
To:	Michael Warfel, LG, LHG, RG Washington State Department of Ecology Northwest Regional Office 3190 160th Ave Southeast Bellevue, Washington 98008	From:	Andrea Schweiter Stantec Consulting Services Inc. 11130 NE 33rd Place Suite 200 Bellevue, WA 98004
File:	7-Eleven Store No. 22561	Date:	June 1, 2017

Reference: Underground Storage Tank System Replacement Report Addendum Memo

Introduction and Purpose

On behalf of 7-Eleven, Inc. (7-Eleven), Stantec Consulting Services Inc. (Stantec) has prepared this *Underground Storage Tank System Replacement Report Addendum Memo* related to the following activities at 7-Eleven store number 22561, located at 3280 Southwest Avalon Way in Seattle, Washington (**Figures 1 and 2**):

- A grab-water sample collected from within the underground storage tank (UST) pit during UST replacement activities in 2016 exceeded Washington State Department of Ecology's (Ecology) Model Toxics Control Act (MTCA) Method A cleanup levels for total petroleum hydrocarbons (TPH) as gasoline (TPH-G), benzene, ethylbenzene, toluene, and total xylenes (collectively, BTEX).

The purpose of this memo is to provide supplementary information regarding the soil and groundwater quality down-gradient of the USTs and the grab-water sample location collected in 2016 and to document that a confirmed release of a regulated substance **has not** occurred.

Background

An initial release was reported to Ecology on November 22, 1993; details surrounding this release are not known at this time. Subsequently, a subsurface investigation was completed in the area surrounding the USTs; a LUST was reported to Ecology on December 3, 1998 (LUST identification number 4940). On April 26, 2012, Ecology issued a No Further Action (NFA) Determination; no further remedial action was necessary at the Site to clean up contamination associated with LUST identification number 4940.

During UST replacement activities completed in 2016, confirmation soil samples were all documented below MTAC Method A cleanup levels (**Figure 2** and **Table 1**). Samples representative of current groundwater conditions could not be collected; the three on-Site monitoring wells had been decommissioned in 2012 after receipt of the NFA. In accordance with Section 5.3 of the Guidance, water must be collected from the UST excavation when the lowest point of the UST system is located in groundwater. A water sample was collected from the UST excavation. As indicated above, the water sample exceeded MTCA Method A cleanup levels for TPH-G and BTEX (**Table 2**). Stantec concluded that this sample was not a representative sample of current groundwater conditions and therefore should not be relied upon in determining if a release has occurred from the UST system.

Reference: Underground Storage Tank System Replacement Report Addendum Memo

Subsequent to the review of Stantec's *Underground Storage Tank System Replacement Report* (January 5, 2017), Ecology requested additional subsurface characterization down-gradient of the USTs and grab-water sample location to definitively rule out the possibility of a release.

March 2017 Subsurface Assessment

Stantec performed a subsurface assessment on March 28, 2017 to assess soil and groundwater conditions down-gradient (to the southeast) of the USTs and grab-water sample collected during UST replacement activities in 2016. During quarterly groundwater monitoring from 2003 through 2012, the general groundwater flow direction was measured as flowing to the southeast. A Rose Diagram displaying groundwater flow direction measurements is displayed as **Graph 1** and is also included on **Figure 3**.

Stantec contracted Holt Services Inc. (Holt) of Edgewood, Washington to advance one soil boring, which was completed as a groundwater monitoring well (MW-4; **Figure 3**). The boring was advanced using a limited access hollow stem auger drill rig to a depth of 16.5 feet below ground surface (bgs). The monitoring well was constructed of 2-inch outer diameter, schedule 40 PVC blank casing, and 10-foot long, 0.010-inch slotted screen. Filter sand was placed to 2 feet above the screened interval and then bentonite chips were placed up to a depth of approximately 1 foot bgs. The well was completed with an eight-inch diameter, traffic-rated well monument and cement.

Following installation, the well was developed by surging and bailing using a surge block and bailer to remove fine-grained sediments from the well and sand pack. Periodic measurements of pH, conductivity, and temperature were made during development to establish baseline values for groundwater. Approximately 10 well casing volumes were removed from the well during development.

Two soil samples were collected from the boring (MW-4-5' and MW-4-10') and were submitted to Test America Laboratories, Inc. of Nashville, Tennessee (Test America) for analysis of:

- TPH-G by Ecology Method NWTPH-Gx
- BTEX, 1,2-Dichloroethane (EDC), 1,2-Dibromoethane (EDB), methyl tert-butyl ether (MTBE) by EPA Method 8260C
- Naphthalene, 1-methyl naphthalene, and 2-methyl naphthalene by EPA Method 8270D Sim
- Total lead by EPA Method 6010C

Soil samples were below MTCA Method A cleanup levels.

One groundwater sample was collected from the well (MW-4) and was submitted to Test America for analysis of:

- TPH-G by Ecology Method NWTPH-Gx
- BTEX, EDC, and MTBE by EPA Method 8260C
- EDB by EPA Method 8011
- Naphthalene, 1-methyl naphthalene, and 2-methyl naphthalene by EPA Method 8270D Sim
- Total lead and dissolved lead by EPA Method 200.8



June 1, 2017
Michael Warfel, LG, LHG, RG
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Reference: Underground Storage Tank System Replacement Report Addendum Memo

The groundwater sample slightly exceeded the MTCA Method A cleanup level for total lead. Dissolved lead concentrations were well below the MTCA Method A cleanup level. Total lead results were most likely elevated due to suspended sediments in the sample.

Conclusions

Soil and groundwater concentrations from MW-4, down-gradient of the UST excavation and grab-water sample collected during the 2016 UST replacement activities, confirm that a release of a regulated substance **has not** occurred. Stantec recommends **no further action** at this Site.

If you have any questions about this information, please contact Paul Fairbairn.

Stantec Consulting Services Inc.

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Andrea.Schweiter@stantec.com

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Project Manager
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Paul.Fairbairn@stantec.com



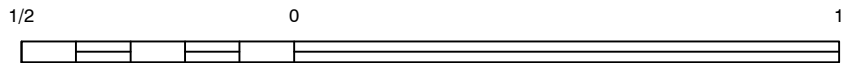
Marc Sauze, PE
Principal Engineer
Phone: 425-289-7372
Marc.Sauze@stantec.com

EXPIRES 11-29-2017

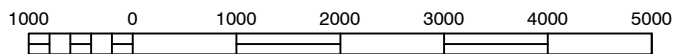
Attachment: Figure 1 – Site Location Map
Figure 2 – Site Plan with Soil Sample Locations and Laboratory Analytical Results
Figure 3 – Site Plan with Groundwater Sample Locations and Laboratory Analytical Results
Table 1 – Cumulative Soil Analytical Results
Table 2 – Cumulative Groundwater Analytical Results
Soil Boring Log MW-4
Graph 1 – Groundwater Flow Direction Rose Diagram
Laboratory Analytical Reports and Chain-of-Custody Documentation



North



SCALE (MILES)



SCALE (FEET)

REFERENCE: USGS 7.5 MINUTE QUADRANGLE, SEATTLE SOUTH, WASHINGTON



11130 NE 33RD PLACE, SUITE 200
BELLEVUE, WASHINGTON
PHONE: (425) 869-9448 FAX: (425) 869-1190

FOR:



STORE NO. 22561
3280 SW AVALON WAY
SEATTLE, WASHINGTON

JOB NUMBER:

185750386

DRAWN BY:

MDR

CHECKED BY:

AS

APPROVED BY:

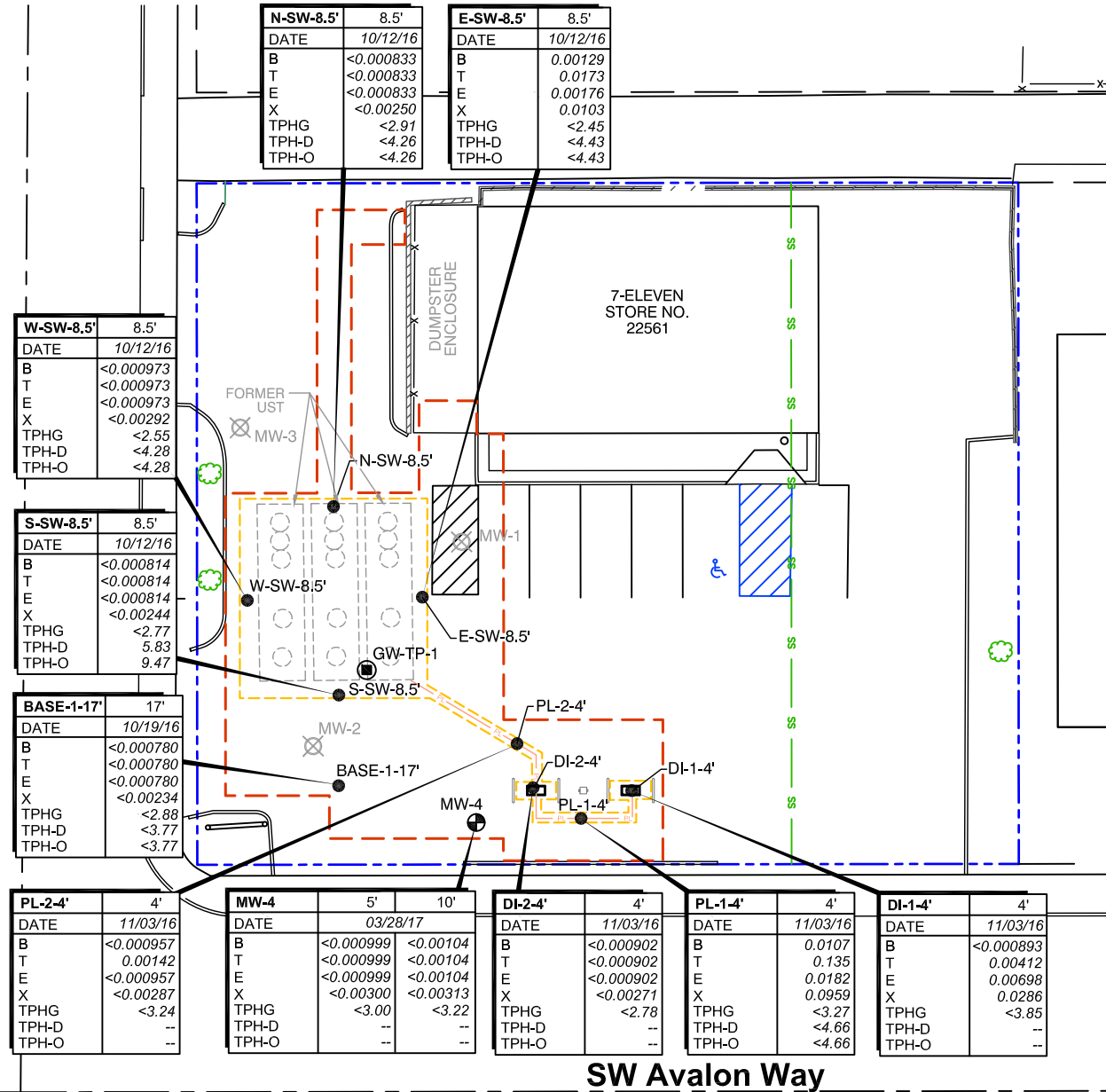
PF

FIGURE:

1

DATE:
DEC 2016

35th Avenue SW



LEGEND:

- MW-4 MONITORING WELL (STANTEC, 2017)
- MW-1 ABANDONED MONITORING WELL
- N-SW-8.5' SOIL SAMPLE (STANTEC, 2016)

- APPROXIMATE PROPERTY BOUNDARY
- FORMER PRODUCT LINE
- UST REMOVAL EXCAVATION (STANTEC 2016)
- UST INSTALLATION EXCAVATION (STANTEC 2016)

SAMPLE ID SAMPLE DEPTH (BGS)

E-SW-8.5'		8.5'
DATE		10/12/16
B		0.00129
T		0.0173
E		0.00176
X		0.0103
TPHG		<2.45
TPH-D		<4.43
TPH-O		<4.43

ANALYTES

- < NOT DETECTED AT OR ABOVE THE LABORATORY REPORTING LIMIT
- NOT ANALYZED
- mg/kg MILLIGRAM PER KILOGRAM
- bgs BELOW GROUND SURFACE

ANALYTES:

- B BENZENE
- T TOLUENE
- E ETHYLBENZENE
- X TOTAL XYLENES
- TPH-G TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
- TPH-D TOTAL PETROLEUM HYDROCARBONS AS DIESEL
- TPH-O TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL



11130 NE 33RD PLACE, SUITE 200
BELLEVUE, WASHINGTON
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FOR:



STORE NO. 22561
3280 SW AVALON WAY
SEATTLE, WASHINGTON

JOB NUMBER:
185750386

DRAWN BY:
MDR

SITE PLAN WITH SOIL SAMPLE LOCATIONS AND LABORATORY ANALYTICAL RESULTS

CHECKED BY:
AS

APPROVED BY:
PF

FIGURE:

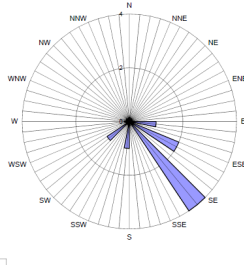
2

DATE:
12/16/16

35th Avenue SW

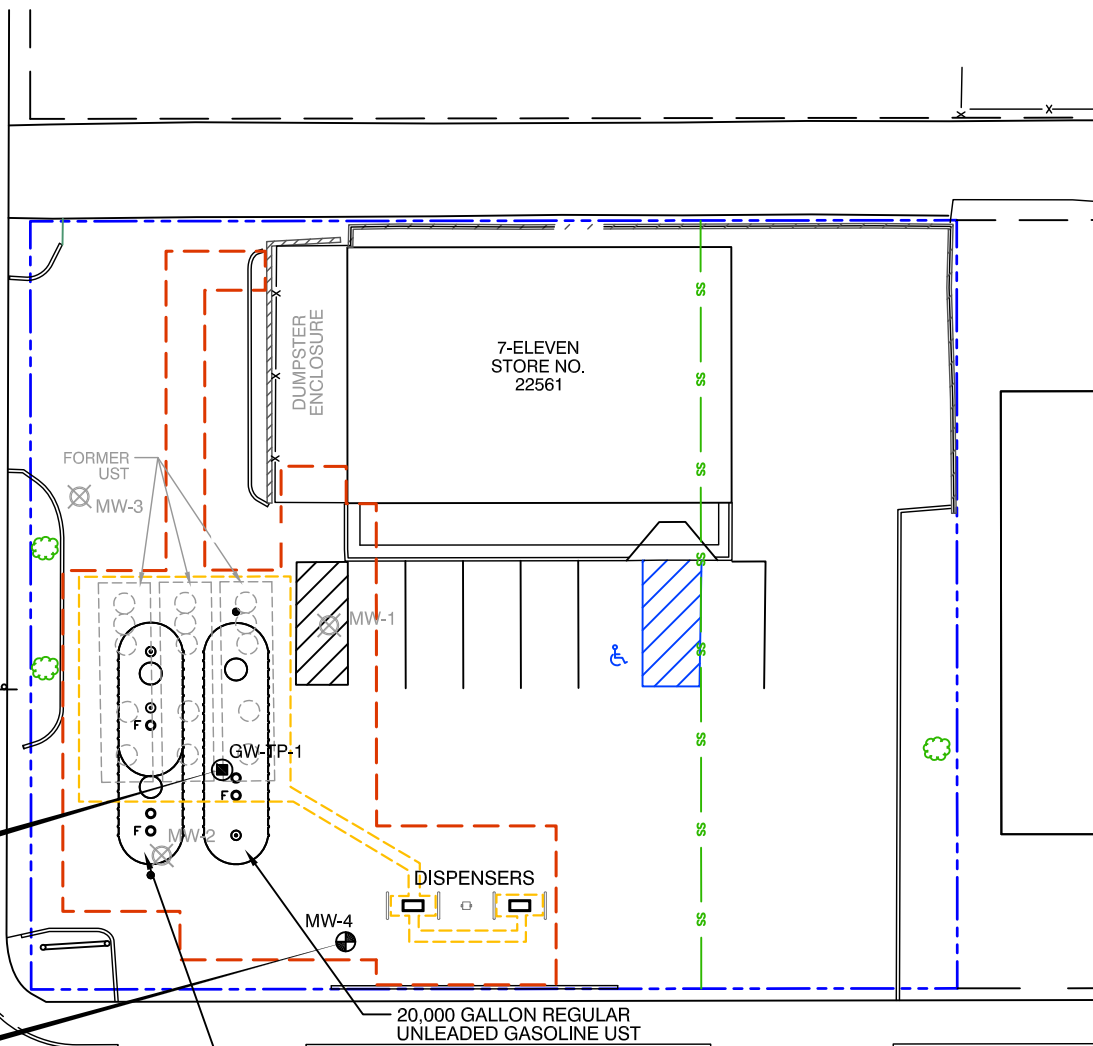
GW-TP-1	
DATE	10/11/16
B	308
T	6,190
E	1,110
X	7,160
TPHG	40,200
Pb	4.36
Dis Pb	--

MW-4	
DATE	04/14/17
B	<1.00
T	<1.00
E	1.02
X	<3.00
TPHG	<100
Pb	18.1
Dis Pb	5.54



Legend
Concentric Circles represent
Quarterly Monitoring Events
First Quarter 2003 through First
Quarter 2012
9 Data Points Shown

SW Avalon Way



Stantec

11130 NE 33RD PLACE, SUITE 200
BELLEVUE, WASHINGTON
PHONE: (425) 869-9448 FAX: (425) 869-1190

FOR: 

STORE NO. 22561
3280 SW AVALON WAY
SEATTLE, WASHINGTON

JOB NUMBER: 185750386
DRAWN BY: MDR








**SITE PLAN WITH
GROUNDWATER SAMPLE LOCATIONS
AND ANALYTICAL RESULTS**

CHECKED BY: AS
APPROVED BY: PF

FIGURE:
3

DATE: 12/16/16

LEGEND:

- MW-4  MONITORING WELL (STANTEC, 2017)
- MW-1  ABANDONED MONITORING WELL
- GW-TP-1  UST GRAB-WATER SAMPLE LOCATION
-  APPROXIMATE PROPERTY BOUNDARY
-  FORMER PRODUCT LINE
-  UST REMOVAL EXCAVATION (STANTEC 2016)
-  UST INSTALLATION EXCAVATION (STANTEC 2016)

SAMPLE ID

GW-TP-1	
DATE	10/11/16
B	308
T	6,190
E	1,110
X	7,160
TPHG	40,200
Pb	4.36
Dis Pb	--

ANALYTES

- < NOT DETECTED AT OR ABOVE THE LABORATORY REPORTING LIMIT
- NOT ANALYZED
- µg/L MICROGRAMS PER LITER

ANALYTES:

- B BENZENE
- T TOLUENE
- E ETHYLBENZENE
- X TOTAL XYLENES
- TPH-G TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
- Pb TOTAL LEAD
- Dis Pb DISSOLVED LEAD

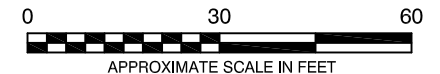


TABLE 1
CUMULATIVE SOIL ANALYTICAL RESULTS
 7-Eleven Store No. 22561
 3280 Southwest Avalon Way, Seattle, Washington
 All concentrations are in milligrams per kilogram (mg/kg)

Sample Description	Sample ID	Date	Depth (feet bgs)	PID (ppm)	Petroleum Hydrocarbons			Volatile Organic Compounds						Semivolatile Organic Compounds	Metals														
					TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	EDB	EDC	MTBE	Total Naphthalenes	Total Lead	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Groundwater Technology, Site Assessment Report, Southland Store No. 22561, June 1994																													
Installation of Monitoring Wells	MW-1-15'	12/16/93	15	2.7	<5	--	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--	--	--	--
	MW-2-10'	12/16/93	10	1.1	<5	--	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--	--	--	
	MW-3-55	12/17/93	25	38	<5	--	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--	--	--	
Rivior Daniel GTI, Report of Permanent UST Decommissioning and Closure at Southland Facility #22561, November 30, 1998																													
Stockpile Samples	S-1	12/2/97	--	NA	545	--	--	<0.0500	0.240	2.13	18.3	--	--	--	--	<25.0	--	--	--	--	--	--	--	--	--	--	--	--	
	S-2	12/2/97	--	NA	51.9	--	--	<0.0500	<0.0500	<0.0500	<0.100	--	--	--	--	<25.0	--	--	--	--	--	--	--	--	--	--	--	--	
	S-3	12/2/97	--	NA	17.2	--	--	<0.0500	<0.0500	<0.0500	<0.100	--	--	--	--	<25.0	--	--	--	--	--	--	--	--	--	--	--	--	
	S-4	12/3/97	--	NA	<5.00	--	--	<0.0500	<0.0500	<0.0500	<0.100	--	--	--	--	<25.0	--	--	--	--	--	--	--	--	--	--	--	--	
	S-5	12/3/97	--	NA	55.3	--	--	<0.0500	0.0752	<0.0500	0.398	--	--	--	--	<25.0	--	--	--	--	--	--	--	--	--	--	--	--	
UST PH Samples	TPB-1	12/3/97	NA	NA	9.65	--	--	<0.0500	0.0910	<0.0500	0.336	--	--	--	--	<25.0	--	--	--	--	--	--	--	--	--	--	--	--	
	TPB-2	12/3/97	NA	NA	19.2	--	--	<0.0500	<0.0500	<0.0500	0.129	--	--	--	--	<25.0	--	--	--	--	--	--	--	--	--	--	--	--	
	TPB-3	12/3/97	NA	NA	<5.00	--	--	0.153	0.387	0.0608	0.297	--	--	--	--	<25.0	--	--	--	--	--	--	--	--	--	--	--	--	
	SW-N	12/3/97	NA	NA	<5.00	--	--	<0.0500	<0.0500	<0.0500	<0.100	--	--	--	--	<25.0	--	--	--	--	--	--	--	--	--	--	--	--	
	SW-W	12/3/97	NA	NA	<5.00	--	--	<0.0500	<0.0500	<0.0500	<0.100	--	--	--	--	<25.0	--	--	--	--	--	--	--	--	--	--	--	--	
	SW-S	12/3/97	NA	NA	27.3	--	--	<0.0500	<0.0500	<0.0500	0.375	--	--	--	--	<25.0	--	--	--	--	--	--	--	--	--	--	--	--	
SW-E	12/3/97	NA	NA	<5.00	--	--	<0.0500	<0.0500	<0.0500	<0.100	--	--	--	--	<25.0	--	--	--	--	--	--	--	--	--	--	--	--		
Stantec Consulting Services, Inc., Spill Bucket Replacement, 7-Eleven Store No. 22561, February 2012																													
Spill Bucket Samples	SB-E	2/14/12	3	667	91	--	--	<0.02	1.5	0.71	6.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	SB-M	2/14/12	3	1.9	<2	--	--	<0.02	<0.02	<0.02	<0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	SB-W	2/14/12	4	0.5	<2	--	--	<0.02	<0.02	<0.02	<0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Stantec Consulting Services, Inc., UST Replacement Report, 7-Eleven Store No. 22561, January 2017																													
Stockpile Samples	SP-1	10/11/16	--	26.8	<2.20	<21.9	<54.9	<0.00881	<0.00881	<0.0132	<0.01762	--	--	--	--	2.51	<0.170	2.51	--	0.214	<0.170	28.9	14.0	<0.269	36.9	1.21	<0.0851	<0.170	28.3
	SP-2	10/11/16	--	29.3	<2.68	<21.7	<54.1	<0.0107	<0.0107	<0.0161	<0.0214	--	--	--	--	2.42	<0.171	3.26	--	0.284	<0.171	33.7	23.1	<0.275	44.1	1.37	<0.0853	<0.171	34.3
	SP-3	10/11/16	--	32.6	<3.57	<18.3	<45.8	<0.0143	<0.0143	<0.0214	<0.0286	--	--	--	--	2.19	<0.174	2.79	--	0.202	<0.174	30.5	14.7	<0.264	35.1	1.06	<0.0870	<0.174	50.4
	SP-4	10/17/16	--	45.7	<2.70	278	<54.5	<0.0108	<0.0108	<0.0162	0.0317	--	--	--	--	2.23	--	2.30	40.4	--	--	<0.181	25.2	--	<0.269	--	0.962	<0.0904	--
	SP-5	10/17/16	--	54.9	<2.52	1,010	<48.5	<0.0101	<0.0101	0.0256	0.0215	--	--	--	--	1.76	--	2.67	46.7	--	--	<0.172	30.8	--	<0.268	--	1.11	<0.0859	--
	SP-6	10/17/16	--	63.7	<2.29	226	<47.5	<0.00916	<0.00916	<0.0137	0.0243	--	--	--	--	2.08	--	2.04	56.1	--	--	<0.172	32.4	--	<0.271	--	1.21	<0.0860	--
UST PH Samples	N-SW-8.5'	10/12/16	8.5	11.8	<2.91	<4.26	<4.26	<0.00833	<0.00833	<0.00833	<0.00250	<0.00833	<0.00833	<0.00833	<0.00354	3.61	--	--	--	--	--	--	--	--	--	--	--	--	
	S-SW-8.5'	10/12/16	8.5	10.3	<2.77	5.83	9.47	<0.00814	<0.00814	<0.00814	<0.00244	<0.00814	<0.00814	<0.00814	<0.00355	2.29	--	<2.20	26.8	--	--	<1.10	24.4	--	<0.106	--	<2.20	<1.10	--
	E-SW-8.5'	10/12/16	8.5	24.8	<2.45	<4.43	<4.43	0.00129	0.0173	0.00176	0.0103	<0.00947	<0.00947	<0.00947	<0.00359	3.89	--	--	--	--	--	--	--	--	--	--	--	--	
	W-SW-8.5'	10/12/16	8.5	8.3	<2.55	<4.28	<4.28	<0.00973	<0.00973	<0.00973	<0.00292	<0.00973	<0.00973	<0.00973	<0.00360	5.66	--	--	--	--	--	--	--	--	--	--	--	--	
Dispenser Island Samples	DI-1-4'	11/3/16	4	11.7	<3.85	--	--	<0.00893	0.00412	0.00498	0.0286	<0.00893	<0.00893	<0.00893	<0.00893	--	--	--	--	--	--	--	--	--	--	--	--	--	
	DI-2-4'	11/3/16	4	8.2	<2.78	--	--	<0.00902	<0.00902	<0.00902	<0.00271	<0.00902	<0.00902	<0.00902	<0.00902	--	--	--	--	--	--	--	--	--	--	--	--	--	
Product Line Samples	PL-1-4'	11/3/16	4	6.77	<3.27	<4.66	<4.66	0.0107	0.135	0.0182	0.0959	<0.00981	<0.00981	<0.00981	<0.00378	4.55	--	--	--	--	--	--	--	--	--	--	--	--	
	PL-2-4'	11/3/16	4	8.6	<3.24	--	--	<0.00957	0.00142	<0.00957	<0.00287	<0.00957	<0.00957	<0.00957	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Over-excavation	Base-1-17'	10/19/16	17	6.9	<2.88	<3.77	<3.77	<0.00780	<0.00780	<0.00780	<0.00234	<0.00780	<0.00780	<0.00780	<0.00319	--	--	--	--	--	--	--	--	--	--	--	--	--	
Stantec Consulting Services, Inc., UST Replacement Report Addendum Memo, 7-Eleven Store No. 22561, April 2017																													
Installation of Monitoring Well	MW-4-5'	3/28/2017	5	0.3	<3.00	--	--	<0.00999	<0.00999	<0.00999	<0.00300	<0.00999	<0.00999	<0.00999	<0.00358	<5.51	--	--	--	--	--	--	--	--	--	--	--	--	--
	MW-4-10'	3/28/2017	10	0.4	<3.22	--	--	<0.00104	<0.00104	<0.00104	<0.00313	<0.00104	<0.00104	<0.00104	<0.00377	<5.93	--	--	--	--	--	--	--	--	--	--	--	--	
	MTCA Method A Cleanup Levels					30 / 100 a	2,000	2,000	0.03	7	6	9	0.005	--	0.1	5	250	--	20	--	--	2	2,000	--	2	--	--	--	--

Notes:

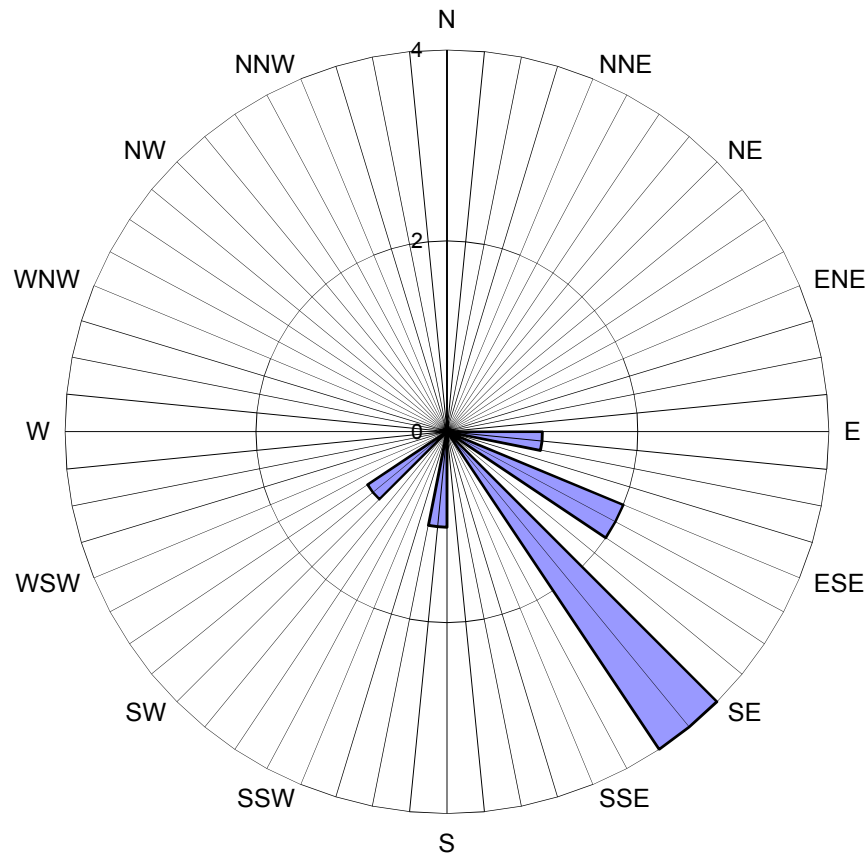
- = indicates soil was excavated and removed
- < = result is less than the laboratory practical quantitation limit
- = Not sampled, not analyzed, or not measured
- g = Gasoline mixtures without benzene and where the total of ethyl-benzene, toluene and xylene are less than 1% of the gasoline mixture have a cleanup level of 100 mg/kg; all other mixtures have a cleanup level of 30 mg/kg.
- MTCA = Model Toxics Control Act
- EDB = 1,2-Dibromoethane by EPA Method 8260B
- EDC = 1,2-Dichloroethane by EPA Method 8260B
- MTBE = Methyl tertiary-butyl ether by EPA Method 8260B
- Total Naphthalenes = The sum of Naphthalene, 1-Methylnaphthalene, and 2-Methylnaphthalene, by EPA Method 8270C
- TPH-G = total petroleum hydrocarbons in the gasoline range, by Ecology Method NWTPH-Gx
- TPH-D = total petroleum hydrocarbons in the diesel range, by Ecology Method NWTPH-Dx
- TPH-O = total petroleum hydrocarbons in the oil range, by Ecology Method NWTPH-Dx
- Bold** = Result exceeds MTCA Method A cleanup level
- NA = Not Available

TABLE 2
CUMULATIVE GROUNDWATER ANALYTICAL RESULTS
 7-Eleven Store No. 22561
 3280 Southwest Avalon Way, Seattle, Washington
 All concentrations in micrograms per liter (µg/L)

All concentrations are in micrograms per liter (µg/L)																	
Sample Description	Sample ID (*TOC feet)	Sample Date	Depth to Water (feet below TOC)	Groundwater Elevation	Petroleum Hydrocarbons			Volatile Organic Compounds									Fats Oil and Grease
					TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Total Lead	Dissolved Lead	EDB	EDC	MTBE	Non-Polar FOG
Groundwater Monitoring																	
Groundwater Monitoring	MW-1 (213.87)	2/9/1994	10.54	203.33	70	--	--	<0.3	0.3	<0.3	3	<5.0	--	--	--	--	--
		12/14/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		3/29/2010	7.60	206.27	<100	--	--	<1.0	<1.0	<1.0	4.4	--	--	--	--	--	--
		6/29/2010	4.23	209.64	<100	--	--	6.5	<1.0	<1.0	<1.0	--	--	--	--	--	--
		9/3/2010	5.31	208.56	<250	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--
		12/16/2010	5.49	208.38	<250	--	--	4.6	<0.50	<0.50	<0.50	--	--	--	--	--	--
		3/19/2011	6.78	207.09	<250	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--
		6/9/2011	3.48	210.39	<250	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--
		8/17/2011	4.08	209.79	<250	520	980	<0.50	<0.50	<0.50	<0.50	230	<5.0	<0.010	<0.50	<0.50	--
		12/14/2011	10.11	203.76	<100	600	2,900	<1	<1	<1	<3	--	--	--	--	--	--
		3/19/2012	6.30	207.57	<250	<250	<500	<0.50	<0.50	<0.50	<0.50	29	--	--	<0.50	<0.50	--
		6/26/2012	6.92	206.95	<250	380	<500	<0.50	<0.50	<0.50	<0.50	100	--	--	<0.50	<0.50	--
		WELL ABANDONED ON AUGUST 16, 2012															
	MW-2 (214.48)	2/9/1994	7.55	206.93	<10	--	--	<0.03	<0.03	<0.03	--	<5.0	--	--	--	--	--
		12/14/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		3/29/2010	--	--	--	--	--	Inaccessible - Well Paved Over									
		6/29/2010	4.43	210.05	<100	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--
		9/3/2010	6.45	208.03	<250	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--
		12/16/2010	6.09	208.39	<250	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--
		3/19/2011	3.82	210.66	<250	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--
		6/9/2011	4.02	210.46	<250	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--
		8/17/2011	5.63	208.85	<250	<250	<500	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<0.010	<0.50	<0.50	--
		12/14/2011	6.72	207.76	<100	<50	<250	<1	<1	<1	<3	--	--	--	--	--	--
		3/19/2012	6.44	208.04	<250	<250	<500	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	<0.50	<0.50	--
		6/26/2012	5.33	209.15	<250	<250	<500	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	<0.50	<0.50	--
		WELL ABANDONED ON AUGUST 16, 2012															
	MW-3 (218.59)	2/9/1994	11.26	207.33	<10	--	--	<0.3	<0.3	<0.3	<0.5	<5.0	--	--	--	--	--
		12/14/2005	11.80	206.79	<100	--	--	<1.0	<1.0	<1.0	<2.0	<5.0	--	--	--	--	--
		3/29/2010	7.93	210.66	<100	--	--	<1.0	<1.0	<1.0	4.4	--	--	--	--	--	--
		6/29/2010	7.27	211.32	<100	--	--	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--
		9/3/2010	9.80	208.79	<250	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--
		12/16/2010	8.14	210.45	<250	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--
		3/19/2011	3.81	214.78	<250	--	--	2.2	<0.50	<0.50	<0.50	--	--	--	--	--	--
		6/9/2011	7.41	211.18	<250	--	--	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--
		8/17/2011	9.15	209.44	<250	<250	<500	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<0.010	<0.50	<0.50	--
		12/14/2011	5.41	213.18	<100	97	420	<1	<1	<1	<3	--	--	--	--	--	--
		3/19/2012	8.34	210.25	<250	<250	<500	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	<0.50	<0.50	--
		6/26/2012	8.39	210.20	<250	<250	<500	<0.50	<0.50	<0.50	<0.50	6.2	--	--	<0.50	<0.50	--
		WELL ABANDONED ON AUGUST 16, 2012															
	MW-4 (NS)	4/14/2017	2.57	--	--	<100	--	--	<1.00	<1.00	1.02	<3.00	18.1	5.54	<0.0409	<1.00	<1.00
Fluor Daniel GFI, Report of Permanent UST Decommissioning and Closure at Southland Facility #22561, November 30, 1998																	
Water	BT-1	12/4/1997	--	--	176,000	--	--	11,700	30,200	2,640	17,000	--	--	--	--	--	--
Discharge	BT-1	12/30/1997	--	--	18,000	--	--	97.9	553	15.3	799	2.07	--	--	--	--	--
Stantec Consulting Services, Inc., UST Replacement Report, 7-Eleven Store No. 22561, December 2016																	
UST Pit	GW-TP-1	10/11/2016	--	--	40,200	--	--	308	6,190	1,110	7,160	4.36	--	<0.0100	<1.00	--	--
Water	Effluent-1	10/18/2016	--	--	--	--	--	<1.0	<1.0	<1.0	<2.0	--	--	--	--	--	<4,000
Discharge	Effluent-1	10/26/2016	--	--	--	--	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	<3,620
MTCA Method A Cleanup Levels					800 / 1,000a	500	500	5	1,000	700	1,000	15	--	0.01	5	20	--

TPH-G = Total petroleum hydrocarbons as gasoline analyzed by NWTPH-Gx
 TPH-D = Total petroleum hydrocarbons as diesel analyzed by NWTPH-Dx
 TPH-O = Total petroleum hydrocarbons as oil analyzed by NWTPH-Dx
 EDB = Ethylene dibromide analyzed by EPA Method 8260B
 EDC = 1,2 Dichloroethane analyzed by EPA Method 8260B
 MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B
 < = Less than the laboratory reporting limit
 -- = Not sampled, not analyzed or not measured
 NS = Not surveyed
 MTCA = The Washington State Department of Ecology Model Toxics Control Act
 a = The TPH-G cleanup level is reduced from 1,000 µg/L to 800 µg/L if benzene is present in the sample
 * = Surveyed Top of Casing Elevation
 TOC = Top of Casing

Graph 1
Groundwater Flow Direction Rose Diagram
 7-Eleven Store No. 22561
 3280 SW Avalon Way
 Seattle, Washington



■ Groundwater Flow Direction

Legend
 Concentric Circles represent
 Quarterly Monitoring Events
 First Quarter 2003 through First
 Quarter 2012
9 Data Points Shown

PROJECT: **22561 Avalon**
 LOCATION: **3280 SW Avalon, Seattle, WA**
 PROJECT NUMBER: **185703671**

WELL / PROBEHOLE / BOREHOLE NO:

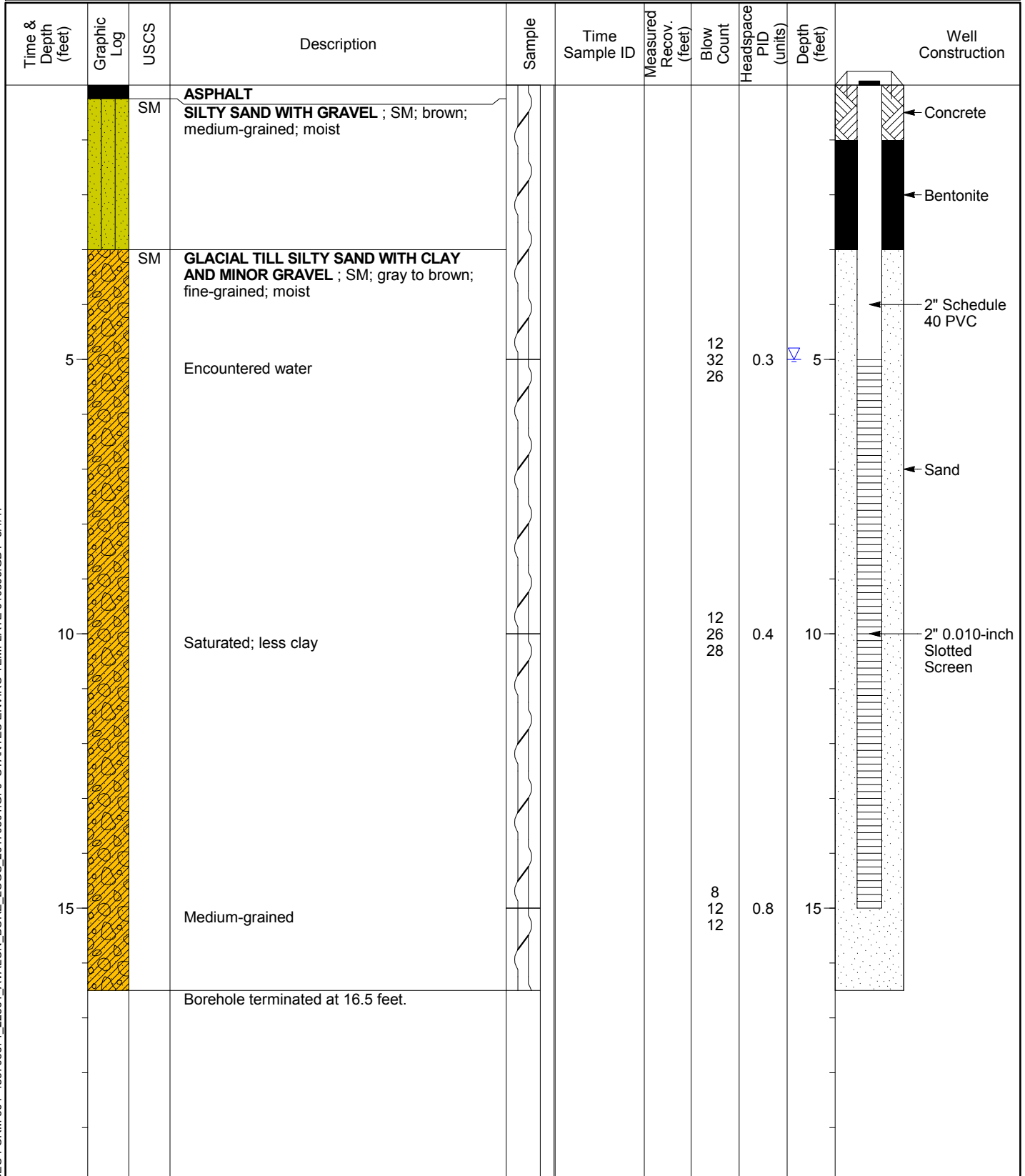


PAGE 1 OF 1

BTX-450-MW-4

DRILLING: STARTED **3/28/17** COMPLETED: **3/28/17**
 INSTALLATION: STARTED **3/28/17** COMPLETED: **3/28/17**
 DRILLING COMPANY: **Holt**
 DRILLING EQUIPMENT: **LA HSA**
 DRILLING METHOD:
 SAMPLING EQUIPMENT:

NORTHING (ft): EASTING (ft):
 LATITUDE: LONGITUDE:
 GROUND ELEV (ft): TOC ELEV (ft):
 INITIAL DTW (ft): **5** BOREHOLE DEPTH (ft): **16.5**
 STATIC DTW (ft): **Not Encountered** WELL DEPTH (ft): **15**
 WELL CASING DIA. (in): **2** BOREHOLE DIA.(in): **8**
 LOGGED BY: **AS** CHECKED BY:



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Nashville

2960 Foster Creighton Drive

Nashville, TN 37204

Tel: (615)726-0177

TestAmerica Job ID: 490-125341-1

Client Project/Site: 22561-Well Installation

For:

Stantec Consulting Corp.

11130 NE 33rd Place

Suite 200

Bellevue, Washington 98004-1465

Attn: Paul Fairbairn



Authorized for release by:

4/10/2017 2:31:10 PM

Heather Wagner, Project Manager I

(615)301-5763

heather.wagner@testamericainc.com

LINKS

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results through

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Sample Summary

Client: Stantec Consulting Corp.
Project/Site: 22561-Well Installation

TestAmerica Job ID: 490-125341-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-125341-1	MW-4-5'	Solid	03/28/17 11:05	04/01/17 09:00
490-125341-2	MW-4-10'	Solid	03/28/17 11:10	04/01/17 09:00

Case Narrative

Client: Stantec Consulting Corp.
Project/Site: 22561-Well Installation

TestAmerica Job ID: 490-125341-1

Job ID: 490-125341-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-125341-1

Comments

No additional comments.

Receipt

The samples were received on 4/1/2017 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.2° C.

GC/MS VOA

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

GC/MS Semi VOA

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

GC VOA

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

Metals

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

Organic Prep

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

VOA Prep

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

Definitions/Glossary

Client: Stantec Consulting Corp.
Project/Site: 22561-Well Installation

TestAmerica Job ID: 490-125341-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: 22561-Well Installation

TestAmerica Job ID: 490-125341-1

Client Sample ID: MW-4-5'

Date Collected: 03/28/17 11:05

Date Received: 04/01/17 09:00

Lab Sample ID: 490-125341-1

Matrix: Solid

Percent Solids: 91.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.000999		mg/Kg	☼	03/28/17 13:05	04/06/17 19:39	1
Toluene	ND		0.000999		mg/Kg	☼	03/28/17 13:05	04/06/17 19:39	1
Ethylbenzene	ND		0.000999		mg/Kg	☼	03/28/17 13:05	04/06/17 19:39	1
Xylenes, Total	ND		0.00300		mg/Kg	☼	03/28/17 13:05	04/06/17 19:39	1
Methyl tert-butyl ether	ND		0.000999		mg/Kg	☼	03/28/17 13:05	04/06/17 19:39	1
1,2-Dichloroethane	ND		0.000999		mg/Kg	☼	03/28/17 13:05	04/06/17 19:39	1
1,2-Dibromoethane (EDB)	ND		0.000999		mg/Kg	☼	03/28/17 13:05	04/06/17 19:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 130	03/28/17 13:05	04/06/17 19:39	1
4-Bromofluorobenzene (Surr)	114		70 - 130	03/28/17 13:05	04/06/17 19:39	1
Dibromofluoromethane (Surr)	104		70 - 130	03/28/17 13:05	04/06/17 19:39	1
Toluene-d8 (Surr)	103		70 - 130	03/28/17 13:05	04/06/17 19:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.00358		mg/Kg	☼	04/03/17 15:13	04/05/17 04:32	1
2-Methylnaphthalene	ND		0.00358		mg/Kg	☼	04/03/17 15:13	04/05/17 04:32	1
Naphthalene	ND		0.00358		mg/Kg	☼	04/03/17 15:13	04/05/17 04:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	53		29 - 120	04/03/17 15:13	04/05/17 04:32	1
Nitrobenzene-d5	70		27 - 120	04/03/17 15:13	04/05/17 04:32	1
Terphenyl-d14	84		13 - 120	04/03/17 15:13	04/05/17 04:32	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		3.00		mg/Kg	☼	03/28/17 13:05	04/05/17 22:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	65		50 - 150	03/28/17 13:05	04/05/17 22:19	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		5.51		mg/Kg	☼	04/05/17 13:31	04/07/17 18:10	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.2		0.1		%	-		04/04/17 12:19	1

TestAmerica Nashville

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: 22561-Well Installation

TestAmerica Job ID: 490-125341-1

Client Sample ID: MW-4-10'

Date Collected: 03/28/17 11:10

Date Received: 04/01/17 09:00

Lab Sample ID: 490-125341-2

Matrix: Solid

Percent Solids: 85.0

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00104		mg/Kg	☼	03/28/17 13:10	04/06/17 20:06	1
Toluene	ND		0.00104		mg/Kg	☼	03/28/17 13:10	04/06/17 20:06	1
Ethylbenzene	ND		0.00104		mg/Kg	☼	03/28/17 13:10	04/06/17 20:06	1
Xylenes, Total	ND		0.00313		mg/Kg	☼	03/28/17 13:10	04/06/17 20:06	1
Methyl tert-butyl ether	ND		0.00104		mg/Kg	☼	03/28/17 13:10	04/06/17 20:06	1
1,2-Dichloroethane	ND		0.00104		mg/Kg	☼	03/28/17 13:10	04/06/17 20:06	1
1,2-Dibromoethane (EDB)	ND		0.00104		mg/Kg	☼	03/28/17 13:10	04/06/17 20:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 130	03/28/17 13:10	04/06/17 20:06	1
4-Bromofluorobenzene (Surr)	111		70 - 130	03/28/17 13:10	04/06/17 20:06	1
Dibromofluoromethane (Surr)	104		70 - 130	03/28/17 13:10	04/06/17 20:06	1
Toluene-d8 (Surr)	103		70 - 130	03/28/17 13:10	04/06/17 20:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.00377		mg/Kg	☼	04/03/17 15:13	04/05/17 04:53	1
2-Methylnaphthalene	ND		0.00377		mg/Kg	☼	04/03/17 15:13	04/05/17 04:53	1
Naphthalene	ND		0.00377		mg/Kg	☼	04/03/17 15:13	04/05/17 04:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	55		29 - 120	04/03/17 15:13	04/05/17 04:53	1
Nitrobenzene-d5	75		27 - 120	04/03/17 15:13	04/05/17 04:53	1
Terphenyl-d14	85		13 - 120	04/03/17 15:13	04/05/17 04:53	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		3.22		mg/Kg	☼	03/28/17 13:10	04/05/17 21:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	73		50 - 150	03/28/17 13:10	04/05/17 21:49	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		5.93		mg/Kg	☼	04/05/17 13:31	04/07/17 18:16	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.0		0.1		%	-		04/04/17 12:19	1

TestAmerica Nashville

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: 22561-Well Installation

TestAmerica Job ID: 490-125341-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 490-420195/7

Matrix: Solid

Analysis Batch: 420195

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00200		mg/Kg			04/06/17 12:47	1
Toluene	ND		0.00200		mg/Kg			04/06/17 12:47	1
Ethylbenzene	ND		0.00200		mg/Kg			04/06/17 12:47	1
Xylenes, Total	ND		0.00600		mg/Kg			04/06/17 12:47	1
Methyl tert-butyl ether	ND		0.00200		mg/Kg			04/06/17 12:47	1
1,2-Dichloroethane	ND		0.00200		mg/Kg			04/06/17 12:47	1
1,2-Dibromoethane (EDB)	ND		0.00200		mg/Kg			04/06/17 12:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 130		04/06/17 12:47	1
4-Bromofluorobenzene (Surr)	112		70 - 130		04/06/17 12:47	1
Dibromofluoromethane (Surr)	109		70 - 130		04/06/17 12:47	1
Toluene-d8 (Surr)	106		70 - 130		04/06/17 12:47	1

Lab Sample ID: LCS 490-420195/8

Matrix: Solid

Analysis Batch: 420195

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.04752		mg/Kg		95	70 - 130
Toluene	0.0500	0.04899		mg/Kg		98	70 - 130
Ethylbenzene	0.0500	0.04904		mg/Kg		98	70 - 130
Xylenes, Total	0.150	0.1436		mg/Kg		96	70 - 130
Methyl tert-butyl ether	0.0500	0.05046		mg/Kg		101	54 - 145
1,2-Dichloroethane	0.0500	0.05257		mg/Kg		105	65 - 134
1,2-Dibromoethane (EDB)	0.0500	0.05704		mg/Kg		114	69 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		70 - 130
4-Bromofluorobenzene (Surr)	110		70 - 130
Dibromofluoromethane (Surr)	109		70 - 130
Toluene-d8 (Surr)	102		70 - 130

Lab Sample ID: LCSD 490-420195/9

Matrix: Solid

Analysis Batch: 420195

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0500	0.04862		mg/Kg		97	70 - 130	2	37
Toluene	0.0500	0.04913		mg/Kg		98	70 - 130	0	40
Ethylbenzene	0.0500	0.05024		mg/Kg		100	70 - 130	2	38
Xylenes, Total	0.150	0.1491		mg/Kg		99	70 - 130	4	38
Methyl tert-butyl ether	0.0500	0.05242		mg/Kg		105	54 - 145	4	36
1,2-Dichloroethane	0.0500	0.05362		mg/Kg		107	65 - 134	2	16
1,2-Dibromoethane (EDB)	0.0500	0.06029		mg/Kg		121	69 - 130	6	17

TestAmerica Nashville

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: 22561-Well Installation

TestAmerica Job ID: 490-125341-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 490-420195/9

Matrix: Solid

Analysis Batch: 420195

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		70 - 130
4-Bromofluorobenzene (Surr)	110		70 - 130
Dibromofluoromethane (Surr)	107		70 - 130
Toluene-d8 (Surr)	102		70 - 130

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

Lab Sample ID: MB 490-419373/1-A

Matrix: Solid

Analysis Batch: 419760

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 419373

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.00330		mg/Kg		04/03/17 14:57	04/04/17 21:16	1
2-Methylnaphthalene	ND		0.00330		mg/Kg		04/03/17 14:57	04/04/17 21:16	1
Naphthalene	ND		0.00330		mg/Kg		04/03/17 14:57	04/04/17 21:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	72		29 - 120	04/03/17 14:57	04/04/17 21:16	1
Nitrobenzene-d5	76		27 - 120	04/03/17 14:57	04/04/17 21:16	1
Terphenyl-d14	76		13 - 120	04/03/17 14:57	04/04/17 21:16	1

Lab Sample ID: LCS 490-419373/2-A

Matrix: Solid

Analysis Batch: 419760

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 419373

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1-Methylnaphthalene	0.0333	0.02629		mg/Kg		79	32 - 120
2-Methylnaphthalene	0.0333	0.02329		mg/Kg		70	28 - 120
Naphthalene	0.0333	0.02422		mg/Kg		73	32 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	77		29 - 120
Nitrobenzene-d5	86		27 - 120
Terphenyl-d14	84		13 - 120

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 490-417246/1-A

Matrix: Solid

Analysis Batch: 419928

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 417246

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		5.00		mg/Kg		03/26/17 04:11	04/05/17 15:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	88		50 - 150	03/26/17 04:11	04/05/17 15:43	1

TestAmerica Nashville

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: 22561-Well Installation

TestAmerica Job ID: 490-125341-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 490-417246/2-A

Matrix: Solid

Analysis Batch: 419928

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 417246

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C6-C12			500	549.7		mg/Kg		110	70 - 130		
Surrogate	LCS %Recovery	LCS Qualifier	Limits								
a,a,a-Trifluorotoluene	100		50 - 150								

Lab Sample ID: LCSD 490-417246/3-A

Matrix: Solid

Analysis Batch: 419928

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 417246

			Spike	LCSD	LCSD				%Rec.	RPD	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
C6-C12			500	562.9		mg/Kg		113	70 - 130	2	10
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits								
a,a,a-Trifluorotoluene	103		50 - 150								

Method: Moisture - Percent Moisture

Lab Sample ID: 490-125341-1 DU

Matrix: Solid

Analysis Batch: 419637

Client Sample ID: MW-4-5'

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	91.2		91.0		%			20

Lab Sample ID: 490-125341-2 DU

Matrix: Solid

Analysis Batch: 419637

Client Sample ID: MW-4-10'

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	85.0		84.1		%			20

TestAmerica Nashville

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: 22561-Well Installation

TestAmerica Job ID: 490-125341-1

GC/MS VOA

Prep Batch: 419716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-125341-1	MW-4-5'	Total/NA	Solid	5035	
490-125341-2	MW-4-10'	Total/NA	Solid	5035	

Analysis Batch: 420195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-125341-1	MW-4-5'	Total/NA	Solid	8260C	419716
490-125341-2	MW-4-10'	Total/NA	Solid	8260C	419716
MB 490-420195/7	Method Blank	Total/NA	Solid	8260C	
LCS 490-420195/8	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 490-420195/9	Lab Control Sample Dup	Total/NA	Solid	8260C	

GC/MS Semi VOA

Prep Batch: 419373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-125341-1	MW-4-5'	Total/NA	Solid	3550C	
490-125341-2	MW-4-10'	Total/NA	Solid	3550C	
MB 490-419373/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 490-419373/2-A	Lab Control Sample	Total/NA	Solid	3550C	

Analysis Batch: 419760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-125341-1	MW-4-5'	Total/NA	Solid	8270D SIM	419373
490-125341-2	MW-4-10'	Total/NA	Solid	8270D SIM	419373
MB 490-419373/1-A	Method Blank	Total/NA	Solid	8270D SIM	419373
LCS 490-419373/2-A	Lab Control Sample	Total/NA	Solid	8270D SIM	419373

GC VOA

Prep Batch: 417246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-417246/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 490-417246/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 490-417246/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

Prep Batch: 419714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-125341-1	MW-4-5'	Total/NA	Solid	5035	
490-125341-2	MW-4-10'	Total/NA	Solid	5035	

Analysis Batch: 419928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-125341-1	MW-4-5'	Total/NA	Solid	NWTPH-Gx	419714
490-125341-2	MW-4-10'	Total/NA	Solid	NWTPH-Gx	419714
MB 490-417246/1-A	Method Blank	Total/NA	Solid	NWTPH-Gx	417246
LCS 490-417246/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Gx	417246
LCSD 490-417246/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Gx	417246

TestAmerica Nashville

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: 22561-Well Installation

TestAmerica Job ID: 490-125341-1

Metals

Prep Batch: 419987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-125341-1	MW-4-5'	Total/NA	Solid	3051A	
490-125341-2	MW-4-10'	Total/NA	Solid	3051A	

Analysis Batch: 420817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-125341-1	MW-4-5'	Total/NA	Solid	6010C	419987
490-125341-2	MW-4-10'	Total/NA	Solid	6010C	419987

General Chemistry

Analysis Batch: 419637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-125341-1	MW-4-5'	Total/NA	Solid	Moisture	
490-125341-2	MW-4-10'	Total/NA	Solid	Moisture	
490-125341-1 DU	MW-4-5'	Total/NA	Solid	Moisture	
490-125341-2 DU	MW-4-10'	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: 22561-Well Installation

TestAmerica Job ID: 490-125341-1

Client Sample ID: MW-4-5'

Date Collected: 03/28/17 11:05

Date Received: 04/01/17 09:00

Lab Sample ID: 490-125341-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			419637	04/04/17 12:19	BAA	TAL NSH

Client Sample ID: MW-4-5'

Date Collected: 03/28/17 11:05

Date Received: 04/01/17 09:00

Lab Sample ID: 490-125341-1

Matrix: Solid

Percent Solids: 91.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			10.972 g	5.0 mL	419716	03/28/17 13:05	JLP	TAL NSH
Total/NA	Analysis	8260C		1	5 g	5 mL	420195	04/06/17 19:39	IMA	TAL NSH
Total/NA	Prep	3550C			30.29 g	1.00 mL	419373	04/03/17 15:13	LOJ	TAL NSH
Total/NA	Analysis	8270D SIM		1			419760	04/05/17 04:32	T1C	TAL NSH
Total/NA	Prep	5035			10.892 g	5.0 mL	419714	03/28/17 13:05	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	0.1 mL	5 mL	419928	04/05/17 22:19	AK1	TAL NSH
Total/NA	Prep	3051A			0.497 g	100 mL	419987	04/05/17 13:31	PG1	TAL NSH
Total/NA	Analysis	6010C		5			420817	04/07/17 18:10	LCS	TAL NSH

Client Sample ID: MW-4-10'

Date Collected: 03/28/17 11:10

Date Received: 04/01/17 09:00

Lab Sample ID: 490-125341-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			419637	04/04/17 12:19	BAA	TAL NSH

Client Sample ID: MW-4-10'

Date Collected: 03/28/17 11:10

Date Received: 04/01/17 09:00

Lab Sample ID: 490-125341-2

Matrix: Solid

Percent Solids: 85.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			11.291 g	5.0 mL	419716	03/28/17 13:10	JLP	TAL NSH
Total/NA	Analysis	8260C		1	5 g	5 mL	420195	04/06/17 20:06	IMA	TAL NSH
Total/NA	Prep	3550C			30.86 g	1.00 mL	419373	04/03/17 15:13	LOJ	TAL NSH
Total/NA	Analysis	8270D SIM		1			419760	04/05/17 04:53	T1C	TAL NSH
Total/NA	Prep	5035			12.589 g	5.0 mL	419714	03/28/17 13:10	JLP	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	0.1 mL	5 mL	419928	04/05/17 21:49	AK1	TAL NSH
Total/NA	Prep	3051A			0.496 g	100 mL	419987	04/05/17 13:31	PG1	TAL NSH
Total/NA	Analysis	6010C		5			420817	04/07/17 18:16	LCS	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TestAmerica Nashville

Method Summary

Client: Stantec Consulting Corp.
Project/Site: 22561-Well Installation

TestAmerica Job ID: 490-125341-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL NSH
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL NSH
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	TAL NSH
6010C	Metals (ICP)	SW846	TAL NSH
Moisture	Percent Moisture	EPA	TAL NSH

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

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

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: 22561-Well Installation

TestAmerica Job ID: 490-125341-1

Laboratory: TestAmerica Nashville

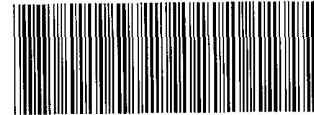
Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C789	07-19-17

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Solids

COOLER RECEIPT FORM



490-125341 Chain of Custody

Cooler Received/Opened On 4/1/2017 @ 0900

Time Samples Removed From Cooler _____ Time Samples Placed In Storage _____ (2 Hour Window)

1. Tracking # 3602 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960353 pH Strip Lot _____ Chlorine Strip Lot _____

2. Temperature of rep. sample or temp blank when opened: 0.2 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES NO...NA

If yes, how many and where: 1 Frak

5. Were the seals intact, signed, and dated correctly? YES NO...NA

6. Were custody papers inside cooler? YES NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) PA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES NO...NA

12. Did all container labels and tags agree with custody papers? YES NO...NA

13a. Were VOA vials received? YES NO...NA

b. Was there any observable headspace present in any VOA vial? YES NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # NA

I certify that I unloaded the cooler and answered questions 7-14 (initial) EJA

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) EJA

17. Were custody papers properly filled out (ink, signed, etc)? YES NO...NA

18. Did you sign the custody papers in the appropriate place? YES NO...NA

19. Were correct containers used for the analysis requested? YES NO...NA

20. Was sufficient amount of sample sent in each container? YES NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) EJA

I certify that I attached a label with the unique LIMS number to each container (initial) EJA

21. Were there Non-Conformance issues at login? YES NO Was a NCM generated? YES...NO...# _____

Login Sample Receipt Checklist

Client: Stantec Consulting Corp.

Job Number: 490-125341-1

Login Number: 125341

List Source: TestAmerica Nashville

List Number: 1

Creator: Abernathy, Eric

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Nashville

2960 Foster Creighton Drive

Nashville, TN 37204

Tel: (615)726-0177

TestAmerica Job ID: 490-126507-1

Client Project/Site: 22561-2Q17 - WA

Revision: 1

For:

Stantec Consulting Corp.

11130 NE 33rd Place

Suite 200

Bellevue, Washington 98004-1465

Attn: Paul Fairbairn



Authorized for release by:

5/8/2017 3:15:08 PM

Heather Wagner, Project Manager I

(615)301-5763

heather.wagner@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Sample Summary

Client: Stantec Consulting Corp.
Project/Site: 22561-2Q17 - WA

TestAmerica Job ID: 490-126507-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-126507-1	MW-4	Water	04/14/17 10:45	04/18/17 09:08

Case Narrative

Client: Stantec Consulting Corp.
Project/Site: 22561-2Q17 - WA

TestAmerica Job ID: 490-126507-1

Job ID: 490-126507-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-126507-1

Comments

REVISED REPORT: Revised to include results from method 200.8 lead analysis on sample MW-4 (490-126507-1) per client request. This report replaces the report issued 4/25/17.

Receipt

The sample was received on 4/18/2017 9:08 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.8° C.

GC/MS VOA

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

GC/MS Semi VOA

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

GC VOA

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

GC Semi VOA

Method(s) 8011: The %RPD between the primary and confirmation column exceeded 40% for 1,3-Dichlorobenzene for the following samples: MW-4 (490-126507-1), (LCS 490-423423/3-A), (LCSD 490-423423/4-A) and (MB 490-423423/2-A). The lower value(s) has been reported and qualified in accordance with the laboratory's SOP.

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

Metals

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

Organic Prep

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

VOA Prep

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

Definitions/Glossary

Client: Stantec Consulting Corp.
Project/Site: 22561-2Q17 - WA

TestAmerica Job ID: 490-126507-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

Glossary

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

Client Sample Results

Client: Stantec Consulting Corp.
Project/Site: 22561-2Q17 - WA

TestAmerica Job ID: 490-126507-1

Client Sample ID: MW-4
Date Collected: 04/14/17 10:45
Date Received: 04/18/17 09:08

Lab Sample ID: 490-126507-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			04/18/17 20:54	1
Toluene	ND		1.00		ug/L			04/18/17 20:54	1
Ethylbenzene	1.02		1.00		ug/L			04/18/17 20:54	1
Xylenes, Total	ND		3.00		ug/L			04/18/17 20:54	1
Methyl tert-butyl ether	ND		1.00		ug/L			04/18/17 20:54	1
1,2-Dichloroethane	ND		1.00		ug/L			04/18/17 20:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 130		04/18/17 20:54	1
4-Bromofluorobenzene (Surr)	106		70 - 130		04/18/17 20:54	1
Dibromofluoromethane (Surr)	95		70 - 130		04/18/17 20:54	1
Toluene-d8 (Surr)	99		70 - 130		04/18/17 20:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0952		ug/L		04/19/17 08:02	04/20/17 13:27	1
2-Methylnaphthalene	ND		0.0952		ug/L		04/19/17 08:02	04/20/17 13:27	1
1-Methylnaphthalene	ND		0.0952		ug/L		04/19/17 08:02	04/20/17 13:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	49		29 - 120	04/19/17 08:02	04/20/17 13:27	1
Nitrobenzene-d5	55		27 - 120	04/19/17 08:02	04/20/17 13:27	1
Terphenyl-d14	64		13 - 120	04/19/17 08:02	04/20/17 13:27	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			04/20/17 21:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	120		50 - 150		04/20/17 21:26	1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0409	0.0123	ug/L		04/19/17 15:27	04/19/17 19:01	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	71	p	50 - 150	04/19/17 15:27	04/19/17 19:01	2

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	18.1		2.00		ug/L		04/18/17 16:56	04/20/17 06:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	5.54		2.00	0.100	ug/L		05/04/17 14:18	05/06/17 01:05	1

TestAmerica Nashville

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: 22561-2Q17 - WA

TestAmerica Job ID: 490-126507-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 490-422992/6

Matrix: Water

Analysis Batch: 422992

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			04/18/17 12:44	1
Toluene	ND		1.00		ug/L			04/18/17 12:44	1
Ethylbenzene	ND		1.00		ug/L			04/18/17 12:44	1
Xylenes, Total	ND		3.00		ug/L			04/18/17 12:44	1
Methyl tert-butyl ether	ND		1.00		ug/L			04/18/17 12:44	1
1,2-Dichloroethane	ND		1.00		ug/L			04/18/17 12:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 130		04/18/17 12:44	1
4-Bromofluorobenzene (Surr)	107		70 - 130		04/18/17 12:44	1
Dibromofluoromethane (Surr)	99		70 - 130		04/18/17 12:44	1
Toluene-d8 (Surr)	70		70 - 130		04/18/17 12:44	1

Lab Sample ID: LCS 490-422992/4

Matrix: Water

Analysis Batch: 422992

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	20.0	20.39		ug/L		102	80 - 121
Toluene	20.0	16.69		ug/L		83	80 - 126
Ethylbenzene	20.0	20.30		ug/L		101	80 - 130
Xylenes, Total	40.0	41.25		ug/L		103	80 - 132
Methyl tert-butyl ether	20.0	15.10		ug/L		76	72 - 133
1,2-Dichloroethane	20.0	20.37		ug/L		102	77 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	103		70 - 130
Dibromofluoromethane (Surr)	91		70 - 130
Toluene-d8 (Surr)	85		70 - 130

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

Lab Sample ID: MB 490-423213/1-A

Matrix: Water

Analysis Batch: 423482

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423213

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.100	0.0200	ug/L		04/19/17 08:02	04/19/17 20:08	1
2-Methylnaphthalene	ND		0.100	0.0300	ug/L		04/19/17 08:02	04/19/17 20:08	1
1-Methylnaphthalene	ND		0.100	0.0200	ug/L		04/19/17 08:02	04/19/17 20:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	45		29 - 120	04/19/17 08:02	04/19/17 20:08	1
Nitrobenzene-d5	83		27 - 120	04/19/17 08:02	04/19/17 20:08	1
Terphenyl-d14	70		13 - 120	04/19/17 08:02	04/19/17 20:08	1

TestAmerica Nashville

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: 22561-2Q17 - WA

TestAmerica Job ID: 490-126507-1

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

Lab Sample ID: LCS 490-423213/2-A

Matrix: Water

Analysis Batch: 423482

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 423213

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Naphthalene	1.00	0.5801		ug/L		58	37 - 120
2-Methylnaphthalene	1.00	0.6023		ug/L		60	31 - 120
1-Methylnaphthalene	1.00	0.6254		ug/L		63	36 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	45		29 - 120
Nitrobenzene-d5	63		27 - 120
Terphenyl-d14	67		13 - 120

Lab Sample ID: LCSD 490-423213/3-A

Matrix: Water

Analysis Batch: 423482

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 423213

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Naphthalene	1.00	0.6347		ug/L		63	37 - 120	9	37
2-Methylnaphthalene	1.00	0.6755		ug/L		68	31 - 120	11	35
1-Methylnaphthalene	1.00	0.7214		ug/L		72	36 - 120	14	36

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	47		29 - 120
Nitrobenzene-d5	61		27 - 120
Terphenyl-d14	71		13 - 120

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 490-423549/9

Matrix: Water

Analysis Batch: 423549

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C12	ND		100		ug/L			04/20/17 12:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	122		50 - 150		04/20/17 12:31	1

Lab Sample ID: LCS 490-423549/4

Matrix: Water

Analysis Batch: 423549

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
C6-C12	1000	1031		ug/L		103	39 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	116		50 - 150

TestAmerica Nashville

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: 22561-2Q17 - WA

TestAmerica Job ID: 490-126507-1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 490-423549/5

Matrix: Water

Analysis Batch: 423549

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C12	1000	991.6		ug/L		99	39 - 143	4	18
Surrogate	%Recovery	LCSD Qualifier	Limits						
a,a,a-Trifluorotoluene	115		50 - 150						

Lab Sample ID: 490-126507-1 DU

Matrix: Water

Analysis Batch: 423549

Client Sample ID: MW-4

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
C6-C12	ND		ND		ug/L		NC	18
Surrogate	%Recovery	DU Qualifier	Limits					
a,a,a-Trifluorotoluene	120		50 - 150					

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 490-423423/2-A

Matrix: Water

Analysis Batch: 423232

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423423

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0200	0.00600	ug/L		04/19/17 15:27	04/19/17 17:51	1
Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,3-Dichlorobenzene	125	p	50 - 150	04/19/17 15:27	04/19/17 17:51	1			

Lab Sample ID: LCS 490-423423/3-A

Matrix: Water

Analysis Batch: 423232

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 423423

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD
Ethylene Dibromide	0.286	0.3207		ug/L		112	70 - 130	
Surrogate	%Recovery	LCS Qualifier	Limits					
1,3-Dichlorobenzene	95	p	50 - 150					

Lab Sample ID: LCSD 490-423423/4-A

Matrix: Water

Analysis Batch: 423232

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 423423

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene Dibromide	0.286	0.3209		ug/L		112	70 - 130	0	50
Surrogate	%Recovery	LCSD Qualifier	Limits						
1,3-Dichlorobenzene	96	p	50 - 150						

TestAmerica Nashville

QC Sample Results

Client: Stantec Consulting Corp.
Project/Site: 22561-2Q17 - WA

TestAmerica Job ID: 490-126507-1

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 490-423135/1-A

Matrix: Water

Analysis Batch: 423563

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423135

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.00		ug/L		04/18/17 16:56	04/20/17 04:59	1

Lab Sample ID: LCS 490-423135/2-A

Matrix: Water

Analysis Batch: 423563

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 423135

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	100	94.60		ug/L		95	85 - 115

Lab Sample ID: LCSD 490-423135/3-A

Matrix: Water

Analysis Batch: 423563

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 423135

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	100	99.81		ug/L		100	85 - 115	5	20

Lab Sample ID: MB 490-427268/1-B

Matrix: Water

Analysis Batch: 427976

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 427516

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.00	0.100	ug/L		05/04/17 14:18	05/06/17 00:54	1

Lab Sample ID: LCS 490-427268/2-B

Matrix: Water

Analysis Batch: 427976

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Prep Batch: 427516

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	100	99.00		ug/L		99	85 - 115

Lab Sample ID: 490-126507-1 MS

Matrix: Water

Analysis Batch: 427976

Client Sample ID: MW-4

Prep Type: Dissolved

Prep Batch: 427516

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	5.54		100	107.9		ug/L		102	70 - 130

Lab Sample ID: 490-126507-1 MSD

Matrix: Water

Analysis Batch: 427976

Client Sample ID: MW-4

Prep Type: Dissolved

Prep Batch: 427516

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	5.54		100	109.6		ug/L		104	70 - 130	2	20

TestAmerica Nashville

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: 22561-2Q17 - WA

TestAmerica Job ID: 490-126507-1

GC/MS VOA

Analysis Batch: 422992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-126507-1	MW-4	Total/NA	Water	8260C	
MB 490-422992/6	Method Blank	Total/NA	Water	8260C	
LCS 490-422992/4	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 423213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-126507-1	MW-4	Total/NA	Water	3510C	
MB 490-423213/1-A	Method Blank	Total/NA	Water	3510C	
LCS 490-423213/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 490-423213/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 423482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-423213/1-A	Method Blank	Total/NA	Water	8270D SIM	423213
LCS 490-423213/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	423213
LCSD 490-423213/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	423213

Analysis Batch: 423525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-126507-1	MW-4	Total/NA	Water	8270D SIM	423213

GC VOA

Analysis Batch: 423549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-126507-1	MW-4	Total/NA	Water	NWTPH-Gx	
MB 490-423549/9	Method Blank	Total/NA	Water	NWTPH-Gx	
LCS 490-423549/4	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 490-423549/5	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
490-126507-1 DU	MW-4	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Analysis Batch: 423232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-126507-1	MW-4	Total/NA	Water	8011	423423
MB 490-423423/2-A	Method Blank	Total/NA	Water	8011	423423
LCS 490-423423/3-A	Lab Control Sample	Total/NA	Water	8011	423423
LCSD 490-423423/4-A	Lab Control Sample Dup	Total/NA	Water	8011	423423

Prep Batch: 423423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-126507-1	MW-4	Total/NA	Water	8011	
MB 490-423423/2-A	Method Blank	Total/NA	Water	8011	
LCS 490-423423/3-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 490-423423/4-A	Lab Control Sample Dup	Total/NA	Water	8011	

TestAmerica Nashville

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: 22561-2Q17 - WA

TestAmerica Job ID: 490-126507-1

Metals

Prep Batch: 423135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-126507-1	MW-4	Total/NA	Water	200.8	
MB 490-423135/1-A	Method Blank	Total/NA	Water	200.8	
LCS 490-423135/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 490-423135/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	

Analysis Batch: 423563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-126507-1	MW-4	Total/NA	Water	200.8	423135
MB 490-423135/1-A	Method Blank	Total/NA	Water	200.8	423135
LCS 490-423135/2-A	Lab Control Sample	Total/NA	Water	200.8	423135
LCSD 490-423135/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	423135

Filtration Batch: 427268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-126507-1	MW-4	Dissolved	Water	Filtration	
MB 490-427268/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 490-427268/2-B	Lab Control Sample	Dissolved	Water	Filtration	
490-126507-1 MS	MW-4	Dissolved	Water	Filtration	
490-126507-1 MSD	MW-4	Dissolved	Water	Filtration	

Prep Batch: 427516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-126507-1	MW-4	Dissolved	Water	200.8	427268
MB 490-427268/1-B	Method Blank	Dissolved	Water	200.8	427268
LCS 490-427268/2-B	Lab Control Sample	Dissolved	Water	200.8	427268
490-126507-1 MS	MW-4	Dissolved	Water	200.8	427268
490-126507-1 MSD	MW-4	Dissolved	Water	200.8	427268

Analysis Batch: 427976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-126507-1	MW-4	Dissolved	Water	200.8	427516
MB 490-427268/1-B	Method Blank	Dissolved	Water	200.8	427516
LCS 490-427268/2-B	Lab Control Sample	Dissolved	Water	200.8	427516
490-126507-1 MS	MW-4	Dissolved	Water	200.8	427516
490-126507-1 MSD	MW-4	Dissolved	Water	200.8	427516

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: 22561-2Q17 - WA

TestAmerica Job ID: 490-126507-1

Client Sample ID: MW-4

Date Collected: 04/14/17 10:45

Date Received: 04/18/17 09:08

Lab Sample ID: 490-126507-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	422992	04/18/17 20:54	AK1	TAL NSH
Total/NA	Prep	3510C			1050 mL	1 mL	423213	04/19/17 08:02	KB	TAL NSH
Total/NA	Analysis	8270D SIM		1			423525	04/20/17 13:27	WDS	TAL NSH
Total/NA	Analysis	NWTPH-Gx		1	5 mL	5 mL	423549	04/20/17 21:26	A1B	TAL NSH
Total/NA	Prep	8011			34.2 mL	2 mL	423423	04/19/17 15:27	MH	TAL NSH
Total/NA	Analysis	8011		2			423232	04/19/17 19:01	MH	TAL NSH
Dissolved	Filtration	Filtration			50 mL	50 mL	427268	05/03/17 17:48	JSF	TAL NSH
Dissolved	Prep	200.8			50 mL	50 mL	427516	05/04/17 14:18	JSF	TAL NSH
Dissolved	Analysis	200.8		1			427976	05/06/17 01:05	BLG	TAL NSH
Total/NA	Prep	200.8			50 mL	50 mL	423135	04/18/17 16:56	JSF	TAL NSH
Total/NA	Analysis	200.8		1			423563	04/20/17 06:16	BLG	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Stantec Consulting Corp.
Project/Site: 22561-2Q17 - WA

TestAmerica Job ID: 490-126507-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL NSH
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL NSH
NWTPH-Gx	Northwest - Volatile Petroleum Products (GC)	NWTPH	TAL NSH
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	TAL NSH
200.8	Metals (ICP/MS)	EPA	TAL NSH

Protocol References:

EPA = US Environmental Protection Agency

NWTPH = Northwest Total Petroleum Hydrocarbon

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

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: Stantec Consulting Corp.
Project/Site: 22561-2Q17 - WA

TestAmerica Job ID: 490-126507-1

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Washington	State Program	10	C789	07-19-17

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13



COOLER RECEIPT FORM

Cooler Received/Opened On 4-18-17 @ 0908

Time Samples Removed From Cooler 1052 Time Samples Placed In Storage 1107 (2 Hour Window)

1. Tracking # 8411 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 97310166 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 2.8 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES NO...NA

If yes, how many and where: one front

5. Were the seals intact, signed, and dated correctly? YES NO...NA

6. Were custody papers inside cooler? YES NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) DA

7. Were custody seals on containers: YES NO and Intact YES...NO NA

Were these signed and dated correctly? YES...NO NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES NO...NA

12. Did all container labels and tags agree with custody papers? YES NO...NA

13a. Were VOA vials received? YES NO...NA

b. Was there any observable headspace present in any VOA vial? YES NO...NA

14. Was there a Trip Blank in this cooler? YES NO...NA If multiple coolers, sequence # 1

I certify that I unloaded the cooler and answered questions 7-14 (initial) HG

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES NO...NA

16. Was residual chlorine present? YES...NO NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) HG

17. Were custody papers properly filled out (ink, signed, etc)? YES NO...NA

18. Did you sign the custody papers in the appropriate place? YES NO...NA

19. Were correct containers used for the analysis requested? YES NO...NA

20. Was sufficient amount of sample sent in each container? YES NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) HG

I certify that I attached a label with the unique LIMS number to each container (initial) HG

21. Were there Non-Conformance issues at login? YES NO Was a NCM generated? YES NO...#

Chain of Custody Record

Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Client Information

Client Contact: Paul Fairbairn
Company: Stantec Consulting Corp.
Address: 111 30 NE 33rd Place Suite 200
City: Bellevue
State, Zip: WA 98004-1465
Phone: 425-298-1000 (Tel)
Email: paul.fairbairn@stantec.com
Project Name: 22561-2Q17
Site: 22561-Avalon

Sampler: Greg McCormick
Phone: 425-922-6392

Lab PM: Wagner, Heather
Email: heather.wagner@testamericainc.com

Carrier Tracking No(s):

Page: 1 of 1
Job #: 22561

Due Date Requested:

Address: 111 30 NE 33rd Place Suite 200
City: Bellevue
State, Zip: WA 98004-1465
Phone: 425-298-1000 (Tel)
Email: paul.fairbairn@stantec.com
Project Name: 22561-2Q17
Site: 22561-Avalon

Due Date Requested: TAT Requested (days):
Standard

PO #: Purchase Order Requested
WO #:

Project #: 185703671
SSOW #:

Project Name: 22561-2Q17
Site: 22561-Avalon

Analysis Requested

Loc: 490
126507

- Preservation Codes:
- A - HCL
 - B - NaOH
 - C - Zn Acetate
 - D - Nitric Acid
 - E - NaHSO4
 - F - MeOH
 - G - Amchlor
 - H - Ascorbic Acid
 - I - Ice
 - J - DI Water
 - K - EDTA
 - L - EDTA
 - M - Hexane
 - N - None
 - O - AsNO2
 - P - Na2OAS
 - Q - Na2SO3
 - R - Na2S2O3
 - S - H2SO4
 - T - TSP Dodecylhydrate
 - U - Acetone
 - V - MCAA
 - W - pH 4.5
 - Z - other (specify)

Sample Identification

Sample Date

Sample Time

Sample Type (C=Comp, G=Grid)

Matrix (W=Water, S=solid, O=oil, B=brine, A=air)

Field Filtered Sample (Yes or No)

Perform MS/MSD (Yes or No)

Total Number of containers

MMW-4
4/14/17
1045
G
W

NWTPH-Gx
BTEX, EDC, MTBE (8260)
Total Lead (200.8)
Naphthalene, 1-Methyl Naphthalene, 2-Methyl Naphthalene (8270)
EDB (8011)

8

Special Instructions/Note:

Possible Hazard Identification

Non-Hazard ☐ Irritant ☐ Corrosive ☐ Flammable ☐ Other (specify)

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Return To Client ☐ Disposal By Lab ☐ Retain For _____ Months

Empty Kit Relinquished by: [Signature]

Date/Time: 4/17/17

Company: Stantec

Received by: [Signature]

Date/Time: 4/17/17

Company: TH-S&H

Date/Time: 4/18/17

Company: TH-S&H

Relinquished by: [Signature]

Date/Time: 4/17/17

Company: TH-S&H

Received by: [Signature]

Date/Time: 4/18/17

Company: TH-S&H

Date/Time: 4/18/17

Company: TH-S&H

Relinquished by: [Signature]

Date/Time: 4/17/17

Company: TH-S&H

Received by: [Signature]

Date/Time: 4/18/17

Company: TH-S&H

Date/Time: 4/18/17

Company: TH-S&H

Custody Seal Intact: ☐ Yes ☐ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Cooler Temperature(s) °C and Other Remarks:

Cooler Temperature(s) °C and Other Remarks:

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Login Sample Receipt Checklist

Client: Stantec Consulting Corp.

Job Number: 490-126507-1

Login Number: 126507

List Number: 1

Creator: Gundi, Hozar K

List Source: TestAmerica Nashville

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