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December 18, 2017
File: 185750287



Attention: Ms. Sonia Fernandez, VCP Coordinator
Washington State Department of Ecology
Northwest Regional Office – Toxics Cleanup Program
3190 160th Ave SE
Bellevue, WA 98008-5452

Reference: Former Bayliner Marine Facility – Groundwater Monitoring and Sampling Report

- **Site Name:** Former Bayliner Marine Facility
- **Site Address:** 17825 59th Avenue NE, Arlington, Washington
- **Facility Site ID:** 51332889
- **VCP Site No.:** NW2270

Dear Ms. Fernandez,

On behalf of Brunswick Corporation (Brunswick), this letter report presents the results of the August 2017 groundwater monitoring event conducted at the Former Bayliner Marine Facility located in Arlington, Washington (the Site), by Stantec Consulting Services Inc. (Stantec). This report documents groundwater elevation data, analytical sampling results, and contaminant concentration trends since the last groundwater monitoring event conducted in March 2016.

The former Bayliner Marine facility is a 32.8-acre industrial property located east of Arlington Airport. The Site contains three office buildings and 13 industrial buildings constructed between 1969 and 1996 (**Figure 1**). The Site also includes employee parking lots, outdoor equipment storage areas, and three stormwater retention ponds.

Site Background

Historic uses of the Site and adjoining properties are described in detail in the March 2009 *Phase I Environmental Site Assessment (ESA)* report. The Site was undeveloped land prior to 1968, when it was developed as a fiberglass boat manufacturing plant. Building 4, constructed in 1969, was the first manufacturing building on the site. Other buildings were added between 1971 and 1996. The facility operated continuously as a fiberglass boat manufacturing plant from 1968 to 2008.

A Phase II ESA was conducted in June 2009 to further evaluate potential environmental impacts to soil and groundwater identified in the Phase I ESA. Five groundwater monitoring wells (MW-1 through MW-5) were constructed in December 2009 to further characterize and confirm the Phase II findings.



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Tetrachloroethene (PCE) was detected at concentrations exceeding the MTCA Method A Groundwater CUL at MW-1 (near Building 11 in the south-center of the site) and at MW-4 (near the northern Site boundary with 180th Street SE). Trichloroethene (TCE) was also detected in groundwater at MW-4. Neither PCE nor TCE were detected in any of the other three well locations. Monitoring wells MW-6 and MW-7 were constructed in February 2010 and MW-8 was added on the north side of Building 11 in September 2011 to further characterize the groundwater impacts. PCE exceeding the Method A Groundwater CUL was also detected in MW-8 confirming the general source of the PCE impacts in the vicinity of Building 11.

Stantec has been conducting periodic groundwater monitoring at the facility since December 2009. A Summary of the Groundwater Monitoring Results is included in **Table 1**. Water quality parameters are presented in **Table 2**.

A complete summary of the remedial investigations and groundwater monitoring conducted at the facility is included in the *Monitored Natural Attenuation Work Plan* dated October 20, 2015.

Groundwater Monitoring and Sampling Results

Copies of laboratory analytical reports and chain-of-custody documents are provided in **Attachment A**. During the August 2017 sampling event, the accessible monitoring wells were purged and sampled in accordance with the procedures detailed in **Attachment B**. Monitoring well MW-3 was covered on the day of the monitoring and was not sampled.

During the sampling event, depth-to-water measurements were collected to determine groundwater elevation and flow direction. Groundwater depths ranged from 16.44 feet below the top of the well casing in MW-1 to 18.51 feet below in MW-7. The groundwater flow direction has historically been to the northwest resulting in an elongated PCE plume from the presumed source of the PCE impacts at Building 11 extending towards MW-4 (**Figure 1**).

Field measurements of water quality parameters including; pH, specific conductivity, temperature, dissolved oxygen, and oxidation-reduction potential (ORP) were recorded continuously during purging as well as observations regarding the water color, odor, and clarity. Samples of the groundwater were collected with a peristaltic pump and dedicated tubing using low-flow procedures when the groundwater parameters reached equilibrium.

Groundwater samples collected during the sampling event were analyzed for Halogenated Volatile Organic Compounds (HVOCs) using EPA Method 8260. Sampling results are discussed as follows.



Reference: Former Bayliner Marine Facility - Groundwater Monitoring and Sampling Report

Sample Date	Depth to Water Range (feet below TOC)	Groundwater Flow Direction Estimate	Average Hydraulic Gradient (feet/foot)	Wells Sampled	Wells with a PCE Concentration Above MTCM Method A CUL of 5 µg/L
8/14/17	16.44 to 18.51	Northwest	0.0022	MW-1, MW-2, MW-4, MW-5, MW-6, MW-7, and MW-8	MW-1 and MW-8

DISCUSSION

In the August 2017 sampling event, PCE was detected in MW-1 at a concentration of 24 micrograms per liter (µg/L) and in MW-8 at a concentration of 28 µg/L. PCE concentrations in monitoring wells MW-1 and MW-8 have been above the Method A CUL of 5 µg/L since monitoring began in these wells in 2009 and 2011 respectively. PCE was also detected in MW-4 at a concentration of 3.2 µg/L which is below the Method A Groundwater CUL. MW-4 is the closest hydraulically downgradient well to the leading edge of the PCE plume. PCE has never been detected in MW-7 which is located directly downgradient of MW-4.

Historical groundwater data demonstrates that PCE concentrations have generally decreased since periodic monitoring began in 2009. MW-1 had a PCE concentration of 59 µg/L in December 2009 and a concentration of 24 µg/L in August 2017. MW-8 had a PCE concentration of 25 µg/L in September 2011 which increased to 44 µg/L in October 2015. The PCE concentration then decreased to 26 µg/L in March 2016 and has remained in that range for the past 18 months.

The steady decrease in PCE concentrations since monitoring began demonstrates that natural attenuation of PCE has occurred. Continued periodic groundwater sampling will continue to further monitor the natural attenuation and evaluate closure strategies.



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LIMITATIONS AND CERTIFICATION

This document entitled Former Bayliner Marine Facility – Groundwater Monitoring and Sampling Report was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of the Brunswick Corporation. (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by _____

Greg McCormick, LG (signature)

Reviewed by _____

Marc Sauze, P.E. (signature)

If you have any questions or require additional information, please contact Marc Sauze at (425) 289-7372.

Regards,

Stantec Consulting Services Inc.

Marc Sauze, P.E.
Principal Engineer



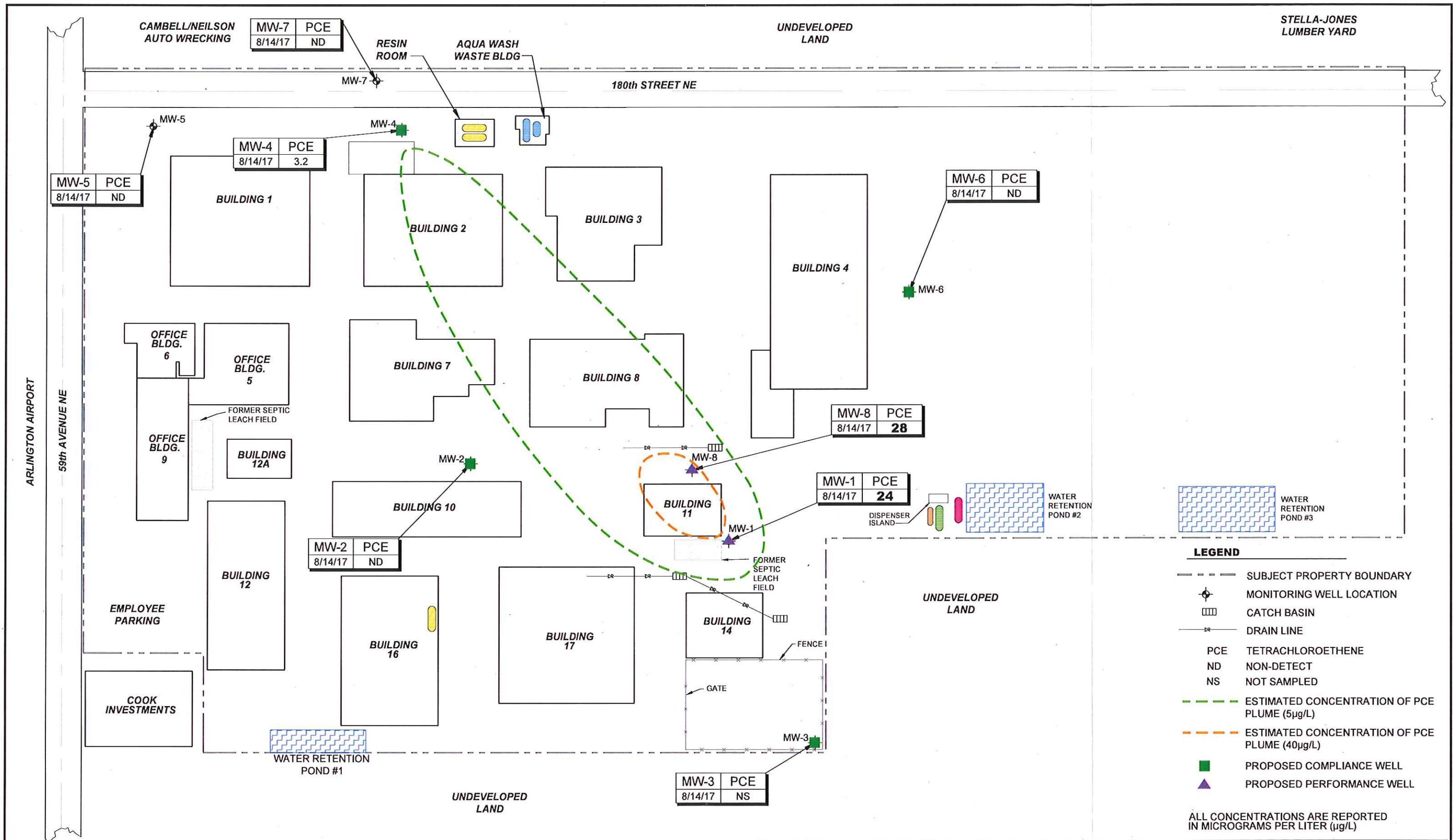
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FIGURE and SUMMARY of GROUNDWATER RESULTS

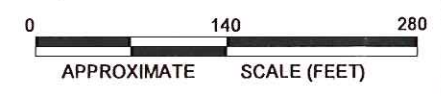
Former Bayliner Marine Facility – Groundwater Monitoring
and Sampling Report



LEGEND

- SUBJECT PROPERTY BOUNDARY
- ⊕ MONITORING WELL LOCATION
- ▣ CATCH BASIN
- DRAIN LINE
- PCE TETRACHLOROETHENE
- ND NON-DETECT
- NS NOT SAMPLED
- ESTIMATED CONCENTRATION OF PCE PLUME (5µg/L)
- ESTIMATED CONCENTRATION OF PCE PLUME (40µg/L)
- PROPOSED COMPLIANCE WELL
- ▲ PROPOSED PERFORMANCE WELL

ALL CONCENTRATIONS ARE REPORTED IN MICROGRAMS PER LITER (µg/L)



<p>11130 NE 33RD PLACE, SUITE 200 BELLEVUE, WASHINGTON 98004 PHONE: (425) 869-9448 FAX: (425) 869-1190</p>	FOR: FORMER BAYLINER MARINE FACILITY 17825 59th AVENUE NE ARLINGTON, WASHINGTON		PCE CONCENTRATIONS IN GROUNDWATER AUGUST 14, 2017		FIGURE: 1
	JOB NUMBER: 185750287	DRAWN BY: ARA/RCO	CHECKED BY: GMC	APPROVED BY: MS	DATE: 12/22/17

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Table 1.
Summary of Groundwater Monitoring Results
Former Bayliner Marine Facility - Arlington, Washington

Well/Borehole ID	Sample Collection Date	Total Depth of Well (feet)	Top of Casing Elevation (ft. MSL)	Screened Interval (ft. bgs)		Screened Interval (ft. MSL)		Depth to Groundwater (feet)	Groundwater Elevation (ft. MSL)	Volatile Organic Compounds ¹ (VOCs) (µg/L)		
				Top	Bottom	Top	Bottom			Tetrachloroethene (PCE)	Trichloroethene (TCE)	All Remaining VOCs
MW-1	12/10/2009	29.95	129.42	15	30	114.42	99.42	18.89	110.53	59	ND	ND
	2/18/2010	29.95	129.42	15	30	114.42	99.42	16.71	112.71	48	ND	ND
	5/26/2010	29.95	129.42	15	30	114.42	99.42	16.51	112.91	50	ND	ND
	9/9/2010	29.95	129.42	15	30	114.42	99.42	19.22	110.20	57	ND	ND
	12/20/2010	29.95	129.42	15	30	114.42	99.42	17.28	112.14	43	ND	ND
	9/22/2011	29.95	129.42	15	30	114.42	99.42	16.53	112.89	32	ND	ND
	9/6/2013	29.95	129.42	15	30	114.42	99.42	17.05	112.37	35	ND	ND
	11/26/2013	29.95	129.42	15	30	114.42	99.42	18.28	111.14	35	ND	ND
	6/5/2014	29.95	129.42	15	30	114.42	99.42	13.72	115.70	30.6	ND	ND
	9/16/2014	29.95	129.42	15	30	114.42	99.42	18.10	111.32	36.5	ND	ND
	10/27/2015	29.95	129.42	15	30	114.42	99.42	20.92	108.50	33	ND	ND
	3/18/2016	29.95	129.42	15	30	114.42	99.42	10.65	118.77	25	ND	ND
8/14/2017	29.95	129.42	15	30	114.42	99.42	16.44	112.98	24	ND	ND	
MW-2	12/10/2009	27.25	129.68	15	30	114.68	99.68	20.02	109.66	ND	ND	ND
	2/18/2010	27.25	129.68	15	30	114.68	99.68	17.64	112.04	ND	ND	ND
	5/26/2010	27.25	129.68	15	30	114.68	99.68	17.41	112.27	ND	ND	ND
	9/9/2010	27.25	129.68	15	30	114.68	99.68	18.48	111.20	ND	ND	ND
	12/20/2010	27.25	129.68	15	30	114.68	99.68	18.49	111.19	ND	ND	ND
	9/22/2011	27.25	129.68	15	30	114.68	99.68	16.80	112.88	ND	ND	ND
	9/6/2013	27.25	129.68	15	30	114.68	99.68	17.40	112.28	ND	ND	ND
	11/26/2013	27.25	129.68	15	30	114.68	99.68	18.92	110.76	ND	ND	ND
	6/5/2014	27.25	129.68	15	30	114.68	99.68	14.63	115.05	ND	ND	ND
	9/16/2014	27.25	129.68	15	30	114.68	99.68	18.67	111.01	ND	ND	ND
	10/27/2015	27.25	129.68	15	30	114.68	99.68	21.47	108.21	ND	ND	ND
	3/18/2016	27.25	129.68	15	30	114.68	99.68	11.81	117.87	ND	ND	ND
8/14/2017	27.25	129.68	15	30	114.68	99.68	16.88	112.80	ND	ND	ND	
MW-3	12/10/2009	24.30	129.90	10	25	119.90	104.90	16.89	113.01	ND	ND	ND
	2/18/2010	24.30	129.90	10	25	119.90	104.90	15.02	114.88	ND	ND	ND
	5/26/2010	24.30	129.90	10	25	119.90	104.90	14.85	115.05	ND	ND	ND
	9/9/2010	24.30	129.90	10	25	119.90	104.90	19.20	110.70	ND	ND	ND
	12/20/2010	24.30	129.90	10	25	119.90	104.90	15.28	114.62	ND	ND	ND
	9/22/2011	24.30	129.90	10	25	119.90	104.90	15.39	114.51	ND	ND	ND
	9/6/2013	24.30	129.90	10	25	119.90	104.90	15.89	114.01	ND	ND	ND
	11/26/2013	24.30	129.90	10	25	119.90	104.90	16.77	113.13	ND	ND	ND
	6/5/2014	24.30	129.90	10	25	119.90	104.90	12.24	117.66	ND	ND	ND
	9/16/2014	24.30	129.90	10	25	119.90	104.90	16.70	113.20	ND	ND	ND
	10/27/2015	24.30	129.90	10	25	119.90	104.90	19.57	110.33	ND	ND	ND
	3/18/2016	24.30	129.90	10	25	119.90	104.90	8.95	120.95	ND	ND	ND
8/14/2017	24.30	129.90	10	25	119.90	104.90	NM	NM	NS	NS	NS	
MW-4	12/10/2009	28.40	130.42	15	30	115.42	100.42	21.20	109.22	13	109.22	16
	2/18/2010	28.40	130.42	15	30	115.42	100.42	18.55	111.87	5.3	111.87	5.3
	5/26/2010	28.40	130.42	15	30	115.42	100.42	18.24	112.18	5	112.18	5
	9/9/2010	28.40	130.42	15	30	115.42	100.42	19.79	110.63	5.2	110.63	5.2
	12/20/2010	28.40	130.42	15	30	115.42	100.42	19.62	110.80	7.7	110.80	7.7
	9/22/2011	28.40	130.42	15	30	115.42	100.42	17.10	113.32	2.4	113.32	2.4
	9/6/2013	28.40	130.42	15	30	115.42	100.42	17.74	112.68	ND	112.68	ND
	11/26/2013	28.40	130.42	15	30	115.42	100.42	19.61	110.81	3.1	110.81	3.1
	6/5/2014	28.40	130.42	15	30	115.42	100.42	15.26	115.16	1.73	115.16	1.73
	9/16/2014	28.40	130.42	15	30	115.42	100.42	19.25	111.17	3.92	111.17	3.92
	10/27/2015	28.40	130.42	15	30	115.42	100.42	23.16	107.26	5.9	107.26	5.9
	3/18/2016	28.40	130.42	15	30	115.42	100.42	12.47	117.95	ND	117.95	ND
8/14/2017	28.40	130.42	15	30	115.42	100.42	17.22	113.20	3.2	113.20	3.2	
MTCA Method A Cleanup Level										5	5	See comments

Table 1
Summary of Groundwater Monitoring Results
Former Bayliner Marine Facility - Arlington, Washington

Well/Borehole ID	Sample Collection Date	Total Depth of Well (feet)	Top of Casing Elevation (ft. MSL)	Screened Interval (ft. bgs)		Screened Interval (ft. MSL)		Depth to Groundwater (feet)	Groundwater Elevation (ft. MSL)	Volatile Organic Compounds* (VOCs) (µg/L)		
				Top	Bottom	Top	Bottom			Tetrachloroethene (PCE)	Trichloroethene (TCE)	All Remaining VOCs
MW-5	12/10/2009	33.95	130.39	20	35	110.39	95.39	21.96	108.43	ND	ND	ND
	2/18/2010	33.95	130.39	20	35	110.39	95.39	19.45	110.94	ND	ND	ND
	5/26/2010	33.95	130.39	20	35	110.39	95.39	19.17	111.22	ND	ND	ND
	9/9/2010	33.95	130.39	20	35	110.39	95.39	20.50	109.89	ND	ND	ND
	12/20/2010	33.95	130.39	20	35	110.39	95.39	20.38	110.01	ND	ND	ND
	9/22/2011	33.95	130.39	20	35	110.39	95.39	17.91	112.48	ND	ND	ND
	9/6/2013	33.95	130.39	20	35	110.39	95.39	18.16	112.23	3.1	ND	ND
	11/25/2013	33.95	130.39	20	35	110.39	95.39	20.37	110.02	ND	ND	ND
	6/5/2014	33.95	130.39	20	35	110.39	95.39	16.36	114.03	ND	ND	ND
	9/16/2014	33.95	130.39	20	35	110.39	95.39	20.07	110.32	ND	ND	ND
	3/18/2016	33.95	130.39	20	35	110.39	95.39	13.76	116.63	ND	ND	ND
	8/14/2017	33.95	130.39	20	35	110.39	95.39	18.09	112.30	ND	ND	ND
	2/19/2010	25.00	130.39	15	25	114.59	104.59	16.68	113.71	ND	ND	ND
	5/26/2010	25.00	130.39	15	25	114.59	104.59	16.51	113.88	ND	ND	ND
	9/9/2010	25.00	130.39	15	25	114.59	104.59	19.21	111.18	ND	ND	ND
	12/20/2010	25.00	130.39	15	25	114.59	104.59	16.40	113.99	ND	ND	ND
9/22/2011	25.00	130.39	15	25	114.59	104.59	16.42	113.97	ND	ND	ND	
9/6/2013	25.00	130.39	15	25	114.59	104.59	16.99	113.40	ND	ND	ND	
11/26/2013	25.00	130.39	15	25	114.59	104.59	17.85	112.54	ND	ND	ND	
6/5/2014	25.00	130.39	15	25	114.59	104.59	13.51	116.88	ND	ND	ND	
9/16/2014	25.00	130.39	15	25	114.59	104.59	17.92	112.47	ND	ND	ND	
10/27/2015	25.00	130.39	15	25	114.59	104.59	20.99	109.40	ND	ND	ND	
3/18/2016	25.00	130.39	15	25	114.59	104.59	9.76	120.63	ND	ND	ND	
8/14/2017	25.00	130.39	15	25	114.59	104.59	16.62	113.77	ND	ND	ND	
2/19/2010	30.00	131.27	15	30	116.27	101.27	19.90	111.37	ND	ND	ND	
5/26/2010	30.00	131.27	15	30	116.27	101.27	19.61	111.66	ND	ND	ND	
9/9/2010	30.00	131.27	15	30	116.27	101.27	21.13	110.14	ND	ND	ND	
12/20/2010	30.00	131.27	15	30	116.27	101.27	20.89	110.38	ND	ND	ND	
9/22/2011	30.00	131.27	15	30	116.27	101.27	18.38	112.89	ND	ND	ND	
9/6/2013	30.00	131.27	15	30	116.27	101.27	18.85	112.42	ND	ND	ND	
11/26/2013	30.00	131.27	15	30	116.27	101.27	20.92	110.35	ND	ND	ND	
6/5/2014	30.00	131.27	15	30	116.27	101.27	16.62	114.65	ND	ND	ND	
9/16/2014	30.00	131.27	15	30	116.27	101.27	20.57	110.70	ND	ND	ND	
3/18/2016	30.00	131.27	15	30	116.27	101.27	13.80	117.47	ND	ND	ND	
8/14/2017	30.00	131.27	15	30	116.27	101.27	18.51	112.76	ND	ND	ND	
9/22/2011	26.70	NM	12	27	NM	NM	16.76	NM	NM	25	ND	ND
9/6/2013	26.70	NM	12	27	NM	NM	17.32	NM	NM	34	ND	ND
11/26/2013	26.70	NM	12	27	NM	NM	18.67	NM	NM	34	ND	ND
6/5/2014	26.70	NM	12	27	NM	NM	NM	NM	NM	36.9	ND	ND
9/16/2014	26.70	NM	12	27	NM	NM	18.42	NM	NM	42.4	ND	ND
10/27/2015	26.70	NM	12	27	NM	NM	21.29	NM	NM	44	ND	ND
3/18/2016	26.70	NM	12	27	NM	NM	10.09	NM	NM	26	ND	ND
8/14/2017	26.70	NM	12	27	NM	NM	16.74	NM	NM	28	ND	ND
MTCA Method A Cleanup Level										5	5	See comments

* = VOCs analyzed via United States Environmental Protection Agency Method 8260B
 ND = Non Detected at the laboratory's Reported Detection Limit; all reporting limits are below MTCA Method A Cleanup Level
 NS = Not Sampled
 NM = Not Measured
 MTCA - Model Toxics Control Act
 ft. bgs = feet below ground surface
 ft. MSL = feet above mean sea level
 (µg/L) = micrograms per liter

Table 2
Water Quality Parameters
Former Bayliner Marine Facility - Arlington, Washington

Well ID	Sample Date	Reading Time	Total Purge Volume (gallons)	Temperature (Degrees Celsius)	Electrical Conductivity (µmhos/cm)	Dissolved Oxygen (%)	pH (Standard Units)	ORP (mV)
MW-1	7/10/2013	NA	NA	19.94	0.005	114.0	6.44	163.6
	8/8/2013	NA	NA	20.26	0.160	135.0	7.42	35.5
	9/6/2013	14:33	2.5	12.22	0.067	79.4	6.81	491.3
	11/26/2013	14:35	2.5	11.74	0.241	83.9	6.29	157.7
	6/5/2014	14:15	3.0	11.76	3.576*	90.5	3.20	211.4
MW-2	9/16/2014	15:22	2.8	11.84	0.698	87.9	6.02	144.7
	7/10/2013	NA	NA	19.98	0.000	110.2	6.56	255.1
	8/8/2013	NA	NA	24.96	0.008	139.0	7.45	-12.0
	9/6/2013	13:23	2.2	13.39	0.079	66.1	5.90	153.7
	11/26/2013	10:53	2.5	12.08	0.274	68.7	6.22	154.0
MW-3	6/5/2014	12:37	2.7	13.25	4.206*	73.9	2.04	275.8
	9/16/2014	13:58	2.3	13.55	1.138	76.0	5.74	165.9
	7/10/2013	NA	NA	13.34	0.003	155.0	6.48	240.1
	8/8/2013	NA	NA	20.70	0.000	187.0	6.89	26.6
	9/6/2013	10:28	2.5	11.69	0.036	10.1	5.83	135.5
MW-4	11/26/2013	10:15	2.5	10.34	0.146	82.0	5.19	198.1
	6/5/2014	9:32	2.8	10.04	2.044*	92.7	4.57	191.6
	9/16/2014	9:15	1.3	NA	NA	NA	NA	NA
	9/6/2013	12:25	2.1	14.51	0.110	78.7	6.05	139.5
	11/26/2013	11:45	2.6	13.76	0.388	80.6	6.46	152.8
MW-5	6/5/2014	11:45	2.6	13.76	4.300*	84.4	2.21	254.1
	9/16/2014	12:36	2.6	13.76	1.182	86.4	6.15	162.9
	9/6/2013	12:52	2.3	14.54	0.079	87.3	6.48	109.1
	11/26/2013	14:26	2.0	14.31	0.275	95.1	6.57	155.1
	6/5/2014	14:26	3.3	13.32	4.423*	89.6	3.05	192.7
MW-6	9/16/2014	13:16	2.4	14.15	1.050	89.0	6.23	148.6
	9/6/2013	11:45	2.2	12.95	0.064	86.8	6.08	122.3
	11/26/2013	12:53	2.3	11.88	0.233	89.3	6.07	170.3
	6/5/2014	10:07	3.3	11.05	3.118*	91.3	4.88	178.6
	9/16/2014	10:13	2.4	11.39	0.849	90.5	7.02	135.5
MW-7	9/6/2013	11:10	2.5	14.24	0.103	76.2	5.82	144.4
	11/26/2013	12:20	2.2	14.03	0.319	44.0	6.25	158.9
	6/5/2014	10:47	3.0	11.28	2.265*	93.8	4.29	189.4
	9/16/2014	11:08	2.6	11.81	0.926	91.3	6.40	161.0
	7/10/2013	NA	NA	18.86	0.004	92.9	8.64	231.2
MW-8	8/8/2013	NA	NA	21.60	0.014	137.0	7.55	27.0
	9/6/2013	13:58	2.5	12.97	0.051	81.7	5.99	148.5
	11/26/2013	13:53	2.6	11.81	0.231	90.3	6.01	177.7
	6/5/2013	13:23	3.5	11.51	3.140*	82.6	1.47	306.6
	9/16/2014	14:34	2.5	12.11	0.685	81.0	5.84	166.0

NA = Not Analyzed, not available, or not applicable
 ORP = Oxidation reduction potential
 mV = Millivolts
 µmhos/cm = micromhos per centimeter
 * = Conductivity measured in millisiemens per centimeter (mS/cm)
 Dissolved oxygen, pH, ORP, electrical conductivity, and temperature measured using field monitoring equipment (such as Horiba Multi-Parameter Water Quality Meter)



December 18, 2017

Ms. Sonia Fernandez, VCP Coordinator

Reference: Former Bayliner Marine Facility - Groundwater Monitoring and Sampling Report

ATTACHMENT A

LABORATORY ANALYTICAL REPORT AND CHAIN OF CUSTODY DOCUMENTATION

Former Bayliner Marine Facility – Groundwater Monitoring
and Sampling Report



August 18, 2017

Mr. Marc Sauze
Stantec
11130 NE 33rd Pl, Suite 200
Bellevue, WA 98004

Dear Mr. Sauze,

On August 14th, 7 samples were received by our laboratory and assigned our laboratory project number EV17080072. The project was identified as your 185750287. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

Page 1

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626

ALS Group USA, Corp dba ALS Environmental

Environmental

www.alsglobal.com

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CERTIFICATE OF ANALYSIS

CLIENT: Stantec
 11130 NE 33rd Pl, Suite 200
 Bellevue, WA 98004

CLIENT CONTACT: Marc Sauze
 CLIENT PROJECT: 185750287
 CLIENT SAMPLE ID: MW-1

DATE: 8/18/2017
 ALS JOB#: EV17080072
 ALS SAMPLE#: EV17080072-01
 DATE RECEIVED: 08/14/2017
 COLLECTION DATE: 8/14/2017 12:45:00 PM
 WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	08/17/2017	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	08/17/2017	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Tetrachloroethylene	EPA-8260	24	2.0	1	UG/L	08/17/2017	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	08/17/2017	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC



CERTIFICATE OF ANALYSIS

CLIENT:	Stantec 11130 NE 33rd Pl, Suite 200 Bellevue, WA 98004	DATE:	8/18/2017
CLIENT CONTACT:	Marc Sauze	ALS JOB#:	EV17080072
CLIENT PROJECT:	185750287	ALS SAMPLE#:	EV17080072-01
CLIENT SAMPLE ID	MW-1	DATE RECEIVED:	08/14/2017
		COLLECTION DATE:	8/14/2017 12:45:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	08/17/2017	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101	08/17/2017	DLC
4-Bromofluorobenzene	EPA-8260	103	08/17/2017	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Stantec 11130 NE 33rd Pl, Suite 200 Bellevue, WA 98004	DATE:	8/18/2017
CLIENT CONTACT:	Marc Sauze	ALS JOB#:	EV17080072
CLIENT PROJECT:	185750287	ALS SAMPLE#:	EV17080072-02
CLIENT SAMPLE ID	MW-2	DATE RECEIVED:	08/14/2017
		COLLECTION DATE:	8/14/2017 11:50:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS	ANALYSIS
						DATE	BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	08/17/2017	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	08/17/2017	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	08/17/2017	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC



CERTIFICATE OF ANALYSIS

CLIENT:	Stantec 11130 NE 33rd Pl, Suite 200 Bellevue, WA 98004	DATE:	8/18/2017
CLIENT CONTACT:	Marc Sauze	ALS JOB#:	EV17080072
CLIENT PROJECT:	185750287	ALS SAMPLE#:	EV17080072-02
CLIENT SAMPLE ID	MW-2	DATE RECEIVED:	08/14/2017
		COLLECTION DATE:	8/14/2017 11:50:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	08/17/2017	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101	08/17/2017	DLC
4-Bromofluorobenzene	EPA-8260	99.1	08/17/2017	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Stantec 11130 NE 33rd Pl, Suite 200 Bellevue, WA 98004	DATE:	8/18/2017
CLIENT CONTACT:	Marc Sauze	ALS JOB#:	EV17080072
CLIENT PROJECT:	185750287	ALS SAMPLE#:	EV17080072-03
CLIENT SAMPLE ID	MW-4	DATE RECEIVED:	08/14/2017
		COLLECTION DATE:	8/14/2017 10:50:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	08/17/2017	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	08/17/2017	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Tetrachloroethylene	EPA-8260	3.2	2.0	1	UG/L	08/17/2017	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	08/17/2017	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC



CERTIFICATE OF ANALYSIS

CLIENT:	Stantec 11130 NE 33rd Pl, Suite 200 Bellevue, WA 98004	DATE:	8/18/2017
CLIENT CONTACT:	Marc Sauze	ALS JOB#:	EV17080072
CLIENT PROJECT:	185750287	ALS SAMPLE#:	EV17080072-03
CLIENT SAMPLE ID	MW-4	DATE RECEIVED:	08/14/2017
		COLLECTION DATE:	8/14/2017 10:50:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	08/17/2017	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	99.9	08/17/2017	DLC
4-Bromofluorobenzene	EPA-8260	103	08/17/2017	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Stantec 11130 NE 33rd Pl, Suite 200 Bellevue, WA 98004	DATE:	8/18/2017
CLIENT CONTACT:	Marc Sauze	ALS JOB#:	EV17080072
CLIENT PROJECT:	185750287	ALS SAMPLE#:	EV17080072-04
CLIENT SAMPLE ID	MW-5	DATE RECEIVED:	08/14/2017
		COLLECTION DATE:	8/14/2017 2:30:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS	ANALYSIS
						DATE	BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	08/17/2017	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	08/17/2017	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	08/17/2017	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC



CERTIFICATE OF ANALYSIS

CLIENT:	Stantec 11130 NE 33rd Pl, Suite 200 Bellevue, WA 98004	DATE:	8/18/2017
CLIENT CONTACT:	Marc Sauze	ALS JOB#:	EV17080072
CLIENT PROJECT:	185750287	ALS SAMPLE#:	EV17080072-04
CLIENT SAMPLE ID	MW-5	DATE RECEIVED:	08/14/2017
		COLLECTION DATE:	8/14/2017 2:30:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	08/17/2017	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/17/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101	08/17/2017	DLC
4-Bromofluorobenzene	EPA-8260	102	08/17/2017	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Stantec 11130 NE 33rd Pl, Suite 200 Bellevue, WA 98004	DATE:	8/18/2017
CLIENT CONTACT:	Marc Sauze	ALS JOB#:	EV17080072
CLIENT PROJECT:	185750287	ALS SAMPLE#:	EV17080072-05
CLIENT SAMPLE ID	MW-6	DATE RECEIVED:	08/14/2017
		COLLECTION DATE:	8/14/2017 9:20:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS ANALYSIS	
						DATE	BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	08/18/2017	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	08/18/2017	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	08/18/2017	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC



CERTIFICATE OF ANALYSIS

CLIENT:	Stantec 11130 NE 33rd Pl, Suite 200 Bellevue, WA 98004	DATE:	8/18/2017
CLIENT CONTACT:	Marc Sauze	ALS JOB#:	EV17080072
CLIENT PROJECT:	185750287	ALS SAMPLE#:	EV17080072-05
CLIENT SAMPLE ID	MW-6	DATE RECEIVED:	08/14/2017
		COLLECTION DATE:	8/14/2017 9:20:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	08/18/2017	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	99.9	08/18/2017	DLC
4-Bromofluorobenzene	EPA-8260	101	08/18/2017	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Stantec 11130 NE 33rd Pl, Suite 200 Bellevue, WA 98004	DATE:	8/18/2017
CLIENT CONTACT:	Marc Sauze	ALS JOB#:	EV17080072
CLIENT PROJECT:	185750287	ALS SAMPLE#:	EV17080072-06
CLIENT SAMPLE ID	MW-7	DATE RECEIVED:	08/14/2017
		COLLECTION DATE:	8/14/2017 9:50:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS	ANALYSIS
						DATE	BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	08/18/2017	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	08/18/2017	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	08/18/2017	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC



CERTIFICATE OF ANALYSIS

CLIENT:	Stantec 11130 NE 33rd Pl, Suite 200 Bellevue, WA 98004	DATE:	8/18/2017
		ALS JOB#:	EV17080072
CLIENT CONTACT:	Marc Sauze	ALS SAMPLE#:	EV17080072-06
CLIENT PROJECT:	185750287	DATE RECEIVED:	08/14/2017
CLIENT SAMPLE ID	MW-7	COLLECTION DATE:	8/14/2017 9:50:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	08/18/2017	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	101	08/18/2017	DLC
4-Bromofluorobenzene	EPA-8260	104	08/18/2017	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Stantec 11130 NE 33rd Pl, Suite 200 Bellevue, WA 98004	DATE:	8/18/2017
CLIENT CONTACT:	Marc Sauze	ALS JOB#:	EV17080072
CLIENT PROJECT:	185750287	ALS SAMPLE#:	EV17080072-07
CLIENT SAMPLE ID	MW-8	DATE RECEIVED:	08/14/2017
		COLLECTION DATE:	8/14/2017 12:58:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS	ANALYSIS
						DATE	BY
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	08/18/2017	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	08/18/2017	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Tetrachloroethylene	EPA-8260	28	2.0	1	UG/L	08/18/2017	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	08/18/2017	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC



CERTIFICATE OF ANALYSIS

CLIENT:	Stantec 11130 NE 33rd Pl, Suite 200 Bellevue, WA 98004	DATE:	8/18/2017
		ALS JOB#:	EV17080072
CLIENT CONTACT:	Marc Sauze	ALS SAMPLE#:	EV17080072-07
CLIENT PROJECT:	185750287	DATE RECEIVED:	08/14/2017
CLIENT SAMPLE ID	MW-8	COLLECTION DATE:	8/14/2017 12:58:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	08/18/2017	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	08/18/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
1,2-Dichloroethane-d4	EPA-8260	102	08/18/2017	DLC
4-Bromofluorobenzene	EPA-8260	105	08/18/2017	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Stantec
 11130 NE 33rd Pl, Suite 200
 Bellevue, WA 98004

CLIENT CONTACT: Marc Sauze
 CLIENT PROJECT: 185750287

DATE: 8/18/2017
 ALS SDG#: EV17080072
 WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-081717W - Batch 119376 - Water by EPA-8260

ANALYTE	METHOD	RESULTS	UNITS	REPORTING	ANALYSIS	ANALYSIS
				LIMITS	DATE	BY
Dichlorodifluoromethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Chloromethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Vinyl Chloride	EPA-8260	U	UG/L	0.20	08/17/2017	DLC
Bromomethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Chloroethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Carbon Tetrachloride	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Trichlorofluoromethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,1-Dichloroethene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Methylene Chloride	EPA-8260	U	UG/L	5.0	08/17/2017	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,1-Dichloroethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
2,2-Dichloropropane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Bromochloromethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Chloroform	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,1,1-Trichloroethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,1-Dichloropropene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,2-Dichloroethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Trichloroethene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,2-Dichloropropane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Dibromomethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Bromodichloromethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Toluene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,1,2-Trichloroethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,3-Dichloropropane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Tetrachloroethylene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Dibromochloromethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,2-Dibromoethane	EPA-8260	U	UG/L	0.010	08/17/2017	DLC
Chlorobenzene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Bromoform	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,2,3-Trichloropropane	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Bromobenzene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
2-Chlorotoluene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
4-Chlorotoluene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,3-Dichlorobenzene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC



CERTIFICATE OF ANALYSIS

CLIENT: Stantec
11130 NE 33rd Pl, Suite 200
Bellevue, WA 98004
DATE: 8/18/2017
ALS SDG#: EV17080072
WDOE ACCREDITATION: C601
CLIENT CONTACT: Marc Sauze
CLIENT PROJECT: 185750287

LABORATORY BLANK RESULTS

MB-081717W - Batch 119376 - Water by EPA-8260

1,4-Dichlorobenzene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,2-Dichlorobenzene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	UG/L	10	08/17/2017	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
Hexachlorobutadiene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	UG/L	2.0	08/17/2017	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Stantec 11130 NE 33rd Pl, Suite 200 Bellevue, WA 98004	DATE:	8/18/2017
CLIENT CONTACT:	Marc Sauze	ALS SDG#:	EV17080072
CLIENT PROJECT:	185750287	WDOE ACCREDITATION:	C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 119376 - Water by EPA-8260

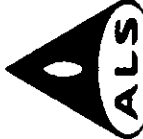
SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
1,1-Dichloroethene - BS	EPA-8260	98.1			72.5	136	08/17/2017	DLC
1,1-Dichloroethene - BSD	EPA-8260	101	3		72.5	136	08/17/2017	DLC
Trichloroethene - BS	EPA-8260	119			74.4	141	08/17/2017	DLC
Trichloroethene - BSD	EPA-8260	123	3		74.4	141	08/17/2017	DLC
Toluene - BS	EPA-8260	97.4			71.7	139	08/17/2017	DLC
Toluene - BSD	EPA-8260	101	4		71.7	139	08/17/2017	DLC
Chlorobenzene - BS	EPA-8260	99.2			73	131	08/17/2017	DLC
Chlorobenzene - BSD	EPA-8260	102	3		73	131	08/17/2017	DLC

APPROVED BY

Laboratory Director

Chain Of Custody/ Laboratory Analysis Request

ALS Environmental
 8620 Holly Drive, Suite 100
 Everett, WA 98208
 Phone (425) 356-2600
 Fax (425) 356-2626
<http://www.alsglobal.com>



Date 8/14/17 Page 1 Of 1

PROJECT ID: REPORT TO COMPANY: PROJECT MANAGER: ADDRESS: PHONE: P.O. #: INVOICE TO COMPANY: ATTENTION: ADDRESS:	ANALYSIS REQUESTED										RECEIVED IN GOOD CONDITION?							
	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 <input type="checkbox"/> BTEX by EPA 8260	MTBE by EPA 8021 <input type="checkbox"/> MTBE by EPA 8260	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270		Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	Pesticides by EPA 8081 <input type="checkbox"/>	Metals-MTCA-5 <input type="checkbox"/> HCR-8 <input type="checkbox"/> PAH <input type="checkbox"/> TAL	Metals Other (Specify)	TCLP-Metals <input type="checkbox"/> VOA <input type="checkbox"/> Semi-Vol <input type="checkbox"/> Pest <input type="checkbox"/> Herbs	OTHER (Specify)	
PROJECT ID: <u>185750287</u>																		
REPORT TO COMPANY: <u>Stanley Consulting</u>																		
PROJECT MANAGER: <u>Marc Savze</u>																		
ADDRESS: <u>1130 NE 33rd Pl Suite 200</u>																		
PHONE: <u>Bellever, WA</u>																		
P.O. #: <u>(425) 922-6322</u>																		
INVOICE TO COMPANY: <u>919 mcconnick.com</u>																		
ATTENTION:																		
ADDRESS:																		
SAMPLE I.D.	DATE	TIME	TYPE	LAB#														
1. MW-1	8/14/17	1245	W	1														
2. MW-2		1150	W	3	X													
3. MW-4		1050	W	3	X													
4. MW-5		1430	W	4	X													
5. MW-6		6920	W	5	X													
6. MW-7		0950	W	6	X													
7. MW-8		1258	W	7	X													
8.																		
9.																		
10.																		

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):
 1. Relinquished By: Stanley Consulting 8/14/17 15:30
 Received By: Marc Savze 8/14/17 15:30
 2. Relinquished By: ALS 8/14/17 15:30
 Received By: _____

TURNAROUND REQUESTED IN BUSINESS DAYS*
 OTHER: _____
 Specify: _____

Organic, Metals & Inorganic Analysis
 1 2 3 5 10 15 20 30 45 60 75 90 105 120 150 180 210 240 300 360 450 540 630 720 810 900 1080 1260 1440 1620 1800 2160 2520 2880 3240 3600 4050 4500 5040 5670 6300 7020 7740 8460 9180 9900 10620 11340 12060 12780 13500 14220 14940 15660 16380 17100 17820 18540 19260 19980 20700 21420 22140 22860 23580 24300 25020 25740 26460 27180 27900 28620 29340 30060 30780 31500 32220 32940 33660 34380 35100 35820 36540 37260 37980 38700 39420 40140 40860 41580 42300 43020 43740 44460 45180 45900 46620 47340 48060 48780 49500 50220 50940 51660 52380 53100 53820 54540 55260 55980 56700 57420 58140 58860 59580 60300 61020 61740 62460 63180 63900 64620 65340 66060 66780 67500 68220 68940 69660 70380 71100 71820 72540 73260 73980 74700 75420 76140 76860 77580 78300 79020 79740 80460 81180 81900 82620 83340 84060 84780 85500 86220 86940 87660 88380 89100 89820 90540 91260 91980 92700 93420 94140 94860 95580 96300 97020 97740 98460 99180 99900 100620 101340 102060 102780 103500 104220 104940 105660 106380 107100 107820 108540 109260 110000 110720 111440 112160 112880 113600 114320 115040 115760 116480 117200 117920 118640 119360 120080 120800 121520 122240 122960 123680 124400 125120 125840 126560 127280 128000 128720 129440 130160 130880 131600 132320 133040 133760 134480 135200 135920 136640 137360 138080 138800 139520 140240 140960 141680 142400 143120 143840 144560 145280 146000 146720 147440 148160 148880 149600 150320 151040 151760 152480 153200 153920 154640 155360 156080 156800 157520 158240 158960 159680 160400 161120 161840 162560 163280 164000 164720 165440 166160 166880 167600 168320 169040 169760 170480 171200 171920 172640 173360 174080 174800 175520 176240 176960 177680 178400 179120 179840 180560 181280 182000 182720 183440 184160 184880 185600 186320 187040 187760 188480 189200 189920 190640 191360 192080 192800 193520 194240 194960 195680 196400 197120 197840 198560 199280 200000

*Turnaround request less than standard may incur Rush Charges



December 18, 2017

Ms. Sonia Fernandez, VCP Coordinator

Reference: Former Bayliner Marine Facility - Groundwater Monitoring and Sampling Report

ATTACHMENT B

STANTEC MONITORING WELL PURGING AND SAMPLING PROCEDURES

Former Bayliner Marine Facility – Groundwater Monitoring
and Sampling Report

STANTEC MONITORING WELL PURGING AND SAMPLING PROCEDURES

Monitoring well purging and sampling was conducted using U.S. Environmental Protection Agency (EPA) approved low-flow sampling techniques.

Purging Procedures

- A. Using a decontaminated instrument (i.e., tape measure, continuity meter, or interface probe) measure the depth to groundwater in reference to the measuring point at the top of the casing. Measure the total depth of the well to calculate the height and volume of water in the borehole.
- B. Based on previously obtained data, if a monitoring well is suspected of containing liquid-phase hydrocarbon (LPH) concentrations, lower a transparent bailer into the well to evaluate the presence of a LPH sheen on the water table.
- C. Decontaminate the purge pump and/or PVC bailers by scrubbing in Alconox detergent solution, followed by a tap water rinse and then a deionized water rinse.
- D. Purge, by low-flow pumping (less than 0.5 liters per minute) for approximately five minutes. If low-flow purging is not possible and bailing is used to purge the well, then a minimum of three well volumes will be removed. If the well goes dry, the procedure listed in step E2 (below) should be followed. Parameters should be measured after each ½-casing volume is removed.
- E. Conduct field measurements (i.e., pH, specific conductivity, temperature, and oxidation-reduction potential) note clarity, color, turbidity, and odor of purge water, and measure depth to groundwater.
 1. If the well has not been purged dry, continue to pump and conduct field measurements (including depth to water) again every five minutes during purging.
 - a) If the first through third series of measurements vary by less than 10 percent, the well has been adequately purged. Allow the well to recover to 80 percent of its static condition and begin the sampling procedure.
 - b) If the measurements vary by 10 percent or greater, repeat Step E1 above.
 - c) If a minimum of three parameters cannot be measured during purging, remove three well volumes prior to sampling.
 2. If the well has been purged dry, measure the water level and allow the well to recharge to 80 percent, or for two hours, whichever occurs first. Calculate the percent recovery, and begin the sampling procedure.

Sampling Procedures

- Use the pump to collect the groundwater sample.
- Transfer the groundwater sample into the appropriate container(s). Where applicable, some containers are completely filled to achieve zero headspace. Label the samples according to location and date of collection.
- Enter the samples into Chain-of-Custody and preserve on ice until delivery to the analytical laboratory. Complete the Well Development or Purging/Sampling Log to be stored in the project file.

When requested by the client, collect a bailer rinsate blank of deionized water to check decontamination procedure. In addition, trip blanks prepared by the laboratory and kept with the samples may be included to check for cross contamination of samples within the cooler. Additional and/or alternate QA/QC samples can be collected and analyzed upon client request.