target compounds were detected in the method blanks.

Surrogate recoveries: Laboratory control limits were 50-150%. Surrogate recoveries were within limits.

LCS recoveries: Laboratory control limits were 50-120% and 64-120%. LCS recoveries were within limits.

LCS/LCSD RPDs: The laboratory control limits were <24 and <26%. LCS/LCSD RPD values were within limits.

Reporting limits: The reporting limit goals are 0.1 mg/L for both diesel range hydrocarbons and oil range hydrocarbons. These goals were met.

Laboratory narrative and flags: No qualifiers were added based on a review of the laboratory narrative.

Diesel and oil range petroleum hydrocarbon data are acceptable for use as reported.

### 4.0 Abbreviations and Definitions

<u>DV Qualifier</u>	<u>Definition</u>
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample reporting limit or the amount of contaminant detected in the sample.

<u>DV Qualifier</u>	<u>Definition</u>
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.
UJ	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample result is rejected. The presence or absence of the analyte cannot be verified and data are not usable.
R1	The sample result has been replaced by a more reliable or more conservative result.
R2	The sample result has been replaced by a result from a different analysis method.

<u>Abbreviation</u>	<u>Definition</u>
DV	Data Validation
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MS	Matrix spike
MSD	Matrix spike duplicate
RL	Reporting limit
RPD	Relative percent difference
RSD	Relative standard deviation

## 5.0 References

*USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, Office of Superfund Remediation and Technology Innovation, U.S. Environmental Protection Agency. January 2017, EPA-540-R-2017-002.

*USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, January 2009, EPA 540-R-08-005.



## DATA VALIDATION REPORT

### *Skykomish Hydraulic Control and Containment Pilot Study September 2019 Data*

Prepared for:

Farallon Consulting, LLC  
975 5<sup>th</sup> Avenue NW  
Issaquah, Washington 98027

October 14, 2019

#### 1.0 Introduction

Data validation was performed on the following water samples:

Sample ID	Sample Date/Time	Lab ID	Analyses
GW-1-091919	09/19/2019 08:20	580-89413-1	TPH-Dx
WG-EV-091919	09/19/2019 10:25	580-89413-10	TPH-Dx
FWG-EV-091919	09/19/2019 10:47	580-89413-11	TPH-Dx
S2-AU-091919	09/19/2019 11:15	580-89413-12	TPH-Dx
S2-AD-091919	09/19/2019 11:22	580-89413-13	TPH-Dx
S2-BD-091919	09/19/2019 11:28	580-89413-14	TPH-Dx
S2-BU-091919	09/19/2019 11:30	580-89413-15	TPH-Dx
GW-20-091919	09/19/2019 16:30	580-89413-16	TPH-Dx
5-W-43-091919	09/19/2019 08:22	580-89413-2	TPH-Dx
PZ-7S-091919	09/19/2019 08:24	580-89413-3	TPH-Dx
PZ-8-091919	09/19/2019 09:20	580-89413-4	TPH-Dx
EW-1-091919	09/19/2019 09:21	580-89413-5	TPH-Dx
EW-10-091919	09/19/2019 09:25	580-89413-6	TPH-Dx
GW-2-091919	09/19/2019 09:21	580-89413-7	TPH-Dx
WG-WV-091919	09/19/2019 10:09	580-89413-8	TPH-Dx
FWG-WV-091919	09/19/2019 10:25	580-89413-9	TPH-Dx

\*Please note that sample PZ-7S-091919 was reported by the laboratory as PZ-75-091919. The correct sample ID is used above.

Samples were analyzed by Test America, Tacoma, Washington.

A stage 2A summary validation was performed on the analytical results including both the hardcopy (portable document format) and electronic data deliverable, earning EPA OSWER validation label code S2AVEM. Validation was performed by Cari Sayer.

Data qualifiers are assigned based only on the criteria reviewed and do not include calibration or instrument performance issues unless noted in the laboratory narrative. No qualifiers were assigned based on this review.

## 2.0 Precision, Accuracy, Representativeness, Comparability, and Completeness

Sample analysis frequencies: 14 locations are sampled monthly. Samples were collected from required locations and the required analysis was completed by the laboratory for each collected sample.

Analysis methods: Each sample was analyzed by method NWTPH-Dx and prepared by method SW3510C. These methods are approved EPA methods and therefore meet comparability requirements.

Precision, accuracy and completeness: Accuracy and precision measurements were within control limits. A data completeness of 100% was calculated based on 14 of 14 intended sample analyses completed. This meets the project goal of 90%.

## 3.0 Diesel Range Petroleum Hydrocarbon Analysis

Quality control analysis frequencies: The method specifies that a method blank must be analyzed one per analytical batch or one per twenty samples, whichever is more frequent, and a laboratory duplicate must be analyzed one per ten samples. In addition, surrogate compounds must be measured in each field and quality control sample.

Each batch included a method blank, laboratory control sample (LCS), and LCS duplicate (LCSD), as well as appropriate surrogates. Data qualifiers are not required due to a lack of laboratory duplicate results.

Holding times: Unpreserved water samples must be extracted within 7 days of collection. Preserved water samples must be extracted within 14 days of collection. Extracts must be analyzed within 40 days of extraction. Samples were extracted and analyzed within holding times.

Laboratory blank results: Criteria for blanks are that analyte concentrations must be below the PQL, or below 5% of the lowest associated sample concentration. No target compounds were detected in the method blanks.

Surrogate recoveries: Laboratory control limits were 50-150%. Surrogate recoveries were within limits.

LCS recoveries: Laboratory control limits were 50-120% and 64-120%. LCS recoveries were within limits.

LCS/LCSD RPDs: The laboratory control limits were <24 and <26%. LCS/LCSD RPD values were within limits.

Field duplicate RPDs: For concentrations above five times the reporting limit, RPDs were below 50%. For concentrations below five times the reporting limits, concentrations were within +/- two times the reporting limit.

Reporting limits: The reporting limit goals are 0.1 mg/L for both diesel range hydrocarbons and oil range hydrocarbons. These goals were met.

Laboratory narrative and flags: No qualifiers were added based on a review of the laboratory narrative.

Diesel and oil range petroleum hydrocarbon data are acceptable for use as reported.

#### 4.0 Abbreviations and Definitions

<u>DV Qualifier</u>	<u>Definition</u>
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample reporting limit or the amount of contaminant detected in the sample.
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.
UJ	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample result is rejected. The presence or absence of the analyte cannot be verified and data are not usable.
R1	The sample result has been replaced by a more reliable or more conservative result.
R2	The sample result has been replaced by a result from a different analysis method.

<u>Abbreviation</u>	<u>Definition</u>
DV	Data Validation
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MS	Matrix spike
MSD	Matrix spike duplicate
RL	Reporting limit
RPD	Relative percent difference
RSD	Relative standard deviation

#### 5.0 References

*USEPA National Functional Guidelines for Organic Superfund Methods Data Review, Office of Superfund Remediation and Technology Innovation, U.S. Environmental Protection Agency. January 2017, EPA-540-R-2017-002.*

*USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, January 2009, EPA 540-R-08-005.*



## DATA VALIDATION REPORT

### *Skykomish Hydraulic Control and Containment Pilot Study October 2019 Data*

Prepared for:

Farallon Consulting, LLC  
975 5<sup>th</sup> Avenue NW  
Issaquah, Washington 98027

November 7, 2019

### 1.0 Introduction

Data validation was performed on the following water samples:

Sample ID	Sample Date/Time	Lab ID	Analyses
GW-2-101719	10/17/2019 11:04	580-90157-1	TPH-Dx
S2-BD-101719	10/17/2019 11:16	580-90157-2	TPH-Dx
S2-BU-101719	10/17/2019 11:45	580-90157-3	TPH-Dx
PZ-7S-101719	10/17/2019 12:06	580-90157-4	TPH-Dx
S2-AD-101719	10/17/2019 12:18	580-90157-5	TPH-Dx
S2-2-AU-101719	10/17/2019 12:43	580-90157-6	TPH-Dx
WG-EV-101719	10/17/2019 14:15	580-90157-7	TPH-Dx
GW-1-101719	10/17/2019 14:21	580-90157-8	TPH-Dx
WG-WV-101719	10/17/2019 14:53	580-90157-9	TPH-Dx
FWG-EV-101719	10/17/2019 15:12	580-90157-10	TPH-Dx
5-W-43-101719	10/17/2019 15:27	580-90157-12	TPH-Dx
FWG-WV-101719	10/17/2019 15:47	580-90157-11	TPH-Dx
EW-1-101719	10/17/2019 16:38	580-90157-13	TPH-Dx
PZ-8-101719	10/17/2019 17:24	580-90157-14	TPH-Dx

Samples were analyzed by Test America, Tacoma, Washington.

A stage 2A summary validation was performed on the analytical results including both the hardcopy (portable document format) and electronic data deliverable, earning EPA OSWER validation label code S2AVEM. Validation was performed by Cari Sayer.

Data qualifiers are assigned based only on the criteria reviewed and do not include calibration or instrument performance issues unless noted in the laboratory narrative. No qualifiers were assigned based on this review.

### 2.0 Precision, Accuracy, Representativeness, Comparability, and Completeness

Sample analysis frequencies: 14 locations are sampled monthly. Samples were collected from required locations and the required analysis was completed by the laboratory for each collected sample.

Analysis methods: Each sample was analyzed by method NWTPH-Dx and prepared by method SW3510C. These methods are approved EPA methods and therefore meet comparability requirements.

Precision, accuracy and completeness: Accuracy and precision measurements were within control limits. A data completeness of 100% was calculated based on 14 of 14 intended sample analyses completed. This meets the project goal of 90%.

### 3.0 Diesel Range Petroleum Hydrocarbon Analysis

Quality control analysis frequencies: The method specifies that a method blank must be analyzed one per analytical batch or one per twenty samples, whichever is more frequent, and a laboratory duplicate must be analyzed one per ten samples. In addition, surrogate compounds must be measured in each field and quality control sample.

This batch included a method blank, laboratory control sample (LCS), and LCS duplicate (LCSD), as well as appropriate surrogates. Data qualifiers are not required due to a lack of laboratory duplicate results.

Holding times: Unpreserved water samples must be extracted within 7 days of collection. Preserved water samples must be extracted within 14 days of collection. Extracts must be analyzed within 40 days of extraction. Samples were extracted and analyzed within holding times.

Laboratory blank results: Criteria for blanks are that analyte concentrations must be below the PQL, or below 5% of the lowest associated sample concentration. No target compounds were detected in the method blanks.

Surrogate recoveries: Laboratory control limits were 50-150%. Surrogate recoveries were within limits with the following exceptions:

Sample ID	Surrogate	% Recovery	Lab Control Limit
GW-1-101719	o-Terphenyl	39	50 - 150
GW-2-101719	o-Terphenyl	33	50 - 150
PZ-7S-101719	o-Terphenyl	30	50 - 150
S2-AD-101719	o-Terphenyl	44	50 - 150
S2-BU-101719	o-Terphenyl	37	50 - 150

The laboratory noted matrix interference, and no qualifiers are assigned.

LCS recoveries: Laboratory control limits were 50-120% and 64-120%. LCS recoveries were within limits.

LCS/LCSD RPDs: The laboratory control limits were <24 and <26%. LCS/LCSD RPD values were within limits.

Reporting limits: The reporting limit goals are 0.1 mg/L for both diesel range hydrocarbons and oil range hydrocarbons. These goals were met.

Laboratory narrative and flags: No qualifiers were added based on a review of the laboratory narrative.

Diesel and oil range petroleum hydrocarbon data are acceptable for use as reported.

#### 4.0 Abbreviations and Definitions

<u>DV Qualifier</u>	<u>Definition</u>
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample reporting limit or the amount of contaminant detected in the sample.
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.
UJ	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample result is rejected. The presence or absence of the analyte cannot be verified and data are not usable.
R1	The sample result has been replaced by a more reliable or more conservative result.
R2	The sample result has been replaced by a result from a different analysis method.

<u>Abbreviation</u>	<u>Definition</u>
DV	Data Validation
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MS	Matrix spike
MSD	Matrix spike duplicate
RL	Reporting limit
RPD	Relative percent difference
RSD	Relative standard deviation

#### 5.0 References

*USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, Office of Superfund Remediation and Technology Innovation, U.S. Environmental Protection Agency. January 2017, EPA-540-R-2017-002.

*USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, January 2009, EPA 540-R-08-005.



## DATA VALIDATION REPORT

### *Skykomish Hydraulic Control and Containment Pilot Study November 2019 Data*

Prepared for:

Farallon Consulting, LLC  
975 5<sup>th</sup> Avenue NW  
Issaquah, Washington 98027

December 11, 2019

### 1.0 Introduction

Data validation was performed on the following water samples:

Sample ID	Sample Date/Time	Lab ID	Analyses
S2-BU-111919	11/19/2019 10:25	580-90933-1	TPH-Dx
GW-2-111919	11/19/2019 10:45	580-90933-2	TPH-Dx
S2-BD-111919	11/19/2019 10:58	580-90933-3	TPH-Dx
S2-AD-111919	11/19/2019 11:28	580-90933-4	TPH-Dx
GW-1-111919	11/19/2019 11:42	580-90933-5	TPH-Dx
S2-AU-111919	11/19/2019 12:00	580-90933-6	TPH-Dx
WG-WV-111919	11/19/2019 12:35	580-90933-7	TPH-Dx
5-W-43-111919	11/19/2019 12:36	580-90933-8	TPH-Dx
EW-1-111919	11/19/2019 13:31	580-90933-9	TPH-Dx
FWG-WV-111919	11/19/2019 13:39	580-90933-10	TPH-Dx
FWG-EV-111919	11/19/2019 14:15	580-90933-11	TPH-Dx
PZ-8-111919	11/19/2019 14:25	580-90933-12	TPH-Dx
WG-EV-111919	11/19/2019 14:46	580-90933-13	TPH-Dx
PZ-7S-111919	11/19/2019 15:22	580-90933-14	TPH-Dx

Samples were analyzed by Test America, Tacoma, Washington.

A stage 2A summary validation was performed on the analytical results including both the hardcopy (portable document format) and electronic data deliverable, earning EPA OSWER validation label code S2AVEM. Validation was performed by Cari Sayer.

Data qualifiers are assigned based only on the criteria reviewed and do not include calibration or instrument performance issues unless noted in the laboratory narrative. No qualifiers were assigned based on this review.

### 2.0 Precision, Accuracy, Representativeness, Comparability, and Completeness

Sample analysis frequencies: 14 locations are sampled monthly. Samples were collected from required locations and the required analysis was completed by the laboratory for each collected sample.

Analysis methods: Each sample was analyzed by method NWTPH-Dx and prepared by method SW3510C. These methods are approved EPA methods and therefore meet comparability requirements.

Precision, accuracy and completeness: Accuracy and precision measurements were within control limits. A data completeness of 100% was calculated based on 14 of 14 intended sample analyses completed. This meets the project goal of 90%.

### 3.0 Diesel Range Petroleum Hydrocarbon Analysis

Quality control analysis frequencies: The method specifies that a method blank must be analyzed one per analytical batch or one per twenty samples, whichever is more frequent, and a laboratory duplicate must be analyzed one per ten samples. In addition, surrogate compounds must be measured in each field and quality control sample.

This batch included a method blank, laboratory control sample (LCS), and LCS duplicate (LCSD), as well as appropriate surrogates. Data qualifiers are not required due to a lack of laboratory duplicate results.

Holding times: Unpreserved water samples must be extracted within 7 days of collection. Preserved water samples must be extracted within 14 days of collection. Extracts must be analyzed within 40 days of extraction. Samples were extracted and analyzed within holding times.

Laboratory blank results: Criteria for blanks are that analyte concentrations must be below the PQL, or below 5% of the lowest associated sample concentration. No target compounds were detected in the method blanks.

Surrogate recoveries: Laboratory control limits were 50-150%. Surrogate recoveries were within limits.

LCS recoveries: Laboratory control limits were 50-120% and 64-120%. LCS recoveries were within limits.

LCS/LCSD RPDs: The laboratory control limits were <24 and <26%. LCS/LCSD RPD values were within limits.

Reporting limits: The reporting limit goals are 0.1 mg/L for both diesel range hydrocarbons and oil range hydrocarbons. These goals were met.

Laboratory narrative and flags: No qualifiers were added based on a review of the laboratory narrative or data flags.

Diesel and oil range petroleum hydrocarbon data are acceptable for use as reported.

### 4.0 Abbreviations and Definitions

<u>DV Qualifier</u>	<u>Definition</u>
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample reporting limit or the amount of contaminant detected in the sample.

<u>DV Qualifier</u>	<u>Definition</u>
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.
UJ	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample result is rejected. The presence or absence of the analyte cannot be verified and data are not usable.
R1	The sample result has been replaced by a more reliable or more conservative result.
R2	The sample result has been replaced by a result from a different analysis method.

<u>Abbreviation</u>	<u>Definition</u>
DV	Data Validation
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MS	Matrix spike
MSD	Matrix spike duplicate
RL	Reporting limit
RPD	Relative percent difference
RSD	Relative standard deviation

## 5.0 References

*USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, Office of Superfund Remediation and Technology Innovation, U.S. Environmental Protection Agency. January 2017, EPA-540-R-2017-002.

*USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, January 2009, EPA 540-R-08-005.



## DATA VALIDATION REPORT

### *Skykomish Hydraulic Control and Containment Pilot Study December 2019 Data*

Prepared for:

Farallon Consulting, LLC  
975 5<sup>th</sup> Avenue NW  
Issaquah, Washington 98027

January 13, 2020

#### 1.0 Introduction

Data validation was performed on the following water samples:

Sample ID	Sample Date/Time	Lab ID	Analyses
PZ-80-121819	12/18/2019 11:25	580-91664-1	TPH-Dx
S2-AU-121819	12/18/2019 13:32	580-91664-2	TPH-Dx
GW-1-121819	12/18/2019 13:55	580-91664-3	TPH-Dx
S2-AD-121819	12/18/2019 11:38	580-91664-4	TPH-Dx
EW-1-121819	12/18/2019 10:30	580-91664-5	TPH-Dx
S2-BD-121819	12/18/2019 09:47	580-91664-6	TPH-Dx
5-W-43-121819	12/18/2019 09:28	580-91664-7	TPH-Dx
WG-WV-121819	12/18/2019 13:54	580-91664-8	TPH-Dx
FWG-EV-121819	12/18/2019 14:35	580-91664-9	TPH-Dx
S2-BU-121819	12/18/2019 10:18	580-91664-10	TPH-Dx
FWG-WV-121819	12/18/2019 15:00	580-91664-11	TPH-Dx
WG-EV-121819	12/18/2019 10:49	580-91664-12	TPH-Dx
PZ-7S-121819	12/18/2019 14:52	580-91664-13	TPH-Dx
GW-2-121819	12/18/2019 15:48	580-91664-14	TPH-Dx
GW-20-121819	12/18/2019 15:55	580-91664-15	TPH-Dx

Samples were analyzed by Test America, Tacoma, Washington.

Please note: Sample PZ-80-121819 was listed on the chain of custody as PZ-8-12-1819.  
Sample FWG-EV-121819 was listed on the chain of custody AS FWG-EV.

A stage 2A summary validation was performed on the analytical results including both the hardcopy (portable document format) and electronic data deliverable, earning EPA OSWER validation label code S2AVEM. Validation was performed by Cari Sayer.

Data qualifiers are assigned based only on the criteria reviewed and do not include calibration or instrument performance issues unless noted in the laboratory narrative. No qualifiers were assigned based on this review.

## 2.0 Precision, Accuracy, Representativeness, Comparability, and Completeness

Sample analysis frequencies: 14 locations are sampled monthly. Samples were collected from required locations and the required analysis was completed by the laboratory for each collected sample.

Analysis methods: Each sample was analyzed by method NWTPH-Dx and prepared by method SW3510C. These methods are approved EPA methods and therefore meet comparability requirements.

Precision, accuracy and completeness: Accuracy and precision measurements were within control limits. A data completeness of 100% was calculated based on 14 of 14 intended sample analyses completed. This meets the project goal of 90%.

## 3.0 Diesel Range Petroleum Hydrocarbon Analysis

Quality control analysis frequencies: The method specifies that a method blank must be analyzed one per analytical batch or one per twenty samples, whichever is more frequent, and a laboratory duplicate must be analyzed one per ten samples. In addition, surrogate compounds must be measured in each field and quality control sample.

This batch included a method blank, laboratory control sample (LCS), and LCS duplicate (LCSD), as well as appropriate surrogates. Data qualifiers are not required due to a lack of laboratory duplicate results.

Holding times: Unpreserved water samples must be extracted within 7 days of collection. Preserved water samples must be extracted within 14 days of collection. Extracts must be analyzed within 40 days of extraction. Samples were extracted and analyzed within holding times.

Laboratory blank results: Criteria for blanks are that analyte concentrations must be below the PQL, or below 5% of the lowest associated sample concentration. No target compounds were detected in the method blanks.

Surrogate recoveries: Laboratory control limits were 50-150%. Surrogate recoveries were within limits.

LCS recoveries: Laboratory control limits were 50-120% and 64-120%. LCS recoveries were within limits.

LCS/LCSD RPDs: The laboratory control limits were <24 and <26%. LCS/LCSD RPD values were within limits.

Reporting limits: The reporting limit goals are 0.1 mg/L for both diesel range hydrocarbons and oil range hydrocarbons. These goals were met.

Laboratory narrative and flags: No qualifiers were added based on a review of the laboratory narrative or data flags.

Diesel and oil range petroleum hydrocarbon data are acceptable for use as reported.

## 4.0 Abbreviations and Definitions

<u>DV Qualifier</u>	<u>Definition</u>
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample reporting limit or the amount of contaminant detected in the sample.
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.
UJ	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
R	The sample result is rejected. The presence or absence of the analyte cannot be verified and data are not usable.
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<u>Abbreviation</u>	<u>Definition</u>
DV	Data Validation
LCS	Laboratory control sample
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MS	Matrix spike
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RL	Reporting limit
RPD	Relative percent difference
RSD	Relative standard deviation

## 5.0 References

*USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, Office of Superfund Remediation and Technology Innovation, U.S. Environmental Protection Agency. January 2017, EPA-540-R-2017-002.

*USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, January 2009, EPA 540-R-08-005.