

January 19, 2018

TO: Cris Matthews (Ecology) **FROM:** Karen Mixon (URS)

CC: Mike Droppo (Kinder Morgan), Patrick Davis (Trans Mountain), Cary Brown (URS), Demetrio Cabanillas (URS), Dan Heimbigner (Whatcom Environmental)

RE: PROJECT:	URS Progress Report – October 1 to December 31, 2017 Cleanup Action Consent Decree No. 14-2-01294-9 (effective 6-5-2014) Laurel Station 1009 E. Smith Road, Bellingham, Washington
TRANS MOUNTAIN PM:	Mike Droppo
ECOLOGY CASE MGR:	Cris Matthews
URS PROJ NO:	60533558
URS PROJ MGR:	Karen Mixon

Introduction:

This progress report is presented in accordance with Consent Decree 14-2-01294-9 (effective 6-5-2014) and is intended to present the information as noted under Section XI PROGRESS REPORTS in the Consent Decree.

Work Accomplished During Reporting Period:

DPE System Operation

The DPE well locations are shown on attached Figure 2 Site Plan and DPE Well Locations.

The system operated in SVE mode in October with 5 to 8 wells online (DPE-1, DPE-2, DPE-3, DPE-4, DPE-5, DPE-6, DPE-7, and/or DPE-8). In November and December, the system operated in SVE mode with 5 wells online (DPE-2, DPE-3, DPE, 6, DPE-7, and DPE-8) and 4 to 5 wells online (DPE-2, DPE-3, DPE, 6, DPE-7, and/or DPE-8), respectively. There was no system downtime in October. In November, the system was down for 8 days related to carbon changeout activities. In December, the system was down only 1 day due to a Knock Out Tank high level alarm that was quickly addressed. The well operation during this reporting period was adjusted based on removal rates of the total system and individual wells. Based on system operation and increasing groundwater levels, the planned quarterly maintenance for December 2017 is rescheduled to be done with the switch to DPE mode expected to occur in January 2018.

No treated groundwater was generated from the system in October. In November and December, 157 gallons and 88 gallons, respectively, of condensate were generated from the system. Treated groundwater from the system was sampled weekly by Whatcom Environmental as required by the Administrative Order to the facility NPDES permit if water was discharged. There were no exceedances of indicator levels specified in the permit.

As of December 27, 2017, approximately 3,518 pounds (12.0 barrels) of constituents of concern (COCs) have been removed from the vapor phase since the system started operating in July 2015. Graphs showing the cumulative removal of COCs from vapor by the system through December 27, 2017 are attached to this report. The pounds removed are based on calculations made using PID and flow measurements at the combined vapor monitoring point prior to the vapor GAC vessels. As of December 27, approximately 134,020 gallons of water have been removed from the subsurface since the system was started in July 2015. A graph showing groundwater volumes removed is included with this report. No treated groundwater was removed during

URS, A Subsidiary of AECOM 1111 Third Avenue, Ste 1600 Seattle, WA 98101 Tel: 206.438.2700 Fax: 866.495.5288 October and water removed in November and December was due to condensate in the system. No measureable product has been observed or recovered by the system to date.

Air monitoring using FID and PID field instruments was conducted by Whatcom Environmental weekly to monitor the vapor GAC treatment system. The carbon was changed out if the PID measurements at the mid-treatment location exceeded 50 ppm. The vapor GAC was changed out on November 28, 2017.

In August, URS collected vapor samples for laboratory analysis for methane, BTEX, and total petroleum hydrocarbons (gasoline- and diesel-range) simultaneously with field FID and PID measurements from selected well locations and from pre- and post-treatment GAC sampling locations. The purpose of this data collection was to evaluate continuation of both FID and PID measurements in the field (currently the PID measurement is used to determine GAC change-outs) and to assess if any refinements were warranted to the mass removal calculations. This evaluation is in process.

Groundwater Monitoring

The sampling program was revised from the plan presented in the Compliance Monitoring Plan (CMP, URS 2015) following a discussion with Cris Matthews on October 1, 2015. The revision was necessary to account for the change to the well installations for the DPE system and monitoring well network during the construction phase of the cleanup action. The well locations are shown on attached **Figure 2 Site Plan and DPE Well Locations**. Wells MW-4, MW-6, MW-15, MW-16, and DPE-4 are intended to be sampled quarterly.

URS conducted groundwater sample collection for the 3rd quarter of 2017 on September 27, 2017 as described in the Progress Report dated October 16, 2017. Based on water levels in the wells, only well MW-6 was sampled. Due to limited water and recharge in this well, the analysis for PAHs was not done for the 3rd quarter sampling. Water level data for the monitoring well network is provided in **Table 1** attached to this progress report. The 4th quarter 2017 sampling planned for December 27, 2017 was delayed until January 4, 2018 to avoid longer shutdown of the DPE system over the holiday period. URS notified Ecology to confirm the change in schedule was acceptable.

URS completed the data review for the 3rd quarter 2017 groundwater sample collection. The summary data table (**Table 2**), data validation memo, and laboratory report are attached to this progress report. Diesel/oil-range petroleum hydrocarbons (0.76 mg/L) at well MW-6 were above the site groundwater cleanup level of 0.5 mg/L. BTEX and gasoline-range petroleum hydrocarbons were not detected.

Submittals

- The CMP update is in internal review at URS.
- The Completion Report was submitted to Ecology electronically on December 24, 2017. No paper copy was requested for this submittal at this time.

Deviations to Approved Plans Not Previously Documented: None

Deviation to Scope of Work and Schedule as Presented in the Cleanup Action Plan (Exhibit A of Consent Decree):

There were no changes from previous progress reports to the overall Scope of Work described in the Cleanup Action Plan (CAP).

Data Received During Reporting Period:

Groundwater monitoring data collected on September 27, 2017

Plans for the Next Reporting Period:

The following are planned activities for the period from January 1 through March 31, 2018.

- Continue to operate and maintain the DPE system.
- Complete the supplement to the Compliance Monitoring Plan for quarterly groundwater, air, and NPDES monitoring associated with discharges from the DPE treatment systems.
- Respond to Ecology comments for the Completion Report previously referenced.
- Review data from the January 4, 2018 groundwater sampling and prepare for submittal to Ecology with progress report in April 2018.
- Submit the quarterly groundwater data for 2017 to Ecology's EIM database.
- Complete the 1st quarter 2018 groundwater sample collection in March 2018.
- Present a draft Environmental Restrictive Covenant for the site as related to remaining TPH contamination.

Please contact Karen Mixon at (206) 438-2234 if you have any questions or comments regarding this progress report.

References:

URS Corporation, 2015. Final Compliance Monitoring Plan, Laurel Station, 1009 East Smith Road, Bellingham, Washington, January 16.

Attachments:

Figure 2, Site Plan and DPE Well Locations (from the O&M Manual, February 5, 2016) DPE System Performance Graphs, December 2017 Table 1 – Monitoring Well Groundwater Elevation Data Summary Table 2 – Quarterly Groundwater Monitoring Results Data Validation Report – Quarterly Groundwater Samples – September 2017 ARI Lab Report 17I0430



URS

Legend

Cross Section Location

DPE Container

Liquid-Phase Carbon Vessels

Vapor-Phase Carbon Vessels

Dual Phase Extraction Well Vault

Excavation Limits (2014-2015)

Installed at Angle Shown With Horizontal Extent

Dual-Phase Extraction (DPE) Well

Monitoring Well

Passive Vent Well

Segmented Concrete Block (Retaining Wall)

Underground DPE Lateral Pipe



Figure 2 Site Plan and DPE Well Locations

> Laurel Station Bellingham, Washington



1. Data shown from July 17, 2015 through December 27, 2017, after approximately 29 months of operation.

2. The Cumulative Mass Removed is based on data taken from the pre-treatment sampling port directly before carbon treatment.



1. Data shown from July 17, 2015 through December 27, 2017, after approximately 29 months of operation.

2. The Cumulative Mass Removed is based on data taken from the pre-treatment sampling port directly before carbon treatment.



Well ID	Date Measured	Total Depth ^a (ft-TOC)	TOC Elevation ^b (ft-NAVD88)	Approximate Screen Interval (ft-bgs)	Approximate Screen Interval Elevation (ft-NAVD88)	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-NAVD88)	Thickness of Water Column (ft)
SW-1	4/23/2015	18.50				4.30	296.34	14.20
	12/14/2015	18.35				4.10	296.54	14.25
	1/25/2016	18.68				5.09	295.55	13.59
	2/22/2016 *	17.39				14.20	286.44	3.19
	3/21/2016	18.57				5.08	295.56	13.49
	4/25/2016	18.59				DRY	NC	NC
	5/25/2016	18.02				4.72	205.02	12.68
	8/8/2016	18.40				4.72	295.92	13.68
	8/30/2016	18.40				3.60	297.04	14.80
	9/26/2016	18.37				4.85	295.79	13.52
	10/24/2016	18.40				4.54	296.10	13.86
	11/21/2016	18.36				4.65	295.99	13.71
	12/21/2016	18.40	300.64	5 - 20	295.64 - 280.64	4.43	296.21	13.97
	1/23/2017	18.40				2.80	297.84	15.60
	3/6/2017	18.25				3.48	297.16	14.77
	3/21/2017	18.52				4.17	296.47	14.35
	3/29/2017	18.45				2.82	297.82	15.63
	6/21/2017	18.39				4.95	295.69	13.44
	6/26/2017	18.56				5.65	294.99	12.91
1	7/31/2017	18.41				7.18	293.46	11.23
1	8/28/2017	18.38				7.69	292.95	10.69
1	9/25/2017	18.27				5.70	294.94	12.57
1	9/2//2017	18.20				5.97	294.67	12.23
1	10/30/2017	18.31				3.00	293.04	13.31
1	12/18/2017	18.44				2.99	277.33	15.28
	12/10/2017	10.44				2.77	2571.05	15.45
SW-2	4/23/2015	49.75		40 - 50	261.37 - 251.37	37.59	263.78	12.16
	2/22/2016	50.26				DRY	NC 264.51	NC
	3/21/2016	50.03				30.80	264.51	13.17
	4/25/2016	50.25				DRI	NC	NC
	5/25/2016	49.75				37.61	263.76	12.14
	8/8/2016	50.20				37.64	263.73	12.14
	8/30/2016 *	56.60				38.02	263.35	18.58
	9/26/2016	50.47				37.87	263.50	12.60
	10/24/2016 *	55.00				38.29	263.08	16.71
	11/21/2016	51.30				37.44	263.93	13.86
	12/21/2016	50.69				37.23	264.14	13.46
	1/23/2017 *	53.50	301.37			37.53	263.84	15.97
	3/6/2017	49.60				37.29	264.08	12.31
	3/21/2017	49.91				46.69	254.68	3.22
	3/29/2017	49.89				36.85	264.52	13.04
	6/21/2017	49.61				37.21	264.16	12.40
	6/26/2017	50.10				37.42	263.95	12.68
	//31/2017	49.81				37.84	263.53	11.97
	8/28/2017	49.82				37.79	263.58	12.03
	9/23/2017	49.87				37.85	263.54	11.04
	10/30/2017	49.84				38.09	263.46	11.72
	11/20/2017	49.83				38.98	262.39	10.85
	12/18/2017	49.92				37.92	263.45	12.00
C111/ 2 ^C	422/2015	24.75				22.10	277.20	2.57
5-9-3	12/14/2015	34.78				33.11	2776 37	2.50
1	1/25/2016	35.12				32.40	277.08	2,72
1	2/22/2016	34.86	1			DRY	NC	NC
1	3/21/2016	34.91	1			31.98	277.50	2.93
1	4/25/2016	34.91	1			DRY	NC	NC
1	5/23/2016	35.03				DRY	NC	NC
1	6/27/2016	34.70				DRY	NC	NC
1	8/8/2016 *	32.60				DRY	NC	NC
1	8/30/2016	35.10				32.40	277.08	2.70
1	9/26/2016	35.20				33.29	276.19	1.91
1	10/24/2016	34.69				32.65	276.83	2.04
1	11/21/2016 *	33.77				32.17	277.31	1.60
1	12/21/2016	35.14	309.48	22 - 32	284.48 - 274.48	32.29	277.19	2.85
1	1/25/2017	34.65				32.70	276.78	1.95
1	3/0/2017	34.00				31.09	211.19	2.97
1	3/29/2017	34.08				31.70	211.18	2.38
1	6/21/2017	34.68				33.63	275.85	3.03
1	6/26/2017	34.84	1			33.70	275.78	1.05
1	7/31/2017	34.80	1			34.42	275.06	0.38
1	8/28/2017	34.74	1			DRY	NC	NC
1	9/25/2017	34.64	1			DRY	NC	NC
1	9/27/2017	34.45	1			DRY	NC	NC
1	10/30/2017	30.66				DRY	NC	NC
1	11/20/2017	34.66				33.38	276.10	1.28
	12/18/2017	34.71				32.43	277.05	2.28

Well ID	Date Measured	Total Depth ^a (ft-TOC)	TOC Elevation ^b (ft-NAVD88)	Approximate Screen Interval (ft-bgs)	Approximate Screen Interval Elevation (ft-NAVD88)	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-NAVD88)	Thickness of Water Column (ft)
DPE-4	4/23/2015	16.91	(11111200)	(00 0 gr)	(8.46	293.30	8.45
	10/26/2015	17.00				16.50	285.80	0.50
	12/14/2015	15.70				15.50	286.80	0.20
	1/25/2016	15.70				14.77	287.53	0.93
	2/22/2016	16.14				15.90	286.40	0.24
	3/21/2016	15.09				14.95	287.35	0.14
	4/25/2016	15.14				DRY	NC	NC
	5/23/2016	15.15				DRY	NC	NC
	6/23/2016	15.13				DRY	NC	NC
	8/1/2016	16.16				DRY	NC	NC
	8/30/2016	15.11				DRY	NC	NC
	9/26/2016	14.88				DRI	NC	NC
	10/24/2016	14.90				15.07	287.23	0.05
	12/21/2016	15.12	302.30	6.5 - 16.5	298.51 - 288.51	DRY	201.25 NC	0.05
	1/23/2017	14.82				DRY	NC	NC
	3/9/2017	14.87				DRY	NC	NC
	3/21/2017	15.12				DRY	NC	NC
	3/29/2017	15.12				DRY	NC	NC
	6/21/2017	15.14				DRY	NC	NC
	6/26/2017	15.12				DRY	NC	NC
	7/31/2017	15.14				15.11	287.19	0.03
	8/28/2017	15.14				DRY	NC	NC
	9/25/2017	15.14				DRY	NC	NC
1	9/27/2017	15.01				DRY	NC	NC
1	10/30/2017	15.14				DRY	NC	NC
	11/20/2017	15.13				DRY	NC	NC
1077.0	12/18/2017	15.12				DRY	NC	NC
MW-3	4/23/2015	33.40				DRY	NC	NC
1	12/14/2015	33.55				DRY	NC	NC
	1/25/2016	33.39				DRY	NC	NC
	2/22/2016	33.48				22.26	272.47	NC 0.62
	3/21/2016 4/25/2016 *	33.99				33.30 DRV	2/2.4/	0.63
	5/23/2016	33.86				DRY	NC	NC
	6/23/2016 *	35.10				34.50	271.33	0.60
	6/27/2016 *	34.60				33.73	272.10	0.87
	8/8/2016	33.35				DRY	NC	NC
	8/30/2016	34.09				34.00	271.83	0.09
	9/26/2016	33.33				DRY	NC	NC
	10/24/2016	33.88				33.32	272.51	0.56
	11/21/2016	33.80				33.43	272.40	0.37
	12/21/2016	33.40	305.83	24 - 34	281.83 - 271.83	33.35	272.48	0.05
	1/23/2017	34.00				29.08	276.75	4.92
	3/6/2017	33.47				DRY	NC	NC
	3/21/2017	33.70				DRY	NC	NC
	3/29/2017	33.60				DRY	NC	NC
	6/21/2017	33.51				DRY	NC	NC
	6/26/2017	33.61				DRY	NC	NC
	7/31/2017	33.56				DRY	NC	NC
	8/28/2017	33.54				33.46	272.37	0.08
	9/25/2017	33.55				33.41	2/2.42	0.14
	9/21/2017	33.38				22.42	NC 072.41	NC
	10/30/2017	33.57				33.42	2/2.41	0.15
1	12/18/2017	33.59				33.49	272.34	0.10
		22.27				55.45	272.40	0.10
MW-4	4/23/2015	30.15				28.07	277.61	2.08
	12/14/2015	30.16				DRY	NC	NC
	2/22/2016	30.34				29.04	2/0.04	1.30
	3/21/2016	30.37				24.33	201.33	0.04
1	4/25/2016 *	33.79				23.00 DRY	217.02 NC	4.49 NC
	5/23/2016	30.47				DRY	NC	NC
	6/23/2016	30.15				29.84	275.84	0.31
	6/27/2016	30.12				29.85	275.83	0.27
	8/8/2016	29.87	1			DRY	NC	NC
	8/30/2016 *	35.40				29.87	275.81	5.53
	9/26/2016	30.03	1			DRY	NC	NC
	10/24/2016 *	33.50	1			24.41	281.27	9.09
	11/21/2016 *	31.30	305.68	20 - 30	285 67 - 275 67	26.71	278.97	4.59
	12/21/2016	30.04	505.00	20-30	205.07 - 275.07	28.74	276.94	1.30
	1/23/2017 *	33.70				33.35	272.33	0.35
	3/6/2017	30.09				27.02	278.66	3.07
	3/21/2017	31.50				24.14	281.54	7.36
1	3/29/2017	30.25				28.91	276.77	1.34
1	6/21/2017	30.19				29.45	276.23	0.74
	6/26/2017	30.19				29.44	276.24	0.75
	//51/2017	30.17				29.84	275.84	0.33
	8/28/2017	30.18				DRY 20.04	NC 275 74	NC
	9/23/2017	30.19				29.94 DBV	2/5./4	0.25
1	9/2//2017	29.99				DRY	NC OTE T	NC
1	10/30/2017	30.19				29.94	2/5./4	0.25
1	12/18/2017	30.21				29.50	270.12	0.65
L	12/10/2017	30.20				29.21	2/0.4/	0.99

Well ID	Date Measured	Total Depth ^a (ft-TOC)	TOC Elevation ^b (ft-NAVD88)	Approximate Screen Interval (ft-bgs)	Approximate Screen Interval Elevation (ft-NAVD88)	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-NAVD88)	Thickness of Water Column (ft)
MW-6	4/23/2015	26.55				16.51	286.27	10.04
	11/30/2015	NA				16.17	286.61	10.38
	12/14/2015	26.56				12.92	289.86	13.64
	1/25/2016	26.74				13.59	289.19	13.15
	3/21/2016	26.65				13.02	289.76	13.63
	4/25/2016	26.73				DRY	NC	NC
	5/23/2016	26.84				DRY	NC	NC
	6/23/2016	26.78				19.17	283.61	7.61
	6/27/2016	26.70				18.52	284.26	8.18
	8/8/2016	26.81				23.31	279.47	3.50
	8/50/2016	27.06				25.91	2/6.87	0.06
	10/24/2016	26.55				12.94	289.84	13.61
	11/21/2016	26.76	302.78	11 - 26	291.78 - 276.78	15.20	287.58	11.56
	12/21/2016	26.62				12.81	289.97	13.81
	1/23/2017	26.55				13.25	289.53	13.30
	3/6/2017	26.48				12.81	289.97	13.67
	3/21/2017	26.17				12.76	290.02	13.41
	6/21/2017	26.75				12.55	290.23	14.20
	6/26/2017	26.73				18.54	284.24	8.19
	7/31/2017	26.71				26.14	276.64	0.57
	8/28/2017	26.73				26.15	276.63	0.58
	9/25/2017	26.72				21.48	281.30	5.24
1	9/27/2017	26.73				22.32	280.46	4.41
	10/30/2017	26.72	1			13.45	289.33	13.27
	12/18/2017	20.72				12.80	289.92	13.86
Mu o	4/22/2015	27.10				DBY	220.10	14.10
NI W-8	+/25/2015	37.08				DRY	NC	NC
	1/25/2016	37.08				DRY	NC	NC
	2/22/2016	37.13				36.91	265.33	0.22
	3/21/2016	37.45				37.00	265.24	0.45
	4/25/2016	37.41				DRY	NC	NC
	5/23/2016	37.55				37.05	265.19	0.50
	6/23/2016	37.50				37.04	265.20	0.46
	6/27/2016	37.20				37.08	NC 265.16	NC 0.60
	8/30/2016	37.96				DRY	205:10 NC	0.00
	9/26/2016	37.80				37.10	265.14	0.70
	10/24/2016	37.60	302.24			37.08	265.16	0.52
	11/21/2016	37.40		22 29	270.24 264.24	37.15	265.09	0.25
	12/21/2016	37.14		23 - 38	279.24 - 204.24	37.08	265.16	0.06
	1/23/2017	37.59				36.97	265.27	0.62
	3/8/2017	31.42				31.05	271.19	NC 0.27
	3/29/2017	37.40				DRY	NC	NC
	6/21/2017	37.40				DRY	NC	NC
	6/26/2017	37.03				DRY	NC	NC
	7/31/2017	37.28				37.05	265.19	0.23
	8/28/2017	37.29				37.09	265.15	0.20
	9/25/2017	37.26				37.09	265.15	0.17
	9/27/2017	37.08				37.08	265.16	NC 0.21
	11/20/2017	37.27				33.83	268.41	3.44
	12/18/2017	37.30				37.08	265.16	0.22
MW-11 ^c	4/23/2015	48.15			L	DRY	NC	NC
	11/30/2015	NA	1			47.54	273.77	0.61
	12/14/2015	48.17]			47.21	274.10	0.96
	1/25/2016 *	46.93				DRY	NC	NC
1	2/22/2016	48.21				46.86	274.45	1.35
	3/21/2016	48.52				46.96	274.35	1.56
	5/23/2016	48.69				DRY	NC	NC
1	6/27/2016	48.30	1			DRY	NC	NC
	8/8/2016	48.02	1			DRY	NC	NC
1	8/30/2016	48.80	1			48.48	272.83	0.32
	10/24/2016	48.95				48.00	273.31	0.95
	9/26/2016 *	38.00				DRY	NC	NC
1	11/21/2016	48.42	321.31	25 - 45	293.31 - 273.31	47.22	274.09	1.20
	12/21/2016	48.60				47.60	273.71	1.00
	3/6/2017	48.90				47.23	274.08	1.67
1	3/21/2017	48.48	1			46.85	274.46	1.55
	3/29/2017	48.41	1			47.05	274.26	1.36
	6/21/2017	48.30]			47.98	273.33	0.32
1	6/26/2017	48.58				48.08	273.23	0.50
	7/31/2017	48.40				48.08	273.23	0.32
1	8/28/2017	48.36				48.09	273.22	0.27
	9/25/2017	48.38				48.08	2/3.23	0.30
	9/2//2017	48.18				48.09	2/3.22	0.09
1	11/20/2017	48.41	1			40.10	273.70	0.32
	12/18/2017	48.39	1			48.07	273.24	0.32
L			1	I				

<form><form><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></form></form>	Well ID	Date Measured	Total Depth ^a (ft-TOC)	TOC Elevation ^b (ft-NAVD88)	Approximate Screen Interval (ft-bgs)	Approximate Screen Interval Elevation (ft-NAVD88)	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-NAVD88)	Thickness of Water Column (ft)
<form><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></form>	MW-12 ^c	4/23/2015	51.60				DRY	NC	NC
<form><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></form>		11/30/2015	NA				50.69	272.84	0.91
imnue <th< td=""><td></td><td>1/25/2016</td><td>52.12</td><td></td><td></td><td></td><td>DRY</td><td>2/2.33 NC</td><td>0.60 NC</td></th<>		1/25/2016	52.12				DRY	2/2.33 NC	0.60 NC
<form><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></form>		2/22/2016	51.99				DRY	NC	NC
<form><form><form><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></form></form></form>		3/21/2016	52.20				51.74	271.79	0.46
<form><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></form>		4/25/2016	52.12				DRY	NC	NC
CalineCali		5/23/2016	52.22				DRY	NC	NC
<form><form><table-row><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-row></form></form>		6/27/2016	51.75				DRY	NC	NC
<table-row><table-container><table-container><table-container><table-container><table-container><table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-row>		8/8/2016	51.72				DRY	NC	NC
<table-row><table-container><table-container><table-container><table-container><table-container><table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-row>		8/30/2016	52.55				DRY	NC	NC
12006100100100100120079209209215<		9/26/2016	52.50				DRY	NC	NC
izionical		10/24/2016	51.89	222.62	20 40	201.52 271.52	51.80	271.73	0.09
103071020102010200000103071040100		12/21/2016	52.67	323.33	29 - 49	291.33 - 271.33	51.77	271.76	0.90
<form><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container><table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></table-container></form>		1/23/2017	52.25				DRY	NC	NC
1000101010101010101010101010600370.1030.000.000.000.000.00100070.1040.000.000.000.000.00100070.1040.000.000.000.000.00100070.1040.000.000.000.000.00100070.1040.000.000.000.000.00100070.1040.000.000.000.00100070.0100.000.000.000.00100070.0200.000.000.000.00100070.0200.000.000.000.00100070.0200.000.000.000.00100070.000.000.000.000.00100070.000.000.000.000.00100070.000.000.000.000.00100070.000.000.000.000.00100070.000.000.000.000.00100070.000.000.000.000.00100070.000.000.000.000.00100070.000.000.000.000.00100070.000.000.000.000.00100070.000.000.000.000.00100070.000.000.000.000.0010007<		3/6/2017	51.69				DRY	NC	NC
20.0011130 (12) (13) 		3/21/2017	52.45				DRY	NC	NC
isons isons isons isons 		3/29/2017	51.89				DRY	NC	NC
DiangeDiangeDiangeNetNet1200711400 <td></td> <td>6/26/2017</td> <td>51.83</td> <td></td> <td></td> <td></td> <td>DRY</td> <td>NC</td> <td>NC</td>		6/26/2017	51.83				DRY	NC	NC
Image: prime series 		7/31/2017	51.83				DRY	NC	NC
925007518.03515.03687.040.80120027051.640.800.800.800.80120027051.640.800.800.800.8012024751.640.800.800.800.801202500.800.820.800.800.801203600.620.800.800.800.801203600.620.800.800.800.801203600.620.800.800.800.801203600.600.800.800.800.801203600.600.800.800.800.801203600.600.800.800.800.801203600.600.800.800.800.801203700.600.800.800.800.801203700.600.800.800.800.801203700.600.800.800.800.801203700.600.800.800.800.801203700.600.800.800.800.801203700.600.800.800.800.801203700.600.800.800.800.801203700.600.800.800.800.801203700.600.800.800.800.801203700.800.800.800.800.801203700.800.800.800.800.80 <td></td> <td>8/28/2017</td> <td>51.82</td> <td></td> <td></td> <td></td> <td>DRY</td> <td>NC</td> <td>NC</td>		8/28/2017	51.82				DRY	NC	NC
DescriptionDescriptionDescriptionOrbitOrbitOrbitOrbit100011112000		9/25/2017	51.87				DRY	NC	NC
manned independence<		9/27/2017	51.65				DRY	NC	NC
intensionintensionintensionintensionintensionintensionintensionintensionINVAIntension0.024NoNoNoNoNoIntension0.0240.0240.0240.0240.0240.0240.0240.024Intension0.0240		10/30/2017	51.92				DRY	NC	NC
NH412/20160.42.60.000.000.000.000.0012/20150.42.10.000.000.000.0012/20160.43.10.000.000.000.0012/20160.40.00.000.000.000.0012/20160.40.00.000.000.000.0012/20160.40.00.000.000.000.0012/20160.40.00.000.000.000.0012/20160.40.00.000.000.000.0012/20160.40.00.000.000.000.0012/20160.40.00.000.000.000.0012/20170.40.70.000.000.000.0012/20170.40.70.000.000.000.0012/20170.40.00.000.000.000.0012/20170.40.00.000.000.000.0012/20170.40.00.000.000.000.0012/20170.40.00.000.000.000.0012/20170.40.00.000.000.000.0012/20170.40.00.000.000.000.0012/20170.40.00.000.000.000.0012/20170.40.00.000.000.000.0012/20170.40.00.000.000.000.0012/20160.10.00.000.000.000.0		12/18/2017	51.86				DRY	NC	NC
NumIntentIntentIntent1300100000000013201663.00.0513201663.060.0513201663.060.0513201663.060.0513201663.000.0513201663.010.0513201663.010.0513201663.010.0513201663.000.0513201764.000.0513201764.500.0513201764.500.0513201764.500.0513201764.500.0513201764.500.0513201764.500.0513201764.510.0513201764.540.0513201764.540.0513201764.540.0513201764.540.0513201764.540.0513201764.540.0513201764.540.0513201764.540.0513201764.540.0513201764.640.0513201764.640.0513201764.640.0513201764.640.0513201764.640.0513201764.640.0513201764.640.0513201764.640.0513201764.640.0513201764.640.0513201764.640.0513201764.6	MW-13	4/23/2015	62.45				DPV	NC	NC
11-1931515-2012203166323.11220316635.11220316635.01220316635.0123031663.1123031663.212031663.212031663.212031663.212031763.012031663.012031663.012031663.012031663.012031763.012031764.012031864.012031864.012031864.012031864.012031864.012031864.012031864.012031864.		11/30/2015	02.40 NA				63.48	NC	NC
L2201660.30112/201661.0612/201661.0612/201661.0712/201661.0712/201662.0712/201662.0715/201662.0715/201661.0116/201661.0116/201661.0116/201661.0116/201661.0116/201661.0116/201661.0111/201660.0711/201661.0711/201661.0711/201661.0711/201762.0715/201761.0715/201762.0715/201762.0715/201762.0715/201762.0715/201762.0715/201762.0715/201762.0715/201762.0715/201762.0712/201762.0712/201762.0712/201762.0712/201762.0712/201762.0712/201762.0712/201762.0712/201762.0712/201762.0712/201762.0712/201762.0712/201762.0712/201762.0712/201762.0712/201762.0712/201762.0712/201653.0712/201653.0712/201653.0712/201653.0712/201653.0712/201653.0712		12/14/2015	62.62	1			DRY	NC	NC
12:20640.5:600.5:600.5:700.5:		1/25/2016	63.21				62.45	260.75	0.76
\$212086\$3508\$4508\$223086\$6301\$223086\$6250\$82016\$6250\$82016\$6250\$82016\$61301\$102046\$61301\$102046\$61301\$1121036\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$61301\$121037\$6230\$12104		2/22/2016	62.56				DRY	NC	NC
 425/2016 63.09 62.02 62.02		3/21/2016	63.06				DRY	NC	NC
\$23:016\$3:016\$4:01\$NC\$NC\$82:016\$6:250\$3:02\$1:02\$1:02\$1:02\$20:016\$6:351\$1:02\$1:02\$1:02\$1:02\$20:016\$6:301\$1:02\$1:02\$1:02\$1:02\$20:016\$6:301\$2:02\$1:02\$1:02\$1:02\$20:016\$6:301\$2:02\$1:02\$1:02\$1:02\$20:017\$6:301\$2:02\$1:02\$1:02\$1:02\$20:017\$6:301\$2:02\$1:02\$1:02\$1:02\$20:017\$6:301\$6:301\$1:02\$1:02\$1:02\$20:017\$6:301\$6:301\$1:02\$1:02\$1:02\$20:017\$6:301\$6:301\$1:02\$1:02\$1:02\$20:017\$6:301\$6:301\$1:02\$1:02\$1:02\$20:017\$6:301\$6:301\$1:02\$1:02\$1:02\$20:017\$6:302\$1:02\$1:02\$1:02\$1:02\$20:017\$6:302\$1:02\$1:02\$1:02\$1:02\$20:017\$6:301\$1:02\$1:02\$1:02\$1:02\$20:016\$1:301\$1:02\$1:02\$1:02\$1:02\$20:016\$1:302\$1:02\$1:02\$1:02\$1:02\$20:016\$1:302\$1:02\$1:02\$1:02\$1:02\$20:016\$1:302\$1:02\$1:02\$1:02\$1:02\$20:016\$1:302\$1:02\$1:02\$1:02\$1:02\$20:016\$1:302		4/25/2016	63.09				DRY	NC	NC
 		5/23/2016	63.11				DRY	NC	NC
sk200666.530NCNC12020166.5300		6/27/2016	62.60				DRY	NC	NC
Number of the series of the		8/8/2016	62.50				DRY	NC	NC
 Part Part Part Part Part Part Part Part		8/30/2016	63.29				DRY	NC	NC
1/12/20166.00 (0.0) (22/2016)0.00 (0.0) 		9/20/2010 10/24/2016 *	63.70				DRY	NC	NC
1212016625093-5928120-261.0DBYNCNC1230076250DBYNCNCNC32420176256DBYNCNC6260176256DBYNCNC6260176256DBYNCNC71/20176256CCNC9250176256CDBYNCNC9250176256CCNCNC103020176256CDBYNCNC12120176256CCNCNC12120176276NCNCNCNC12120176276NCNCNCNC12120176276NCNCNCNC12120176276NCNCNCNC12120176276NCNCNCNC12120176276SS004S12142015NASSNCNC12142015S044SSNCNC12142015S146S126SNCNC12142016S130SSSS12142016S130SSNCNC12142016S130SSSS12142016S130SSSS12142016S130SSSS12142016S130SSSS122016S130 <t< td=""><td></td><td>10/24/2010</td><td>63.00</td><td></td><td></td><td></td><td>62.52</td><td>260.68</td><td>0.48</td></t<>		10/24/2010	63.00				62.52	260.68	0.48
12/2017 61.56 321/2017 61.51 321/2017 62.50 321/2017 62.63 62/2017 62.63 62/2017 62.63 731/2017 62.63 62/2017 62.63 62/2017 62.64 62/2017 62.68 9/25/2017 62.68 9/27/017 62.64 1/20/2017 62.64 1/20/2017 62.64 1/20/2017 62.64 1/20/2017 62.64 1/20/2017 62.64 1/20/2017 62.64 1/20/2017 62.64 1/20/2017 62.64 1/20/2017 62.64 1/20/2016 51.37 22/2016 51.24 22/2016 51.24 22/2016 51.24 22/2016 51.24 22/2016 51.24 22/2016 51.24 22/2016 51.24 22/2016 51.24 <tr< td=""><td></td><td>12/21/2016</td><td>62.90</td><td>323.20</td><td>39 - 59</td><td>281.20 - 261.20</td><td>DRY</td><td>NC</td><td>NC</td></tr<>		12/21/2016	62.90	323.20	39 - 59	281.20 - 261.20	DRY	NC	NC
36201762.5032201762.6822203762.6862.620176.0862.620176.08731.201762.7662.5062.7662.5062.7662.5062.5762.5062.5892.501762.5492.501762.541090201762.691218201762.761218201762.761218201762.761218201762.761218201762.761218201762.761218201762.761218201762.761218201762.761218201762.761218201762.761218201762.761218201750.761218201750.761212201651.4652.0750.941214201551.4652.0750.7652.0751.6152.0751.6152.0751.6152.0751.6152.0751.6152.0751.6152.0751.6152.0751.6152.0751.6152.0751.6152.0751.6152.0751.6152.0751.6152.0751.6152.0751.6152.0752.6152.0752.6152.0752.6152.0752.6152.0752.6152.0852.6252.0952.6152.0		1/23/2017	63.36				DRY	NC	NC
31/20076134752/200762.6862/201763.0862/201763.0873/201762.6102501762.6202501762.64103001762.6411/20201762.6112/201762.6112/201762.6112/201762.6112/201762.6112/201762.6112/201762.6112/201762.6112/201762.6112/201762.6112/201762.6112/201651.6112/201651.6112/201651.6122/201651.6122/201651.6122/201651.6122/201651.6122/201651.6122/201651.6122/201651.6122/201651.6122/201651.6122/201651.6122/201651.6222/201651.6222/201651.6222/201651.6222/201651.6222/201651.6222/201651.6222/201651.6222/201651.6222/201750.6322/201651.6222/201750.6322/201750.6322/201750.6322/201750.6322/201750.6322/201750.6322/201750.6322/201750.6422/201750.6422		3/6/2017	62.50				DRY	NC	NC
329.00762.6062.00763.0873.00762.07828.01762.6892.701762.6892.701762.6410.00.201762.6410.00.201762.6912.18201762.6122.01662.7512.18201762.6112.18201762.6112.18201762.6112.18201762.6112.18201762.6112.18201762.6112.18201762.6112.18201762.6112.18201762.6112.18201762.6112.18201762.6112.18201762.6112.18201762.6112.18201761.6112.18201761.6112.18201750.9412.18201750.9412.201651.3722.201651.3652.201651.3062.201651.3052.201651.3062.201651.3052.201651.3052.201651.3052.201651.3012.1201651.3012.1201651.3012.1201651.3012.201651.3012.201651.3012.201651.3012.201651.3012.201651.3012.201651.3012.201651.3012.201651.3012.201651.3012.201651.3012.201651.3012.201651.30 <td< td=""><td></td><td>3/21/2017</td><td>63.47</td><td></td><td></td><td></td><td>DRY</td><td>NC</td><td>NC</td></td<>		3/21/2017	63.47				DRY	NC	NC
6212017 62.60 DRY NC NC 622007 63.08 DRY NC 0.03 5252017 62.68 20.63 0.03 9252017 62.54 20.63 0.07 9272017 62.64 20.09 0.07 1030.2017 62.66 62.62 20.38 0.04 11/20.2017 62.66 20.05 0.08 0.01 11/20.2017 62.67 20.05 0.04 0.02 11/20.2017 62.66 20.05 0.03 0.03 11/20.2017 62.67 20.05 0.03 0.03 11/20.2017 62.66 20.05 0.03 0.03 12/2016 51.37 20.20 20.05 0.03 12/2016 51.46 51.30 50.77 26.00 0.7 8/2016 51.30 51.07 20.00 0.7 20.00 0.7 12/2016 51.30 51.97 20.00 0.7 20.7 20		3/29/2017	62.68				DRY	NC	NC
6262017 63.08 7/3/2017 62.57 20.6.3 0.13 8282017 62.68 200.2 0.00 9272017 62.64 200.90 0.07 9272017 62.64 200.90 0.07 9272017 62.64 200.90 0.01 1/202017 62.64 200.90 0.08 1/2182017 62.76 20.63 0.04 1/2182017 62.76 20.63 0.04 1/2182017 62.76 20.63 0.03 1/2142015 50.75 20.63 0.03 1/2142015 50.94 50.72 26.60 0.03 1/2142015 51.46 51.37 22.20.16 51.46 5/22016 51.46 51.46 50.77 26.60 0.67 5/22016 51.46 51.46 51.46 50.97 26.05 1.08 5/22016 51.46 51.46 51.46 50.97 26.05 1.08 5/22016 <t< td=""><td></td><td>6/21/2017</td><td>62.60</td><td></td><td></td><td></td><td>DRY</td><td>NC</td><td>NC</td></t<>		6/21/2017	62.60				DRY	NC	NC
1/31/2011/ 62.04 2013 62.57 2016.3 61.31 9/25/2017 62.68 205.20 0.07 62.61 200.50 0.07 9/25/2017 62.54 200.50 0.07 62.61 200.59 0.07 10/20/2017 62.60 200.59 0.08 0.04 62.61 200.59 0.08 12/18/2017 62.76 10/20015 NA 10/20015 NA 10/20015 NA 12/14/2015 50.75 1 50.71 266.05 0.03 12/14/2015 50.31 1 50.72 266.05 0.03 22/2016 51.14 51.26 50.77 266.00 0.47 52/2016 51.26 52.20 51.26 50.77 266.01 0.72 52/2016 51.30 52.20 51.26 51.26 1.08 1.07 266.04 0.73 9/2016 51.30 10/2/2016 51.30 1.08 1.08 1.08 1.08 1.08		6/26/2017	63.08				DRY	NC	NC
b2b2017 62.68 200.02 0.01 10202017 62.54 62.61 260.59 0.007 10202017 62.64 62.61 200.59 0.08 12182017 62.64 200.59 0.08 12182017 62.61 200.59 0.08 12182017 62.61 200.59 0.08 12182017 62.61 200.59 0.08 12182017 62.61 200.59 0.08 12182017 62.61 200.59 0.08 12182017 50.75 62.61 200.59 0.08 12142015 NA 50.72 266.05 0.08 1212016 51.46 51.47 50.72 266.04 0.73 1222016 51.46 52.00 92.72 266.04 0.73 1222016 51.46 51.04 92.72 266.04 0.73 1222016 51.46 51.04 51.04<		7/31/2017	62.70				62.57	260.63	0.13
122017 62.54 000 1070017 62.66 0.01 12182017 62.69 0.01 12182017 62.76 0.01 MV-41 4232015 50.75 1070015 50.94 0.01 12142015 50.94 1222016 51.32 2222016 51.46 5232016 51.46 5232016 51.46 5232016 51.46 5232016 51.46 5232016 51.46 5232016 51.46 5232016 51.46 5232016 51.46 5232016 51.46 5232016 51.46 5232016 51.46 51.30 50.87 10242016 51.80 10242016 51.80 10242016 51.80 1232017 50.85 52047 50.85 521017 50.85 522017 50.86 5232017		8/28/2017	62.68				62.58	260.62	0.10
10302017 62.66 11/202017 62.69 12/82017 62.69 12/82017 62.76 MW-44 4232015 50.75 11/302015 NA 12/32016 51.37 22/2016 51.34 321/2016 51.34 321/2016 51.46 55/32016 51.46 52/32016 51.42 52/2016 51.42 52/2016 51.42 52/32016 51.42 62/7.016 50.99 88/2016 51.30 10/24/2016 51.30 12/22016 51.30 12/22016 51.30 12/22016 51.30 12/22016 51.30 12/22016 51.30 12/22016 51.30 12/22016 51.30 12/22016 51.30 12/22016 51.30 12/22016 51.30 12/22016 51.30 12/22017 50.82<		9/27/2017	62.54				DRY	NC	NC
11/20/2017 62.69 0.08 1218/2017 62.76 62.61 260.59 0.15 MW-14 433.2015 NA 62.61 26.61 0.03 11/30/2015 NA 11/30/2015 0.04 0.05 0.03 12/14/2015 50.94 15.27 266.05 0.03 22/2016 51.37 50.72 266.05 0.04 42/52016 51.32 50.71 266.00 0.47 52/2016 51.12 62.70.10 50.72 266.01 0.73 62/2016 51.12 62.70.10 50.72 266.00 0.47 52/2016 51.12 62.70.10 50.60 0.72 266.01 0.72 9/26/2016 51.30 83/0.2016* 51.30 1.88		10/30/2017	62.66				62.62	260.58	0.04
12/18/2017 62.76 62.61 260.59 0.15 MW-14 423/2015 50.75 11/30/2015 NA 12/14/2015 50.94 12/14/2015 50.94 12/14/2015 50.94 0.015 0.015 12/202016 51.37 22/2016 51.34 0.047 0.047 22/2016 51.46 53.30 50.77 266.04 0.073 42/5/2016 51.146 53.30 830/2016* 51.30 830/2016* 51.30 830/2016 51.80 0.02 0.02 0.02 0.02 9/26/2016 51.65 11/2/2016 51.30 316.77 30.50 286.77 - 266.77 50.81 265.92 0.33 12/2/12016 51.30 316.77 50.61 266.08 0.13 32/2017 50.82 326.07 266.09 266.08 0.13 32/2017 50.98 265.92 0.35 0.65 50.61 0.68 32/2017 50.98 265.94 0.07		11/20/2017	62.69]			62.61	260.59	0.08
MW-14 4232015 50.75 11/30/2015 NA 125/2016 51.37 222/2016 51.24 321/2016 51.46 4/25/2016 51.12 6/27/2016 51.146 4/25/2016 51.12 6/27/2016 50.92 8/30/2016+ 51.30 8/30/2016+ 51.30 8/30/2016 51.80 10/24/2016 51.63 11/21/2016 51.50 3/21/2017 51.50 3/21/2017 51.50 3/21/2017 51.50 3/21/2017 50.63 1/22/2016 51.30 3/21/2017 51.63 1/22/2016 51.50 3/2/2017 50.63 3/2/2017 50.64 3/2/2017 50.98 3/2/2017 50.96 6/2/2017 50.96 6/2/2017 50.96 9/2/2017 50.96 6/2/2017 50.96 6/2/2017<		12/18/2017	62.76				62.61	260.59	0.15
11302015 NA 12142015 50.94 1222016 51.37 2222016 51.24 3212016 51.46 4252016 51.46 5232016 51.46 5232016 51.46 5232016 51.12 627.2016 50.90 88/2016 51.30 88/2016 51.30 8/202016* 52.00 9/26/2016 51.30 10242/2016 51.30 1221/2016 51.30 1221/2016 51.30 326/07 50.82 32/2017 50.82 32/2017 50.83 621/2017 50.85 621/2017 50.85 621/2017 50.96 621/2017 50.96 92/2017 50.96 92/2017 50.96 92/2017 50.96 92/2017 50.96 92/2017 50.96 92/2017 50.96 <td< td=""><td>MW-14</td><td>4/23/2015</td><td>50.75</td><td>1</td><td>1</td><td></td><td>DRY</td><td>NC</td><td>NC</td></td<>	MW-14	4/23/2015	50.75	1	1		DRY	NC	NC
12/14/2015 \$0.94 125/2016 \$1.37 22/22/016 \$1.37 321/2016 \$1.46 \$22/2016 \$1.46 \$22/2016 \$1.46 \$22/2016 \$1.46 \$22/2016 \$1.46 \$22/2016 \$1.12 \$627/2016 \$5.1.30 \$8/2016 \$5.1.30 \$9/26/2016 \$1.80 10/24/2016 \$5.1.80 10/24/2016 \$5.1.30 12/21/2016 \$5.1.30 12/21/2016 \$5.1.30 12/21/2016 \$5.1.30 12/21/2016 \$5.1.30 321/2017 \$5.0.83 321/2017 \$5.0.83 32/2017 \$5.0.89 6/2/2017 \$5.0.89 6/2/2017 \$5.0.89 6/2/2017 \$5.0.89 6/2/2017 \$5.0.87 9/27/2017 \$5.0.87 9/27/2017 \$5.0.80 9/27/2017 \$5.0.80 9/27/2017 \$5.0.80		11/30/2015	NA	1			50.72	266.05	0.03
1/25/2016 51.37 2222016 51.46 3/21/2016 51.46 4/25/2016 51.46 5/23/2016 51.46 5/23/2016 51.12 6/27/2016 50.07 8/8/2016 51.02 9/26/2016 51.30 8/8/2016* 52.00 9/26/2016 51.80 10/24/2016 51.30 12/21/2016 51.30 12/21/2016 51.30 12/21/2016 51.30 12/21/2016 51.30 12/21/2016 51.30 12/21/2016 51.30 32/21/2017 51.50 3/21/2017 51.50 3/22/2017 50.82 6/22/2017 50.98 6/22/2017 50.98 6/22/2017 50.96 7/31/2017 50.96 9/25/2017 50.97 9/25/2017 50.99 9/25/2017 50.99 9/25/2017 50.99 9/25/2017		12/14/2015	50.94				DRY	NC	NC
2222016 51.24 3212016 51.46 4255/2016 51.46 5232016 51.12 6272016 50.90 88/2016 51.30 88/2016 51.30 9/26/2016 51.00 10/24/2016 51.30 11/21/2016 51.30 12/21/2016 51.30 12/21/2016 51.30 3/26/2017 51.50 3/26/2017 51.50 3/21/2017 51.50 3/21/2017 51.50 3/21/2017 51.50 3/21/2017 50.89 3/21/2017 50.89 3/21/2017 50.89 3/21/2017 50.89 50.69 266.01 6/21/2017 50.89 6/21/2017 50.89 6/21/2017 50.89 6/21/2017 50.89 6/21/2017 50.89 6/21/2017 50.89 6/21/2017 50.96 6/26.01 0.20 <td> </td> <td>1/25/2016</td> <td>51.37</td> <td></td> <td></td> <td></td> <td>DRY</td> <td>NC</td> <td>NC</td>		1/25/2016	51.37				DRY	NC	NC
321/2016 51.46 425/2016 51.46 425/2016 51.42 627/2016 50.90 88/2016 51.30 9/26/2016 51.30 10/24/2016 51.80 11/21/2016 51.20 12/21/2016 51.30 12/21/2016 51.30 12/21/2016 51.30 12/21/2016 51.30 12/21/2016 51.30 3/26/2017 51.50 3/26/2017 51.50 3/26/2017 50.85 62/2017 50.98 62/2017 50.98 62/2017 50.99 7/3/2017 50.96 7/3/2017 50.96 62/2017 50.96 62/2017 50.96 925/2017 50.96 925/2017 50.96 925/2017 50.96 925/2017 50.96 925/2017 50.97 925/2017 50.96 925/2017 50.97	1	2/22/2016	51.24				50.77	266.00	0.47
423/2010 51.40 KC NC 5232016 51.12 0 <td></td> <td>3/21/2016</td> <td>51.46</td> <td></td> <td></td> <td></td> <td>50.73</td> <td>266.04</td> <td>0.73</td>		3/21/2016	51.46				50.73	266.04	0.73
bit definition 51.12 NC NC 627/2016 50.90 88/2016 51.30 8/30/2016* 52.00 9/26/2016 51.80 10/24/2016 51.65 11/21/2016 51.20 12/21/2016 51.30 12/21/2016 51.30 3/2/2017 51.50 3/2/2017 50.82 2/2/2017 50.82 6/2/2017 50.89 6/2/2017 50.89 6/2/2017 50.98 6/2/2017 50.98 6/2/2017 50.96 6/2/2017 50.98 6/2/2017 50.96 7/31/2017 50.96 9/25/2017 50.96 9/25/2017 50.97 9/25/2017 50.99 9/25/2017 50.99 9/25/2017 50.96 9/25/2017 50.97 9/27/2017 50.80 10/30/2017 50.90 10/30/2017 50.92		4/25/2016 5/23/2016	51.46				DRY	NC	NC
Barrent John Net Net 88/2016 51.30 52.00 9/26/2016 51.80 50.7 26.00 Net Net Net 9/26/2016 51.80 51.80 50.72 266.05 1.08 10/24/2016 51.20 316.77 30 - 50 286.77 - 266.77 50.82 265.54 0.07 1/21/2016 51.30 316.77 50.61 266.08 0.03 3/2/2017 51.50 50.82 265.92 0.57 3/21/2017 51.35 329/2017 50.65 266.08 0.01 5/21/2017 50.98 265.99 0.57 26.07 26.00 0.21 7/31/2017 50.65 626/2017 50.98 265.99 0.18 9/25/2017 50.97 50.97 266.01 0.20 9/25/2017 50.97 50.83 265.94 0.14 9/27/2017 50.99 1.18 50.78 265.99 0.18 1/20/20177 50.99		6/27/2016	51.12				DRY	NC	NC
830/2016* 52.00 9/26/2016 51.80 10/24/2016 51.65 11/21/2016 51.20 12/21/2016 51.30 12/21/2016 51.30 12/21/2016 51.30 12/21/2016 51.30 3/6/2017 51.50 3/21/2017 51.35 3/21/2017 51.35 3/21/2017 50.65 6/21/2017 50.65 6/22017 50.98 6/22017 50.99 6/22017 50.96 6/22017 50.96 7/31/2017 50.96 9/25/2017 50.97 9/25/2017 50.99 9/27/2017 50.90 10/30/2017 51.02 10/30/2017 51.02 10/30/2017 51.02 12/18/2017 50.99 12/18/2017 50.99 12/18/2017 51.02		8/8/2016	51.30				DRY	NC	NC
9262016 51.80 102 20 10 10 1024/2016 51.65 11/21/2016 51.20 1.38 4.55 11/21/2016 51.20 1.31 50.72 266.05 1.18 123/2017 51.50 316.77 50.85 265.92 0.35 3/21/2017 51.50 50.85 265.92 0.37 3/21/2017 50.82 265.94 0.077 50/2017 50.89 50.69 266.08 0.13 3/21/2017 50.89 626.08 0.37 50.72 266.00 0.37 50/21/2017 50.98 70.65 266.00 0.21 50.77 266.00 0.21 7/31/2017 50.96 50.97 266.01 0.20 50.73 265.99 0.18 9/25/2017 50.97 50.61 50.73 265.99 0.18 9/25/2017 50.97 50.83 265.94 0.14 9/27/2017 50.99 50.81 265.95 0.01		8/30/2016 *	52.00				DRY	NC	NC
1024/2016 \$1.65 11/21/2016 \$1.20 12/21/2016 \$1.30 12/21/2016 \$1.30 12/21/2016 \$1.30 12/21/2016 \$1.50 3/6/2017 \$50.82 3/2/21/2017 \$51.53 3/2/21/2017 \$50.82 3/2/21/2017 \$50.89 6/21/2017 \$50.98 6/21/2017 \$50.98 7/31/2017 \$50.99 9/25/2017 \$50.99 7/31/2017 \$50.96 9/25/2017 \$50.99 9/25/2017 \$50.99 9/25/2017 \$50.99 9/25/2017 \$50.99 9/25/2017 \$50.99 9/25/2017 \$50.99 9/25/2017 \$50.99 10/30/2017 \$51.02 11/20/2017 \$50.89 10/30/2017 \$51.02 11/20/2017 \$51.02		9/26/2016	51.80	1			50.72	266.05	1.08
I1/21/2016 51.20 316.77 50.85 265.92 0.35 1/21/2016 51.30 316.77 50.81 286.77 - 266.77 51.23 265.34 0.07 1/23/2017 51.30 50.82 50.61 266.08 0.13 3/21/2017 51.35 50.89 50.69 266.08 0.13 6/21/2017 50.85 50.61 265.92 0.35 6/21/2017 50.89 50.61 266.08 0.13 6/21/2017 50.65 50.78 265.99 0.57 6/21/2017 50.96 50.67 266.00 0.21 7/31/2017 50.96 50.77 266.00 0.21 9/25/2017 50.97 50.83 265.94 0.14 9/27/2017 50.90 0.18 50.81 265.95 0.20 1/20/2017 50.99 51.02 50.81 265.95 0.20 1/20/2017 51.02 51.02 50.81 265.95 0.17 1/218/2017		10/24/2016	51.65				46.90	269.87	4.75
1221/2016 51.30 50.70 50.70 51.23 265.54 0.07 1/23/2017 51.50 50.60 50.61 2.66.16 0.89 3/6/2017 50.82 50.69 266.16 0.89 3/21/2017 51.35 3.29/2017 50.69 265.59 0.37 6/21/2017 50.69 60.13 50.78 2.65.99 0.57 6/22/2017 50.69 50.77 2.66.00 0.21 7/31/2017 50.96 50.77 2.66.00 0.21 9/25/2017 50.97 50.69 265.99 0.13 9/25/2017 50.97 50.69 265.99 0.14 9/25/2017 50.97 50.83 2.65.94 0.14 9/25/2017 50.99 1.18 50.83 2.65.94 0.14 9/27/2017 50.90 1.18 50.81 2.65.95 0.20 1/20/2017 50.99 50.81 2.65.96 0.14 1/20/2017 50.99 50.81 <td></td> <td>11/21/2016</td> <td>51.20</td> <td>316 77</td> <td>30 50</td> <td>286 77 244 77</td> <td>50.85</td> <td>265.92</td> <td>0.35</td>		11/21/2016	51.20	316 77	30 50	286 77 244 77	50.85	265.92	0.35
1/23/2017 51.50 3/6/2017 50.82 3/21/2017 51.35 3/21/2017 50.83 3/21/2017 50.89 6/21/2017 50.65 6/26/2017 50.65 6/26/2017 50.98 6/21/2017 50.98 7/31/2017 50.96 9/25/2017 50.96 9/25/2017 50.97 9/25/2017 50.97 9/27/2017 50.90 10/30/2017 50.90 10/30/2017 50.99 11/20/2017 50.99 12/18/2017 50.99 12/18/2017 51.02		12/21/2016	51.30	310.//	30 - 50	280.77 - 200.77	51.23	265.54	0.07
36/2017 50.82 50.69 266.08 0.13 3/21/2017 51.35 50.78 265.99 0.57 3/29/2017 50.89 50.78 265.99 0.57 6/21/2017 50.65 DRY NC NC 6/22/2017 50.98 50.77 266.00 0.21 7/31/2017 50.96 50.77 266.00 0.20 8/28/2017 50.96 50.78 265.99 0.18 9/25/2017 50.97 50.83 265.99 0.18 9/25/2017 50.80 10.02 10.4 0.20 10/20/2017 51.02 50.81 265.99 0.18 1/20/2017 51.02 50.81 265.95 0.20 1/21/8/2017 51.02 50.85 265.92 0.17		1/23/2017	51.50				50.61	266.16	0.89
S21/2017 51.55 50.78 2265.99 0.57 3/29/2017 50.89 DRY NC NC 6/21/2017 50.65 DRY NC 0.21 6/26/2017 50.98 50.77 266.00 0.21 7/31/2017 50.96 50.76 266.01 0.01 8/28/2017 50.96 50.78 265.99 0.14 9/25/2017 50.96 50.78 265.94 0.14 9/25/2017 50.80 50.83 265.94 0.14 10/30/2017 51.02 50.81 265.96 0.20 11/20/2017 50.99 10.18 265.96 0.18 12/18/2017 51.02 50.85 265.92 0.17		3/6/2017	50.82				50.69	266.08	0.13
DRAWN JUKY NC NC 621/2017 50.65 DRY NC NC 6262017 50.98 50.77 266.00 0.21 7/31/2017 50.96 50.76 266.01 0.20 9/25/2017 50.96 50.78 265.99 0.18 9/25/2017 50.97 50.83 265.94 0.14 9/27/2017 50.80 DRY NC NC 10/30/2017 51.02 50.81 265.95 0.20 12/18/2017 51.02 50.85 265.92 0.17		3/21/2017	51.35				50.78	265.99	0.57
bit NC NC NC 6/26/2017 50.98 50.77 266.00 0.21 7/31/2017 50.96 50.76 266.01 0.20 8/28/2017 50.96 50.78 265.99 0.18 9/25/2017 50.97 50.83 265.99 0.14 9/27/2017 50.80 10.20 DRY NC NC 10/202017 51.02 50.81 265.96 0.018 12/18/2017 51.02 50.85 265.92 0.17		5/29/2017	50.65				DRY	NC	NC
7/3/2017 50.96 2.00.00 0.21 8/28/2017 50.96 50.76 266.01 0.20 9/25/2017 50.97 50.97 50.83 265.99 0.18 9/27/2017 50.80 0.20 50.78 265.99 0.14 10/30/2017 51.02 11/20/2017 50.99 0.20 50.81 265.95 0.20 11/20/2017 50.09 50.02 50.81 265.96 0.18 12/18/2017 51.02 50.85 265.95 0.20		6/26/2017	50.65				50.77	266.00	0.21
S28/2017 S0.96 50.78 C65.99 O.18 9/25/2017 50.97 50.83 265.94 0.14 9/27/2017 50.80 50.83 265.94 0.14 10/30/2017 51.02 50.81 265.95 0.20 11/20/2017 50.99 50.81 265.96 0.18 12/18/2017 51.02 50.81 265.96 0.18		7/31/2017	50.96				50.76	266.01	0.20
9/25/2017 50.97 50.83 265.94 0.14 9/27/2017 50.80 DRY NC NC 10/30/2017 51.02 50.81 265.95 0.20 11/20/2017 50.99 50.81 265.96 0.18 12/18/2017 51.02 50.85 265.95 0.17		8/28/2017	50.96	1			50.78	265.99	0.18
9/27/2017 50.80 DRY NC NC 10/30/2017 51.02 50.82 2.65.95 0.20 11/20/2017 50.99 50.81 2.65.96 0.18 12/18/2017 51.02 50.85 2.65.92 0.17		9/25/2017	50.97	1			50.83	265.94	0.14
10302017 51.02 50.82 265.95 0.20 11202017 50.99 50.81 265.96 0.18 12/18/2017 51.02 50.85 265.92 0.17		9/27/2017	50.80	1			DRY	NC	NC
11/20/2017 50.99 12/18/2017 51.02		10/30/2017	51.02				50.82	265.95	0.20
12/18/2017 51.02 50.85 265.92 0.17		11/20/2017	50.99				50.81	265.96	0.18
		12/18/2017	51.02				50.85	265.92	0.17

Table 1 Monitoring Well Groundwater Elevation Data Summary Laurel Station

Bellingham, Washington

тос Approximate Scre Approximate Screen Depth to Thickness of Wate Groundwater Total Depth^a Elevation Interval Interval Elevation Elevation Colum Gro Well ID Date Measured (ft-NAVD88 (ft-bgs) (ft-NAVD88) (ft-TOC) (ft-NAVD88) (ft) (ft-TOC) MW-15 4/23/2015 34.25 NC 33.76 33.72 269.40 11/30/2015 NA 33.82 269.30 NC 12/14/2015 34.24 33.79 269.33 0.45 1/25/2016 35.15 33.80 269.32 1.35 2/22/2016 * 33.39 33.19 269.93 0.20 3/21/2016 34.82 33.78 269.34 1.04 4/25/2016 34.71 5/23/2016 34.80 6/27/2016 * 33.52 DRY 33.74 NC 0.57 269.38 8/8/2016 34.31 8/30/2016 * 35.26 33.74 269.38 1.52 9/26/2016 * 36.00 DR 33.63 269.49 1.52 10/24/2016 35.15 33.80 278.12 - 268.12 269.39 303.12 25 - 35 0.07 12/21/2016 34.39 33.72 269.40 0.67 1.55 35.25 33.70 1/23/3017 269.42 3/6/2017 34.08 33.74 269.38 3/21/2017 35.30 NC NC NC NC DR DRY 34.37 6/21/2017 34.31 DRY NC NC 6/26/2017 34.67 33.75 269.37 0.92 34.26 7/31/2017 33.79 269.33 0.47 8/28/2017 34.31 33.77 269.35 9/25/2017 34.28 33.76 269.36 0.52 9/27/2017 34.07 269.35 0.30 0.50 10/30/2017 34.28 33.78 269.34 1/20/2017 34.24 33.79 269.33 12/18/2017 34 31 33.76 269.36 0.55 MW-16 4/23/2015 34.82 10/26/2015 34.91 34.80 269.11 12/14/2015 34.83 NC 1/25/2016 35.73 DRY 2/22/2016 35.72 34.97 268.94 0.75 3/21/2016 35.61 33.81 270.10 1.80 35.41 4/25/2016 DRY NC NC DRY NC NC 6/27/2016 34.70 DRY 35.50 0.77 8/8/2016 34.73 269.18 8/30/2016 * 36.23 34.74 269.17 1.49 9/26/2016 36.50 DRY 10/24/2016 36.65 DRY 11/21/2016 35.46 34.60 269.31 0.86 25 - 35 278.91 - 268.91 303.91 12/21/2016 36.10 1/23/2017 35,70 34.36 269.55 1.34 3/6/2017 34.61 34.02 269.89 0.59 NC 3/21/2017 35.73 DR 3/29/2017 34.87 DR 6/21/2017 34.69 DRY NC N 34.72 DRY NC NC 6/26/2017 7/31/2017 35.95 34.75 269.16 1.20 8/28/2017 34.85 34.74 269.17 0.11 9/25/2017 34.93 34.68 269.23 0.25 NC 0.05 9/27/2017 34.77 DRY 34.92 10/30/2017 34.97 268.99 11/20/2017 34.71 NC NC 12/18/2017 35.01 34.88 NC

^aTotal depth was measured by sounding the wells prior to sampling and may differ from total depth as installed.

Source of TOC elevations is Larry Steele & Associates. The TOC noted for DPE-4 is the elevation for the sampling port due to the DPE equipment installed in the well. For DPE-4, the measurement on April 23, 2015 was TOC for well casing (pre-dated DPE installation).

Notes: Highlighted cells recorded a water column less than 0.7 foot. This is an indication that the well is dry and the water measured in the well is due to the collection of water in the bottom cap of the well. Well is dry.

* - Indicates measured depth to bottom of well is very different than expected; impacts calculation of thickness of water column.

ft - foot

ft-TOC - feet below top of well casing

ft-NAVD88 - vertical elevation in feet relative to North American Vertical Datum of 1988

ft-bgs - feet below ground surface

NC - not calculated

NM - not measured

Table 1 - Groundwater Elevation Summary.xlsx	
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Table 2 Quarterly Groundwater Monitoring Results Laurel Station Cleanup Action Bellingham, Washington

Sample ID	Groundwater Cleanup	MW4							MV	N-6						
Sample Date	Levels	4/23/15	4/23/15	4/23/15 (DUP)	12/14/15	3/29/16	3/29/16 (DUP)	6/27/16	6/27/16 (DUP)	9/26/16	12/21/16	12/21/16 (DUP)	3/29/17	6/21/17	6/21/17 (DUP)	9/27/17
Total Petroleum Hydrocarbons (TPH, mg/L)																
Gasoline-range (Gx)	0.8/1.0 °	0.25 U	0.25 U	0.25 U	0.25 U	0.10 U	0.10 U	0.10 U	0.10 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Diesel-range (Dx)	NE	0.94	0.10 U	0.13 U	0.12	0.10 U	0.10 U	0.11	0.10 U	0.273	0.100 U	0.100 U	0.100 U	0.115 U	0.124	0.421
Motor Oil-range	NE	0.47	0.20 U	0.25 U	0.22	0.20 U	0.20 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.230 U	0.269	0.336
Total TPH (Sum Dx, Oil-range, mg/L)	0.5	1.41	ND	ND	0.34	ND	ND	0.11	ND	0.273	ND	ND	ND	ND	0.393	0.757
BTEX (ug/L)																
Benzene	5	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Toluene	640	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Ethylbenzene	700	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
m,p-Xylene	1,600	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
o-Xylene	1,600	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Polycyclic Aromatic Hydrocarbons (ug/L)																
l-Methylnaphthalene	1.51	NA	0.010 U	NA	0.010 U	0.10 U	0.10 U	0.10 U	0.10 U	0.020	0.017	0.012	0.010 U	0.013 U	0.011 U	NA
2-Methylnaphthalene	32	NA	0.019	NA	0.010 U	0.10 U	0.10 U	0.10 U	0.10 U	0.049	0.048	0.033	0.026	0.018	0.017	NA
Acenaphthene	960	NA	0.010 U	NA	0.010 U	0.10 U	0.10 U	0.10 U	0.10 U	0.010 U	0.010 U	0.010 U	0.010 U	0.013 U	0.011 U	NA
Acenaphthylene	NE	NA	0.010 U	NA	0.010 U	0.10 U	0.10 U	0.10 U	0.10 U	0.010 U	0.010 U	0.010 U	0.010 U	0.013 U	0.011 U	NA
Anthracene	4,800	NA	0.010 U	NA	0.010 U	0.10 U	0.10 U	0.10 U	0.10 U	0.014	0.010 U	0.010 U	0.010 U	0.013 U	0.011 U	NA
Benzo(a)anthracene	0.12	NA	0.013	NA	0.010 U	0.10 U	0.10 U	0.10 U	0.10 U	0.020	0.010 U	0.010 U	0.010 U	0.013 U	0.011 U	NA
Benzo(b)fluoranthene 1	0.12	NA	0.011	NA	0.010 U	NA	NA	NA	NA	0.013	0.010 U	0.010 U	0.010 U	0.013 U	0.011 U	NA
Benzo(k)fluoranthene	1.2	NA	0.010 U	NA	0.010 U	NA	NA	NA	NA	0.010 U	0.010 U	0.010 U	0.010 U	0.013 U	0.011 U	NA
Benzo(a)pyrene 1	0.12	NA	0.012	NA	0.010 U	0.10 U	0.10 U	0.10 U	0.10 U	0.014	0.010 U	0.010 U	0.010 U	0.013 U	0.011 U	NA
Benzo(g,h,i)perylene	NE	NA	0.010 U	NA	0.010 U	0.10 U	0.10 U	0.10 U	0.10 U	0.010 UJ	0.010 U	0.010 U	0.010 U	0.013 U	0.011 U	NA
Chrysene 1	12	NA	0.015	NA	0.012	0.10 U	0.10 U	0.10 U	0.10 U	0.023	0.010 U	0.010 U	0.010 U	0.013 U	0.011 U	NA
Dibenz(a,h)anthracene 1	0.012	NA	0.010 U	NA	0.010 U	0.10 U	0.10 U	0.10 U	0.10 U	0.010 UJ	0.010 U	0.010 U	0.010 U	0.013 U	0.011 U	NA
Dibenzofuran	16	NA	0.010 U	NA	0.010 U	0.10 U	0.10 U	0.10 U	0.10 U	0.010 U	0.010 U	0.010 U	0.010 U	0.013 U	0.011 U	NA
Fluoranthene	640	NA	0.017	NA	0.013	0.10 U	0.10 U	0.10 U	0.10 U	0.045	0.010 U	0.010 U	0.010 U	0.013 U	0.015	NA
Fluorene	640	NA	0.010 U	NA	0.010 U	0.10 U	0.10 U	0.10 U	0.10 U	0.010 U	0.010 U	0.010 U	0.010 U	0.013 U	0.011 U	NA
Indeno(1,2,3-cd)pyrene 1	0.12	NA	0.010 U	NA	0.010 U	0.10 U	0.10 U	0.10 U	0.10 U	0.010 UJ	0.010 U	0.010 U	0.010 U	0.013 U	0.011 U	NA
Naphthalene	160	NA	0.010 U	NA	0.010 U	0.10 U	0.10 U	0.22	0.15	0.670	0.303 J	0.209 J	0.153	0.164	0.150	NA
Phenanthrene	NE	NA	0.010 U	NA	0.010	0.10 U	0.10 U	0.10 U	0.10 U	0.024	0.010 U	0.010 U	0.010 U	0.013 U	0.011 U	NA
Pyrene	480	NA	0.022	NA	0.014	0.10 U	0.10 U	0.10 U	0.10 U	0.054	0.010 U	0.010 U	0.010 U	0.013 U	0.012	NA
Total Benzofluoranthenes ²	0.12	NA	0.024 J	NA	0.020 U	0.10 U	0.10 U	0.10 U	0.10 U	NA	NA	NA	NA	NA	NA	NA
TTEC	0.12	NA	0.015	NA	0.00012	NC	NC	NC	NC	0.0175	NC	NC	NC	NC	NC	NC

Table 2 Quarterly Groundwater Monitoring Results Laurel Station Cleanup Action Bellingham, Washington

Sample ID	Groundwater Cleanup	PV-1	DPE-1	DPE-2	DPE-3	DPE-4	DPE-5	DPE-8
Sample Date	Levels	4/24/15	4/24/15	4/24/15	4/23/15	4/24/15	4/24/15	4/23/15
Total Petroleum Hydrocarbons (TPH, mg/L)								
Gasoline-range (Gx)	0.8/1.0 ^a	0.25 U						
Diesel-range (Dx)	NE	0.38	2.1	0.59	0.86	0.14	0.46	0.60
Motor Oil-range	NE	0.20 U	0.54	0.23	0.82	0.20 U	0.20 U	0.20 U
Total TPH (Sum Dx, Oil-range, mg/L)	0.5	0.38	2.64	0.82	1.68	0.14	0.46	0.60
BTEX (ug/L)								
Benzene	5	0.20 U						
Toluene	640	0.26	0.20 U	0.55	0.37	0.20 U	0.20 U	0.44
Ethylbenzene	700	0.20 U						
m,p-Xylene	1,600	0.40 U						
o-Xylene	1,600	0.20 U						
Polycyclic Aromatic Hydrocarbons (ug/L)								
l-Methylnaphthalene	1.51	0.010 U	0.010 U	0.010	0.019	0.010 U	0.010 U	0.010 U
2-Methylnaphthalene	32	0.010 U	0.010 U	0.010 U	0.022	0.010 U	0.010 U	0.010 U
Acenaphthene	960	0.010 U						
Acenaphthylene	NE	0.010 U						
Anthracene	4,800	0.010 U						
Benzo(a)anthracene	0.12	0.010 U						
Benzo(b)fluoranthene 1	0.12	0.010 U	0.015	0.010 U	0.016	0.010 U	0.010 U	0.010 U
Benzo(k)fluoranthene	1.2	0.010 U						
Benzo(a)pyrene 1	0.12	0.010 U						
Benzo(g,h,i)perylene	NE	0.010 U	0.010 U	0.010 U	0.015	0.010 U	0.010 U	0.010 U
Chrysene 1	12	0.010 U	0.098	0.013	0.044	0.010 U	0.010 U	0.011
Dibenz(a,h)anthracene	0.012	0.010 U						
Dibenzofuran	16	0.010 U	0.010 U	0.010 U	0.012	0.010 U	0.010 U	0.010 U
Fluoranthene	640	0.010 U						
Fluorene	640	0.010 U	0.010 U	0.018	0.012	0.010 U	0.027	0.010 U
Indeno(1,2,3-cd)pyrene	0.12	0.010 U						
Naphthalene	160	0.010 U	0.021 U	0.031 U	0.010 U	0.019 U	0.033 U	0.020 U
Phenanthrene	NE	0.010 U	0.010 U	0.010 U	0.013	0.010 U	0.010 U	0.010 U
Pyrene	480	0.010 U	0.057	0.020	0.031	0.010 U	0.010 U	0.012
Total Benzofluoranthenes ²	0.12	0.020 U						
TTEC	0.12	NC	0.0025	0.00013	0.0020	NC	NC	0.00011

 NC
 0.0025
 0.0013
 0.0023
 NC
 NC
 0.00011

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 Status (Seed to be project value)
 No.
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 Status (Seed to be project value)
 No.
 <

Memo

1111 3rd Avenue, Suite 1600 Seattle, Washington 98101 206.438.2700 Telephone 206.438.2699 Fax

To:	Karen Mixon, Project Manager	Info:	Final
From:	Chelsey Cook, Chemist Lucy Panteleeff, Chemist	Date:	November 1, 2017
RE:	Data Quality Review Quarterly Groundwater Samples – September Laurel Station Cleanup Action	2017	

The data quality review of 1 groundwater sample collected on September 27, 2017, has been completed. The sample was analyzed by Analytical Resources, Incorporated (ARI) located in Tukwila, Washington for benzene, toluene, ethylbenzene, m,p-xylene, and o-xylene (BTEX) by EPA Method 8260C, and total petroleum hydrocarbons (TPHs) by Washington State Department of Ecology (Ecology) Methods NWTPH-Gx (gasoline-range TPH) and NWTPH-Dx (diesel-range and motor oil-range TPH). Samples were analyzed for the chemical constituents as described in the *Final Compliance Monitoring Plan, Laurel Station, 1009 East Smith Road, Bellingham, Washington* dated January 16, 2015 (CMP). Due to changes in laboratory procedures, NWTPH-Gx analysis was performed using GC/MS instrumentation instead of GC/FID.

The analyses were performed in general accordance with methods specified in EPA's *Test Methods for Evaluating Solid Waste (SW-846)* and Ecology's *Analytical Methods for Petroleum Hydrocarbons*, June 1997. The laboratory provided a full data package containing sample results and associated QA/QC data. The following sample is associated with ARI group 17I0430:

Sample ID	Laboratory ID	Requested Analyses
MW-6	17I0430-01	BTEX, NWTPH-Gx, NWTPH-Dx

The following comments refer to ARI's performance in meeting the quality control specifications described in the analytical methods. Data were qualified based on the method criteria and guidance provided in the EPA document USEPA National Functional Guidelines for Organic Superfund Methods Data Review, January 2017. Data qualifiers that may be assigned to data from this laboratory group include:

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
- DNR Do Not Report. Multiple results reported from different analytical dates and/or dilutions. Value from another analysis should be used.

Data Quality Review Quarterly Groundwater Samples – September 2017 Laurel Station Cleanup Action

Sample Receipt

Upon receipt by ARI, the sample jar information was compared to the chain-of-custody (COC) and the cooler temperature was recorded. No discrepancies related to sample identification were noted by the laboratory and the cooler was received at a temperature within the EPA-recommended limits of greater than 0° C and less than or equal to 6° C.

Organic Analyses

Samples were analyzed for BTEX, and TPHs by the methods identified in the introduction to this report.

- 1. Holding Times Acceptable
- 2. Instrument Performance and Calibrations (initial and continuing) Acceptable
- 3. Blanks Acceptable
- 4. Surrogates Acceptable
- 5. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Acceptable
- 6. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

<u>General</u> – MS/MSDs were not performed in association with these analyses. Precision and accuracy were assessed using the LCS, LCSD, and/or field duplicate results.

7. Reporting Limits – Acceptable

Overall Assessment of Data

The data reported in this laboratory group are considered usable for meeting project objectives. The completeness for laboratory group 17I0430 is 100%.

25 October 2017

Karen Mixon AECOM 1111 Third Avenue, Suite 1600 Seattle, WA 98101

RE: Laurel Station

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s) 17I0430

Associated SDG ID(s) N/A

Digitally signed by Kelly Bottem DN: c=US, st=Washington, I=Tukwila, o=Analytical Resources, Inc., ou=Client email=kellyb@arilabs.com Date: 2017.10.25 05:45:50 -07'00'

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the reqirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Sil Both

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in itentirety.

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

is Request	0 Page: 1 of 1 Analytical Resources, Incorporated Analytical Chemists and Consultants	$3627a$ Date: $9/27(r_{3})^{12}$ Present? Tukwila, WA 98168	No. of Cooler 206-695-6200 206-695-6201 (fax) Coolers: Temps:	Analysis Requested Notes/Comments	サム the second	ix No. Containers	4 3 1 BTEY BY B2600						Received by: (Signature) Received by: (Signature) (Signature)	Printed Name: Printed Name: Printed Name:	Company: Company: Company: Company:
		ć	23	vnalysis Requested									elinquished by: lignature)	rinted Name:	ompany:
	l of l	$ 2f(r_{\rm Present}) $	Cooler Temps:	¥ _	H.	XU X0							Ha DO 13	Hall	ŏ
	Page:	Date:	No. of Coolers:		410	8/ X9 MM	\sim						- Then	Darti	Tut
Request		2700		11-1	5 Z S	No. Containers	4						Received by: (Signature)	Printed Name:	Company:
nalysis F	STO	06 438		1 Caro	-14/0 -	Matrix	And							STAR.	
atory AI	Requested:	Phone: 2C		1 (24	70)	Time	1045							アフ	San
d & Labor	Turn-around F	4	M 'XGN	The state	Samplers:	Date	9/27/17						Relinquished by: (Signature)	Printed Name:	Company:
Chain of Custody Record	ARI Assigned Number:	ARI Client Company: Accon	Client Contact:	Client Project Name:	Client Project #: CúS 3355 &	Sample ID	MW-6	The Bearly					Comments/Special Instructions	ve the burly	I'V COLLAR

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resou Analytical Chemi	rces, Incorporated sts and Consultants	Cooler Rec	eipt Form
ARI Client: <u>AECON</u>	1	Project Name: Laure	Station
COC No(s):	NA	Delivered by: Fed-ExUPS Cou	rier, Hand Delivered Other:
Assigned ARI Job No:17	I0430	Tracking No: 811.2 85	253 1521 MA
Preliminary Examination Phase:			<u>52 / 50 / </u> NA
Were intact, properly signed and	dated custody seals attached	to the outside of to cooler?	VES
Were custody papers included w	ith the cooler?		VES NO
Were custody papers properly fill	led out (ink, signed, etc.)		VES NO
Temperature of Cooler(s) (°C) (re Time:	ecommended 2.0-6.0 °C for ch	nemistry)	TES NO
If cooler temperature is out of co	mpliance fill out form 00070F		Temp Gun ID#: 1002563
Cooler Accepted by:	B.H.	Date:	10:35
	Complete custody form.	s and attach all shipping documents	
Log-In Phase:			
Was a temperature blank include	d in the cooler?		
What kind of packing material v	was used? Bubble Wr	ap Wet Ice Gel Packs Baggies Form	Plack Bapar Other
Was sufficient ice used (if approp	riate)?	Corr Lots Daggies I Dam	
Were all bottles sealed in individu	al plastic bags?		INA TES NO
Did all bottles arrive in good cond	lition (unbroken)?	181	TES NO
Were all bottle labels complete an	nd legible?		Cres Do to
Did the number of containers liste	ed on COC match with the nur	Ther of containers received?	YES NO
Did all bottle labels and tags agree	e with custody papers?	inser of containers received /	YES NO
Were all bottles used correct for t	he requested analyses?		YES NO
Do any of the analyses (bottles) r	equire preservation? (attach n	preservation sheet excluding VOCo)	(TES NO
Were all VOC vials free of air bub	bles?	sectivation sheet, excluding voos)	NA YES NO
Was sufficient amount of sample	sent in each bottle?		NA YES NO
Date VOC Trip Blank was made a	at ARI		VES NO
Was Sample Split by ARI :	YES Date/Time:	Equipment	
		Equipment	Split by:
Samples Logged by:	** Notify Project Manag	te:	16:41
Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
			Sample ID on COC
	· · · ·	a.	- 2 F 3
·			
Additional Notes, Discrepancie.	s, & Resolutions:		
BV: Dat	o .	92 *	
Small Air Bubbles		Small \rightarrow "sm" (< 2 mm)	1
-2mm 2-4 mm	■ LARGE Air Bubbles > 4 mm	Peabubbles -> "nb" (2 to start	2
· · • • •	0 000	$\frac{1}{1. \operatorname{arge}} \xrightarrow{4} \operatorname{arge}^{1} (4 \operatorname{to} < 6 \operatorname{1})$	8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
		Headsnace - "he" (> (
		11causpace 7 "15" (>6 mm)	41

0016F 3/2/10

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Revision 014

AECOM	Project: Laurel Station	
1111 Third Avenue, Suite 1600	Project Number: 60533550	Reported:
Seattle WA, 98101	Project Manager: Karen Mixon	25-Oct-2017 05:15
	ANALYTICAL REPORT FOR SAMPLES	

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-6	17I0430-01	Water	27-Sep-2017 10:45	28-Sep-2017 10:35

Analytical Resources, Inc.

AECOM 1111 Third Avenue, Suite 1600 Seattle WA, 98101 Project: Laurel Station Project Number: 60533550 Project Manager: Karen Mixon

Reported: 25-Oct-2017 05:15

Case Narrative

Volatiles - EPA Method SW8260C

The sample(s) were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Gasoline by NWTPH-g (GC/MS)

The sample(s) were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Analytical Resources, Inc.

AECOM		Project: Laure	Station				
1111 Third Avenue, Suit	te 1600	Project Number: 60533	550			Repo	rted:
Seattle WA, 98101		Project Manager: Karen	Mixon			25-Oct-20	017 05:15
		MW-6					
		17I0430-01 (Wa	ter)				
Volatile Organic Com	pounds				C.		27/2017 10:45
Method: EPA 8260C							2//2017 10:43
Instrument: N12					Ana	lyzed: 03-0	Oct-2017 17:07
Sample Preparation:	Preparation Method: EPA 5030 (Purg	e and Trap)					
* *	Preparation Batch: BFJ0057	Sample Size:	10 mL				
	Prepared: 03-Oct-2017	Final Volume	: 10 mL				
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Benzene		71-43-2	1	0.20	ND	ug/L	U
Toluene		108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene		100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene		179601-23-1	1	0.40	ND	ug/L	U
o-Xylene		95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8				80-120 %	98.4	%	
Surrogate: 4-Bromofluorobe	nzene			80-120 %	85.7	%	

AECOM		Project: Laurel S	tation				
1111 Third Avenue, Sui	te 1600	Project Number: 6053355	50			Repor	rted:
Seattle WA, 98101		Project Manager: Karen M	lixon			25-Oct-20	17 05:15
		MW-6					
		17I0430-01 (Wate	er)				
Valatila Organia Com	mounds						
Method: NWTPHg	pounus				Sa	mpled: 09/	27/2017 10:45
Instrument: NT2					Anal	yzed: 03-C	0ct-2017 17:07
Sample Preparation:	Preparation Method: EPA 5030 (Pu	urge and Trap)					
	Preparation Batch: BFJ0057	Sample Size: 1	0 mL				
	Prepared: 03-Oct-2017	Final Volume:	l0 mL				
				Reporting			
Analyte		CAS Number	Dilution	Limit	Result	Units	Notes
Gasoline Range Organics (7	fol-Nap)		1	0.100	ND	mg/L	U
Surrogate: Toluene-d8				80-120 %	98.4	%	
Surrogate: 4-Bromofluorob	enzene			80-120 %	85.7	%	

Analytical Resources, Inc.

AECOM		Project:	Laurel S	tation				
1111 Third Avenue, Suite 1	600 Pro	ject Number:	6053355	0			Repo	rted:
Seattle WA, 98101	Proj	ect Manager:	Karen M	lixon			25-Oct-20	17 05:15
		MW	V-6					
		1710430-03	1 (Wate	r)				
Petroleum Hvdrocarbon	s							
Method: NWTPH-Dx						Sa	mpled: 09/	27/2017 10:45
Instrument: FID4						Ana	lyzed: 06-0	Oct-2017 18:20
Sample Preparation:	Preparation Method: EPA 3510C SepF Preparation Batch: BF10777 Prepared: 04-Oct-2017	Sample Final V	e Size: 50 Volume: 1	00 mL mL				
					Reporting			
Analyte		CAS N	umber	Dilution	Limit	Result	Units	Notes
Diesel Range Organics (C12-C2	(4)			1	0.100	0.421	mg/L	
HC ID: DRO Motor Oil Range Organics (C24	-C38)			1	0.200	0.336	mg/L	
					50 150 %	01.8	0/	

AECOM 1111 Third Avenue, Suite 1600 Seattle WA, 98101 Project: Laurel Station Project Number: 60533550 Project Manager: Karen Mixon

Reported: 25-Oct-2017 05:15

Volatile Organic Compounds - Quality Control

Batch BFJ0057 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: PC

OC Sample/Analyte	Result]	Reporting	Unite	Spike	Source	e t %PEC	%REC	רוסק	RPD Limit	Notes
QC Sample Analyte	Kesun		Liint	Ollits	Level	Resul	it /order	Linits	КID	Liilit	Notes
Blank (BFJ0057-BLK1)				Prep	ared: 03-Oct-	-2017 A	Analyzed: 03-	Oct-2017 11	:42		
Gasoline Range Organics (Tol-Nap)	ND		0.100	mg/L							U
Surrogate: Toluene-d8		4.70		mg/L	5.00		93.9	80-120			
Surrogate: 4-Bromofluorobenzene		4.26		mg/L	5.00		85.2	80-120			
Blank (BFJ0057-BLK2)				Prep	ared: 03-Oct-	-2017 A	Analyzed: 03-0	Oct-2017 11	:42		
Benzene	ND		0.20	ug/L							U
Toluene	ND		0.20	ug/L							U
Ethylbenzene	ND		0.20	ug/L							U
m,p-Xylene	ND		0.40	ug/L							U
o-Xylene	ND		0.20	ug/L							U
Surrogate: Toluene-d8		4.70		ug/L	5.00		93.9	80-120			
Surrogate: 4-Bromofluorobenzene		4.26		ug/L	5.00		85.2	80-120			
LCS (BFJ0057-BS1)				Prep	ared: 03-Oct-	-2017 A	Analyzed: 03-	Oct-2017 09	:56		
Gasoline Range Organics (Tol-Nap)	1.19		0.100	mg/L	1.00		119	72-128			
Surrogate: Toluene-d8		4.98		mg/L	5.00		99.6	80-120			
Surrogate: 4-Bromofluorobenzene		4.60		mg/L	5.00		92.1	80-120			
LCS (BFJ0057-BS2)				Prep	ared: 03-Oct-	-2017 A	Analyzed: 03-	Oct-2017 10	:36		
Benzene	11.0		0.20	ug/L	10.0		110	80-120			
Toluene	10.5		0.20	ug/L	10.0		105	80-120			
Ethylbenzene	10.4		0.20	ug/L	10.0		104	80-120			
m,p-Xylene	22.4		0.40	ug/L	20.0		112	80-121			
o-Xylene	10.9		0.20	ug/L	10.0		109	80-121			
Surrogate: Toluene-d8		5.17		ug/L	5.00		103	80-120			
Surrogate: 4-Bromofluorobenzene		4.89		ug/L	5.00		97.7	80-120			
LCS Dup (BFJ0057-BSD1)				Prep	ared: 03-Oct-	-2017 A	Analyzed: 03-	Oct-2017 10	:16		
Gasoline Range Organics (Tol-Nap)	1.17		0.100	mg/L	1.00		117	72-128	2.51	30	
Surrogate: Toluene-d8		4.84		mg/L	5.00		96.9	80-120			
Surrogate: 4-Bromofluorobenzene		4.57		mg/L	5.00		91.4	80-120			
LCS Dup (BFJ0057-BSD2)				Prep	ared: 03-Oct-	-2017 A	Analyzed: 03-0	Oct-2017 10	:56		
Benzene	11.0		0.20	ug/L	10.0		110	80-120	0.14	30	

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Reported: 25-Oct-2017 05:15

Volatile Organic Compounds - Quality Control

Batch BFJ0057 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: PC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BFJ0057-BSD2)			Prep	oared: 03-Oct-	-2017 Ana	lyzed: 03-0	Oct-2017 10	:56		
Toluene	10.6	0.20	ug/L	10.0		106	80-120	0.57	30	
Ethylbenzene	10.6	0.20	ug/L	10.0		106	80-120	2.05	30	
m,p-Xylene	22.2	0.40	ug/L	20.0		111	80-121	0.75	30	
o-Xylene	10.8	0.20	ug/L	10.0		108	80-121	0.52	30	
Surrogate: Toluene-d8		5.22	ug/L	5.00		104	80-120			
Surrogate: 4-Bromofluorobenzene		4.98	ug/L	5.00		99 .7	80-120			

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Project: Laurel Station Project Number: 60533550 Project Manager: Karen Mixon

Reported: 25-Oct-2017 05:15

Petroleum Hydrocarbons - Quality Control

Batch BFI0777 - EPA 3510C SepF

Instrument: FID4 Analyst: ML

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFI0777-BLK1)			Prep	pared: 04-Oct-	-2017 Ana	alyzed: 06-0	Oct-2017 16	5:28		
Diesel Range Organics (C12-C24)	ND	0.100	mg/L							U
Motor Oil Range Organics (C24-C38)	ND	0.200	mg/L							U
Surrogate: o-Terphenyl		0.405	mg/L	0.450		90.1	50-150			
LCS (BFI0777-BS1)			Prep	pared: 04-Oct-	-2017 Ana	alyzed: 06-0	Oct-2017 16	5:51		
Diesel Range Organics (C12-C24)	2.46	0.100	mg/L	3.00		82.1	56-120			
Surrogate: o-Terphenyl		0.411	mg/L	0.450		91.3	50-150			

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Certified Analyses included in this Report

Analyte	Certifications	
EPA 8260C in Water		
Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Acrolein	DoD-ELAP,NELAP,CALAP,WADOE	
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Acetone	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Bromoethane	DoD-ELAP,NELAP,CALAP,WADOE	
lodomethane	DoD-ELAP,NELAP,CALAP,WADOE	
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Acrylonitrile	DoD-ELAP,NELAP,CALAP,WADOE	
Carbon Disulfide	DoD-ELAP,NELAP,CALAP,WADOE	
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Vinyl Acetate	DoD-ELAP,NELAP,CALAP,WADOE	
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
2-Butanone	DoD-ELAP,NELAP,CALAP,WADOE	
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Benzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP,WADOE	
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Toluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	

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trans-1.3-Dichloropropene	DoD-ELAP.ADEC.NELAP.CALAP.WADOE	
2-Hexanone	DoD-ELAP,NELAP,CALAP,WADOE	
1,1,2-Trichloroethane	DoD-ELAP, ADEC, NELAP, CALAP, WADOE	
1,3-Dichloropropane	DoD-ELAP, ADEC, NELAP, CALAP, WADOE	
Tetrachloroethene	DoD-ELAP, ADEC, NELAP, CALAP, WADOE	
Dibromochloromethane	DoD-ELAP, ADEC, NELAP, CALAP, WADOE	
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP,WADOE	
Chlorobenzene	DoD-ELAP, ADEC, NELAP, CALAP, WADOE	
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
1,1,1,2-Tetrachloroethane	DoD-ELAP, ADEC, NELAP, CALAP, WADOE	
m,p-Xylene	DoD-ELAP, ADEC, NELAP, CALAP, WADOE	
o-Xylene	DoD-ELAP, ADEC, NELAP, CALAP, WADOE	
Styrene	DoD-ELAP,NELAP,CALAP,WADOE	
Bromoform	DoD-ELAP,NELAP,CALAP,WADOE	
1,1,2,2-Tetrachloroethane	DoD-ELAP, ADEC, NELAP, CALAP, WADOE	
1,2,3-Trichloropropane	DoD-ELAP, ADEC, NELAP, CALAP, WADOE	
trans-1,4-Dichloro 2-Butene	DoD-ELAP, ADEC, NELAP, CALAP, WADOE	
n-Propylbenzene	DoD-ELAP,NELAP,CALAP,WADOE	
Bromobenzene	DoD-ELAP,NELAP,CALAP,WADOE	
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP,WADOE	
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
t-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE	
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE	
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE	
s-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE	
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP,WADOE	
1,3-Dichlorobenzene	DoD-ELAP, ADEC, NELAP, CALAP, WADOE	
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
n-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE	
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE	
n-Hexane	WADOE	
2-Pentanone	WADOE	

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AECOM	Project:	Laurel Station	
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NWTPH-Dx in Water

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE
NWTPHg in Water	
Gasoline Range Organics (Tol-Nap)	WADOE,DoD-ELAP
Gasoline Range Organics (2MP-TMB)	WADOE, DoD-ELAP

Gasoline Range Organics (2MP-TMB)WADOE,DoD-ELAPGasoline Range Organics (Tol-C12)WADOE,DoD-ELAPGasoline Range Organics (C6-C10)WADOE,ADEC,DoD-ELAPGasoline Range Organics (C5-C12)WADOE,DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	UST-033	09/01/2017
CALAP	California Department of Public Health CAELAP	2748	02/28/2018
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/07/2019
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006	05/11/2018
WADOE	WA Dept of Ecology	C558	06/30/2018
WA-DW	Ecology - Drinking Water	C558	06/30/2018

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	Notes and Definitions	
Seattle WA, 98101	Project Manager: Karen Mixon	25-Oct-2017 05:15
1111 Third Avenue, Suite 1600	Project Number: 60533550	Reported:
AECOM	Project: Laurel Station	

Notes and Definitions

U	This analyte is not detected above the applicable reporting or detection limit.
*	Flagged value is not within established control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.