

SEMI-ANNUAL GROUNDWATER MONITORING REPORT

First Half of 2016

ARCO Facility No. 5300

710 15th Avenue, Longview, WA

Antea[®] Group Project No. 05300EA161

February 15, 2017

Prepared for:

Atlantic Richfield Company

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La Palma, CA 90623

Prepared by:

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Atlantic Richfield Company

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ARCO Facility No.:	<u>5300</u>
Address:	<u>710 15th Avenue, Longview, WA</u>
Atlantic Richfield Project Manager:	<u>Chuck Carmel</u>
Consulting Co./Contact Person:	<u>Antea Group / Mackie Stock</u>
Consultant Project Number:	<u>05300EA161</u>
Primary Agency/Regulatory FS ID No.:	<u>Washington State Department of Ecology / 41995646</u>

WORK PERFORMED DURING FIRST HALF OF 2016:

- Antea®Group (Antea Group) conducted quarterly groundwater monitoring and sampling on February 3, and April 8, 2016.
- Antea Group installed 5 new wells including 1 monitoring well (MW-5) and 4 injection wells (IW-1 through IW-4) on March 28-29, 2016. Antea Group conducted a water injection test in the injections wells on March 30, 2016. Details of the well installations and injection test will be provided in a separate Pilot Study report.
- Antea Group prepared this Semi-Annual Groundwater Monitoring Report.

WORK SCHEDULED FOR SECOND HALF OF 2016:

- Antea Group will conduct quarterly groundwater monitoring and sampling.
- Antea Group will prepare a Semi-Annual Groundwater Monitoring Report.

Current Phase of Project:	Monitoring
Frequency of Groundwater Sampling and Monitoring:	Quarterly
Are LPH Present On-Site:	No
LPH Recovered this Reporting Period:	None
Cumulative LPH Recovered to Date:	None
Amount of Soil Removed to Date:	9.91 tons (Dispenser Upgrades – Antea Group, December 2010)

Current Remediation Techniques:	Natural Attenuation
Approximate Depth to Groundwater:	9.88 to 10.65 ft. (2/3/2016); 10.13 to 11.40 ft. (4/8/2016)
Groundwater Gradient:	West
	0.01 ft./linear ft.

The recommendations contained in this report represent Antea USA, Inc.'s professional opinions based upon the currently available information and are arrived at in accordance with currently accepted professional standards. This report is based upon a specific scope of work requested by the client. The contract between Antea USA, Inc. and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Antea USA, Inc.'s client and anyone else specifically identified in writing by Antea USA, Inc. as a user of this report. Antea USA, Inc. will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Antea USA, Inc. makes no express or implied warranty as to the contents of this report.

Sincerely,



Joseph Glover
Staff Professional

Date: February 15, 2017

Reviewed by:



Mackie Stock
Project Manager

Date: February 15, 2017

cc: Mr. Aaren Fiedler, Washington Department of Ecology, Southwest Regional Office
File, Antea Group

Enclosures

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Table 1	Groundwater Gauging Data
Table 2	Groundwater Analytical Data

TABLE 1
Groundwater Gauging Data
ARCO Facility 5300
710 15th Avenue
Longview, WA

Well I.D.	Date	GROUNDWATER ELEVATION DATA					
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	Qualifiers
MW-1	9/6/2012	99.90	11.57	NP	--	88.33	--
MW-1	12/14/2012	99.90	10.45	NP	--	89.45	--
MW-1	1/9/2013	99.90	10.42	NP	--	89.48	--
MW-1	5/29/2013	99.90	10.68	NP	--	89.22	--
MW-1	8/20/2013	99.90	11.45	NP	--	88.45	--
MW-1	11/13/2013	99.90	11.08	NP	--	88.82	--
MW-1	2/19/2014	99.90	10.54	NP	--	89.36	--
MW-1	4/23/2014	99.90	10.40	NP	--	89.50	--
MW-1	8/7/2014	99.90	11.28	NP	--	88.62	--
MW-1	11/19/2014	99.90	11.12	NP	--	88.78	--
MW-1	2/25/2015	99.90	10.72	NP	--	89.18	--
MW-1	8/11/2015	99.90	11.84	NP	--	88.06	--
MW-1	2/3/2016	99.90	10.10	NP	--	89.80	--
MW-1	4/8/2016	99.90	10.20	NP	--	89.70	--
MW-2	9/6/2012	99.72	11.43	NP	--	88.29	--
MW-2	12/14/2012	99.72	10.45	NP	--	89.27	--
MW-2	1/9/2013	99.72	10.38	NP	--	89.34	--
MW-2	5/29/2013	99.72	10.66	NP	--	89.06	--
MW-2	8/20/2013	99.72	11.35	NP	--	88.37	--
MW-2	11/13/2013	99.72	11.02	NP	--	88.70	--
MW-2	2/19/2014	99.72	10.49	NP	--	89.23	--
MW-2	4/23/2014	99.72	10.38	NP	--	89.34	--
MW-2	8/7/2014	99.72	11.22	NP	--	88.50	--
MW-2	11/19/2014	99.72	11.03	NP	--	88.69	--
MW-2	2/25/2015	99.72	10.72	NP	--	89.00	--
MW-2	8/11/2015	99.72	11.74	NP	--	87.98	--
MW-2	2/3/2016	99.72	9.88	NP	--	89.84	--
MW-2	4/8/2016	99.72	10.13	NP	--	89.59	--
MW-3	9/6/2012	99.68	11.63	NP	--	88.05	--
MW-3	12/14/2012	99.68	10.51	NP	--	89.17	--
MW-3	1/9/2013	99.68	10.45	NP	--	89.23	--
MW-3	5/29/2013	99.68	10.81	NP	--	88.87	--
MW-3	8/20/2013	99.68	11.55	NP	--	88.13	--
MW-3	11/13/2013	99.68	11.10	NP	--	88.58	--

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		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	Qualifiers
MW-3	2/19/2014	99.68	10.01	NP	--	89.67	--
MW-3	4/23/2014	99.68	10.47	NP	--	89.21	--
MW-3	8/7/2014	99.68	11.36	NP	--	88.32	--
MW-3	11/19/2014	99.68	11.10	NP	--	88.58	--
MW-3	2/25/2015	99.68	10.92	NP	--	88.76	--
MW-3	8/11/2015	99.68	11.94	NP	--	87.74	--
MW-3	2/3/2016	99.68	10.25	NP	--	89.43	--
MW-3	4/8/2016	99.68	10.44	NP	--	89.24	--
MW-4	9/6/2012	100.00	12.02	NP	--	87.98	--
MW-4	12/14/2012	100.00	11.03	NP	--	88.97	--
MW-4	1/9/2013	100.00	10.90	NP	--	89.10	--
MW-4	5/29/2013	100.00	11.28	NP	--	88.72	--
MW-4	8/20/2013	100.00	11.95	NP	--	88.05	--
MW-4	11/13/2013	100.00	11.69	NP	--	88.31	--
MW-4	2/19/2014	100.00	10.73	NP	--	89.27	--
MW-4	4/23/2014	100.00	11.14	NP	--	88.86	--
MW-4	8/7/2014	100.00	11.88	NP	--	88.12	--
MW-4	11/19/2014	100.00	11.71	NP	--	88.29	--
MW-4	2/25/2015	100.00	11.43	NP	--	88.57	--
MW-4	8/11/2015	100.00	12.25	NP	--	87.75	--
MW-4	2/3/2016	100.00	10.65	NP	--	89.35	--
MW-4	4/8/2016	100.00	10.78	NP	--	89.22	--
MW-5	4/8/2016	--	11.13	NP	--	--	--
MW-6	8/20/2013	99.76	11.63	NP	--	88.13	--
MW-6	11/13/2013	99.76	11.43	NP	--	88.33	--
MW-6	2/19/2014	99.76	10.51	NP	--	89.25	--
MW-6	4/23/2014	99.76	10.68	NP	--	89.08	--
MW-6	8/7/2014	99.76	11.60	NP	--	88.16	--
MW-6	11/19/2014	99.73	11.35	NP	--	88.38	--
MW-6	2/25/2015	99.73	11.04	NP	--	88.69	--
MW-6	8/11/2015	99.73	12.00	NP	--	87.73	--
MW-6	2/3/2016	99.73	10.13	NP	--	89.60	--
MW-6	4/8/2016	99.73	10.40	NP	--	89.33	--

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Well I.D.	Date	GROUNDWATER ELEVATION DATA					
		TOC Elevation (ft)	Water Level Depth (ft)	LNAPL Depth (ft)	LNAPL Thickness (ft)	Water Level Elevation* (ft)	Qualifiers
MW-7	8/20/2013	100.27	12.40	NP	--	87.87	--
MW-7	11/13/2013	100.27	12.09	NP	--	88.18	--
MW-7	2/19/2014	100.27	10.91	NP	--	89.36	--
MW-7	4/23/2014	100.27	11.52	NP	--	88.75	--
MW-7	8/7/2014	100.27	12.35	NP	--	87.92	--
MW-7	11/19/2014	100.27	12.09	NP	--	88.18	--
MW-7	2/25/2015	100.27	11.83	NP	--	88.44	--
MW-7	8/11/2015	100.27	12.75	NP	--	87.52	--
MW-7	2/3/2016	100.27	11.00	NP	--	89.27	--
MW-7	4/8/2016	100.27	11.40	NP	--	88.87	--
MW-8	8/20/2013	100.00	12.04	NP	--	87.96	--
MW-8	11/13/2013	100.00	12.73	NP	--	87.27	--
MW-8	2/19/2014	100.00	10.29	NP	--	89.71	--
MW-8	4/23/2014	100.00	11.14	NP	--	88.86	--
MW-8	8/7/2014	100.00	11.94	NP	--	88.06	--
MW-8	11/19/2014	100.00	11.70	NP	--	88.30	--
MW-8	2/25/2015	100.00	11.50	NP	--	88.50	--
MW-8	8/11/2015	100.00	12.42	NP	--	87.58	--
MW-8	2/3/2016	100.00	10.65	NP	--	89.35	--
MW-8	4/8/2016	100.00	11.04	NP	--	88.96	--

TABLE
Groundwater Gauging Data

Notes:

TOC - Top of Casing

ft - feet

NP - No Product

LNAPL - Light Non-Aqueous Phase Liquid

* - Corrected for LNAPL if present (assumes LNAPL specific gravity = 0.75)

-- No Information Available

Table 2
Groundwater Analytical Data
 ARCO Facility 5300
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CONSTITUENT		B	T	E	X	MTBE	EDB	EDC	TPH-G	Lead (Total)	Lead (Dissolved)
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	*1000/800	15	NE
Well ID	Date										
MW-1	9/6/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	< 50.0	50.6	--
MW-1	12/14/2012	< 1.0	< 1.0	< 1.0	< 3.0	--	< 0.01	< 1.0	< 100	< 3.0	--
MW-1	1/9/2013	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 1.0	< 1.0	< 80	11	--
MW-1	5/29/2013	< 0.50	< 0.50	< 0.50	< 1.00	< 0.50	< 0.0096	< 0.50	< 50	< 10	--
MW-1	8/20/2013	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 0.0096	< 0.50	< 50	< 10	< 10
MW-1	11/13/2013	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-1	2/19/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-1	4/23/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-1	8/7/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	< 50	8.1	< 2.0
MW-1	11/19/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-1	2/25/2015	< 2.0*	< 2.0*	< 3.0*	< 3.0	< 1.0	--	--	< 100	< 2.0	< 2.0
MW-1	8/11/2015	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	190	< 2.0	< 2.0
MW-1	2/3/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0*	--	--	< 50*	< 2.0	< 2.0
MW-1	4/8/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	< 2.0	< 2.0
MW-2	9/6/2012	< 1.0	< 1.0	< 1.0	< 3.0	2.6	< 0.010	< 1.0	< 50.0	15.8	--
MW-2	12/14/2012	< 1.0	< 1.0	< 1.0	< 3.0	--	< 0.01	< 1.0	< 100	< 3.0	--
MW-2	1/9/2013	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 1.0	< 1.0	< 80	< 1.0	--
MW-2	5/29/2013	< 0.50	< 0.50	< 0.50	< 1.00	0.66	< 0.0098	< 0.50	< 50	13.0	--
MW-2	8/20/2013	< 0.50	< 0.50	< 0.50	< 1.0	0.70	< 0.0097	< 0.50	< 50	< 10	< 10
MW-2	11/13/2013	< 1.0	2.8	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	< 50	7.8	< 2.0
MW-2	2/19/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-2	4/23/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-2	8/7/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-2	11/19/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-2	2/25/2015	< 2.0*	< 2.0*	< 3.0*	< 3.0	< 1.0	--	--	< 100	< 2.0	< 2.0
MW-2	8/11/2015	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	65	< 2.0	< 2.0
MW-2	2/3/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0*	--	--	< 50*	< 2.0	< 2.0
MW-2	4/8/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	< 50	< 2.0	< 2.0
MW-3	9/6/2012	< 1.0	< 1.0	< 1.0	< 3.0	16.9	< 0.010	< 1.0	< 50.0	< 10.0	--
MW-3	12/14/2012	< 1.0	< 1.0	< 1.0	< 3.0	--	< 0.01	< 1.0	< 100	11.1	--
MW-3	1/9/2013	< 1.0	< 1.0	< 1.0	< 3.0	17	< 1.0	< 1.0	< 80	< 1.0	--
MW-3	5/29/2013	< 0.50	< 0.50	< 0.50	< 1.00	14	< 0.0097	< 0.50	< 50	10.7	--
MW-3	8/20/2013	< 0.50	< 0.50	< 0.50	< 1.0	7.9	< 0.0097	< 0.50	< 50	< 10	< 10
MW-3	11/13/2013	< 1.0	2.3	< 1.0	< 3.0	17	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-3	2/19/2014	< 1.0	< 1.0	< 1.0	< 3.0	11	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-3	4/23/2014	< 1.0	< 1.0	< 1.0	< 3.0	14	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-3	8/7/2014	< 1.0	< 1.0	< 1.0	< 3.0	25	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-3	11/19/2014	< 1.0	< 1.0	< 1.0	< 3.0	11	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-3	2/25/2015	< 2.0*	< 2.0*	< 3.0*	< 3.0	8.1	--	--	< 100	< 2.0	< 2.0
MW-3	8/11/2015	< 2.0	< 2.0	< 3.0	< 3.0	3.8	--	--	54	< 2.0	< 2.0
MW-3	2/3/2016	< 2.0	< 2.0	< 3.0	< 3.0	4.8 H	--	--	< 50*	< 2.0	< 2.0

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CONSTITUENT		B	T	E	X	MTBE	EDB	EDC	TPH-G	Lead (Total)	Lead (Dissolved)
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	*1000/800	15	NE
MW-3	4/8/2016	< 2.0	< 2.0	< 3.0	< 3.0	7.9	--	--	< 50	< 2.0	< 2.0
MW-4	9/6/2012	6.1	< 1.0	290	116	3.6	< 0.010	< 1.0	10200	< 10.0	--
MW-4	12/14/2012	4.8	< 1.0	208	50.7	--	< 0.01	< 1.0	3230	15.8	--
MW-4	1/9/2013	< 5.0	< 5.0	250	56	< 5.0	< 5.0	< 5.0	4500	6.1	--
MW-4	5/29/2013	2.1	< 0.50	220	48.8	2.6	< 0.0095	< 0.50	4500	14.7	--
MW-4	8/20/2013	1.6	< 0.50	240	47	< 2.4	< 0.0098	< 0.50	4500	< 10	< 10
MW-4	11/13/2013	1.7	1.9	270	43	1.1	< 0.010	< 1.0	7100	8.9	8.2
MW-4	2/19/2014	1.1	< 1.0	180	26	2.0	< 0.010	< 1.0	5400	5.6	5.7
MW-4	4/23/2014	< 1.0	< 1.0	130	17	< 1.0	< 0.010	< 1.0	5800	8.6	6.1
MW-4	8/7/2014	< 1.0	< 1.0	170	15	< 1.0	< 0.010	< 1.0	5700	6.6	6.0
MW-4	11/19/2014	< 1.0	< 1.0	< 1.0	7.6	< 1.0	< 0.010	< 1.0	4900	9.0	6.9
MW-4	2/25/2015	< 2.0*	< 2.0*	130	5.5	< 1.0	--	--	< 100	6.1	5.3
MW-4	8/11/2015	< 2.0	< 2.0	46	< 3.0	< 1.0	--	--	3700	5.7	5.6
MW-4	2/3/2016	< 2.0	< 2.0	53	< 3.0	< 1.0*	--	--	3300 *	5.8	5.5
MW-4	4/8/2016	< 2.0	< 2.0	54	< 3.0	< 1.0	--	--	1900	5.8	5.3
MW-5	4/8/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	270	< 2.0	< 2.0
MW-6	8/20/2013	< 0.50	< 0.50	1.9	< 1.0	4.9	< 0.0097	< 0.50	650	< 10	< 10
MW-6	11/13/2013	< 1.0	1.4	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	400	2.1	< 2.0
MW-6	2/19/2014	< 1.0	< 1.0	1.4	< 3.0	1.6	< 0.010	< 1.0	300	< 2.0	< 2.0
MW-6	4/23/2014	< 1.0	< 1.0	1.0	< 3.0	< 1.0	< 0.010	< 1.0	830	3.4	< 2.0
MW-6	8/7/2014	< 1.0	< 1.0	3.0	< 3.0	< 1.0	< 0.010	< 1.0	570	< 2.0	< 2.0
MW-6	11/19/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	220	< 2.0	< 2.0
MW-6	2/25/2015	< 2.0*	< 2.0*	< 3.0*	< 3.0	< 1.0	--	--	370	< 2.0	< 2.0
MW-6	8/11/2015	< 2.0	< 2.0	< 3.0	< 3.0	2.2	--	--	88	< 2.0	< 2.0
MW-6	2/3/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0H	--	--	140 *	< 2.0	< 2.0
MW-6	4/8/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0	--	--	230	< 2.0	< 2.0
MW-7	8/20/2013	< 0.50	< 0.50	< 0.50	< 1.0	2.0	< 0.0096	< 0.50	< 50	< 10	< 10
MW-7	11/13/2013	< 1.0	1.2	< 1.0	< 3.0	2.2	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-7	2/19/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-7	4/23/2014	< 1.0	< 1.0	< 1.0	< 3.0	2.2	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-7	8/7/2014	< 1.0	< 1.0	< 1.0	< 3.0	2.9	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-7	11/19/2014	< 1.0	< 1.0	< 1.0	< 3.0	3.2	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-7	2/25/2015	< 2.0*	< 2.0*	< 3.0*	< 3.0	1.8	--	--	< 100	< 2.0	< 2.0
MW-7	8/11/2015	< 2.0	< 2.0	< 3.0	< 3.0	2.8	--	--	< 50	< 2.0	< 2.0
MW-7	2/3/2016	< 2.0	< 2.0	< 3.0	< 3.0	< 1.0*	--	--	< 50*	< 2.0	< 2.0
MW-7	4/8/2016	< 2.0	< 2.0	< 3.0	< 3.0	1.8	--	--	< 50	< 2.0	< 2.0
MW-8	8/20/2013	< 0.50	< 0.50	< 0.50	< 1.0	2.2	< 0.0097	< 0.50	< 50	< 10	< 10
MW-8	11/13/2013	< 1.0	1.0	< 1.0	< 3.0	2.3	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-8	2/19/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 1.0	< 0.010	< 1.0	< 50	< 2.0	< 2.0

Table 2
Groundwater Analytical Data
 ARCO Facility 5300
 710 15th Avenue
 Longview, WA

CONSTITUENT		B	T	E	X	MTBE	EDB	EDC	TPH-G	Lead (Total)	Lead (Dissolved)
UNIT		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA METHOD A CLEANUP LEVELS		5	1000	700	1000	20	0.01	5	*1000/800	15	NE
MW-8	4/23/2014	< 1.0	< 1.0	< 1.0	< 3.0	1.9	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-8	8/7/2014	< 1.0	< 1.0	< 1.0	< 3.0	1.8	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-8	11/19/2014	< 1.0	< 1.0	< 1.0	< 3.0	2.7	< 0.010	< 1.0	< 50	< 2.0	< 2.0
MW-8	2/25/2015	< 2.0*	< 2.0*	< 3.0*	< 3.0	3.0	--	--	< 100	< 2.0	< 2.0
MW-8	8/11/2015	< 2.0	< 2.0	< 3.0	< 3.0	4.6	--	--	200	< 2.0	< 2.0
MW-8	2/3/2016	< 2.0	< 2.0	< 3.0	< 3.0	9.5 *	--	--	< 50*	< 2.0	< 2.0
MW-8	4/8/2016	< 2.0	< 2.0	< 3.0	< 3.0	4.5	--	--	< 50	< 2.0	< 2.0

Notes:

B = Benzene

T = Toluene

E = Ethyl benzene

X = Xylenes, Total

MTBE = Methyl-tertiary-butyl ether

EDB = 1,2-Dibromo-ethane

EDC = 1,2-Dichloro-ethane

TPH-G = Total petroleum hydrocarbons as gasoline by Northwest Method NWTPH-Gx

TPH-D = Total petroleum hydrocarbons as diesel by Northwest Method NWTPH-Dx with silica gel cleanup

TPH-O = Total petroleum hydrocarbons as oil by Northwest Method NWTPH-Dx with silica gel cleanup

*1,000 ug/L if no detectable levels of Benzene in the sample - otherwise 800 ug/L

NE = Not evaluated

<1.0 = Concentrations were not detected above the laboratory method reporting limit.

ug/L = Micrograms per liter (ppb)

ND = Not detected

-- = No value given/Not analyzed/Not applicable

MTCA = Model Toxics Control Act

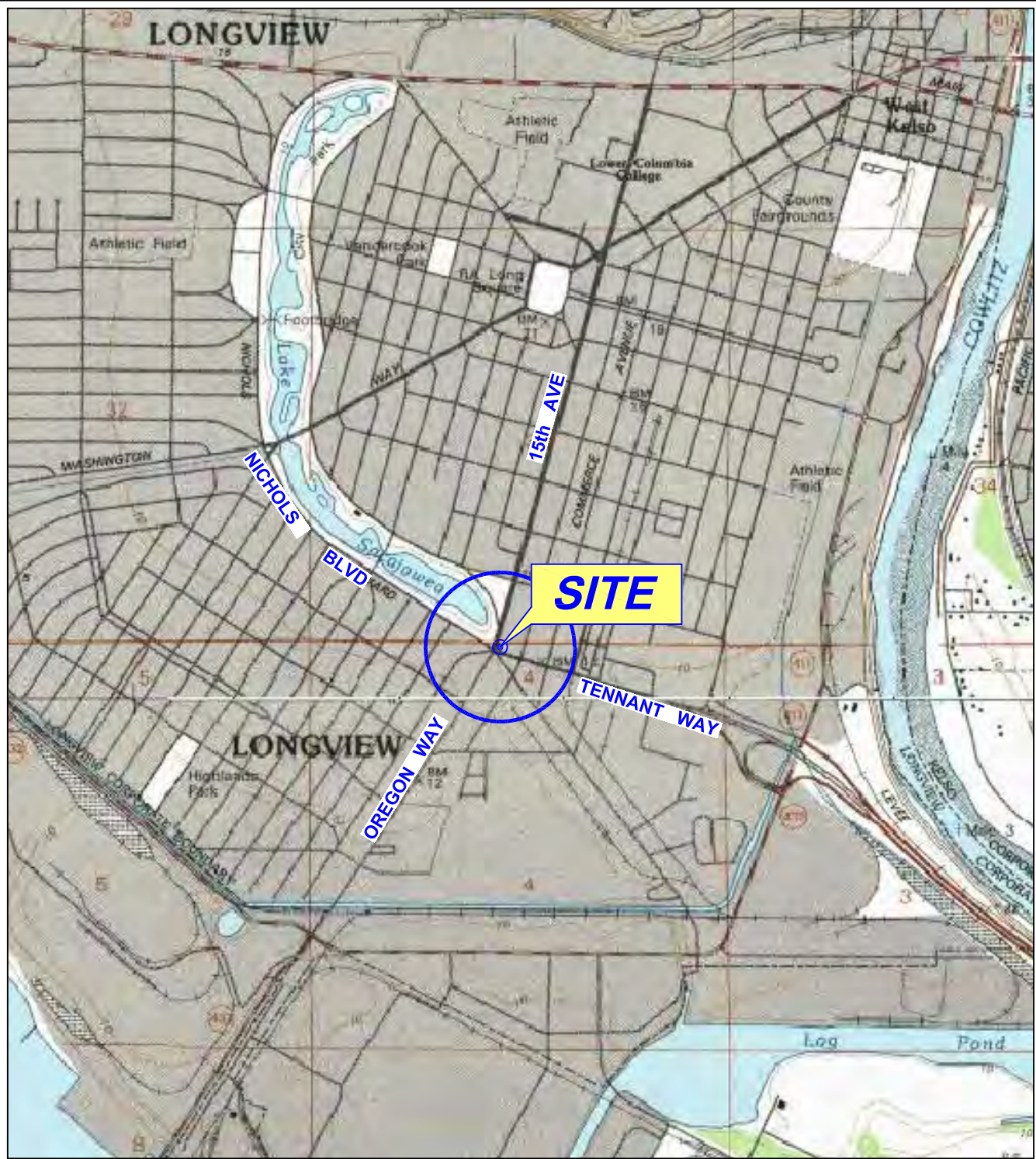
Results in **bold** indicate concentrations in excess of MTCA Method A Cleanup Levels

* = LCS or LCSD is outside acceptance limits

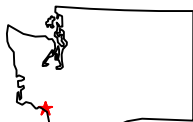
H = Sample was prepped or analyzed beyond the specified holding time

Figures

- | | |
|----------|---|
| Figure 1 | Site Location Map |
| Figure 2 | Site Aerial Map |
| Figure 3 | Groundwater Analytical and Elevation Contour Map – 2/3/2016 |
| Figure 4 | Groundwater Analytical and Elevation Contour Map – 4/8/2016 |



GENERAL NOTES:
 BASE MAP FROM TERRAIN NAVIGATOR PRO
 KELSO, WA. QUADRANGLE
 7.5 MINUTE TOPOGRAPHIC MAP
 1990



QUADRANGLE LOCATION

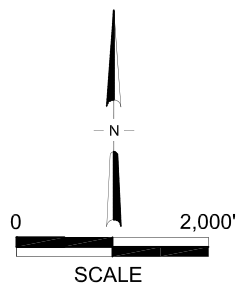


FIGURE 1
 SITE LOCATION MAP

ARCO FACILITY NO. 5300
 710 15th AVENUE
 LONGVIEW, WA.

PROJECT NO. 05300EA131	DRAWN BY K. MARTIN
FILE NO. 5300-SLM	PREPARED BY M. STOCK
DATE 04 JUN 13	REV. 0
	REVIEWED BY



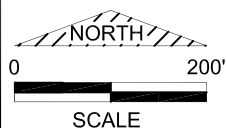
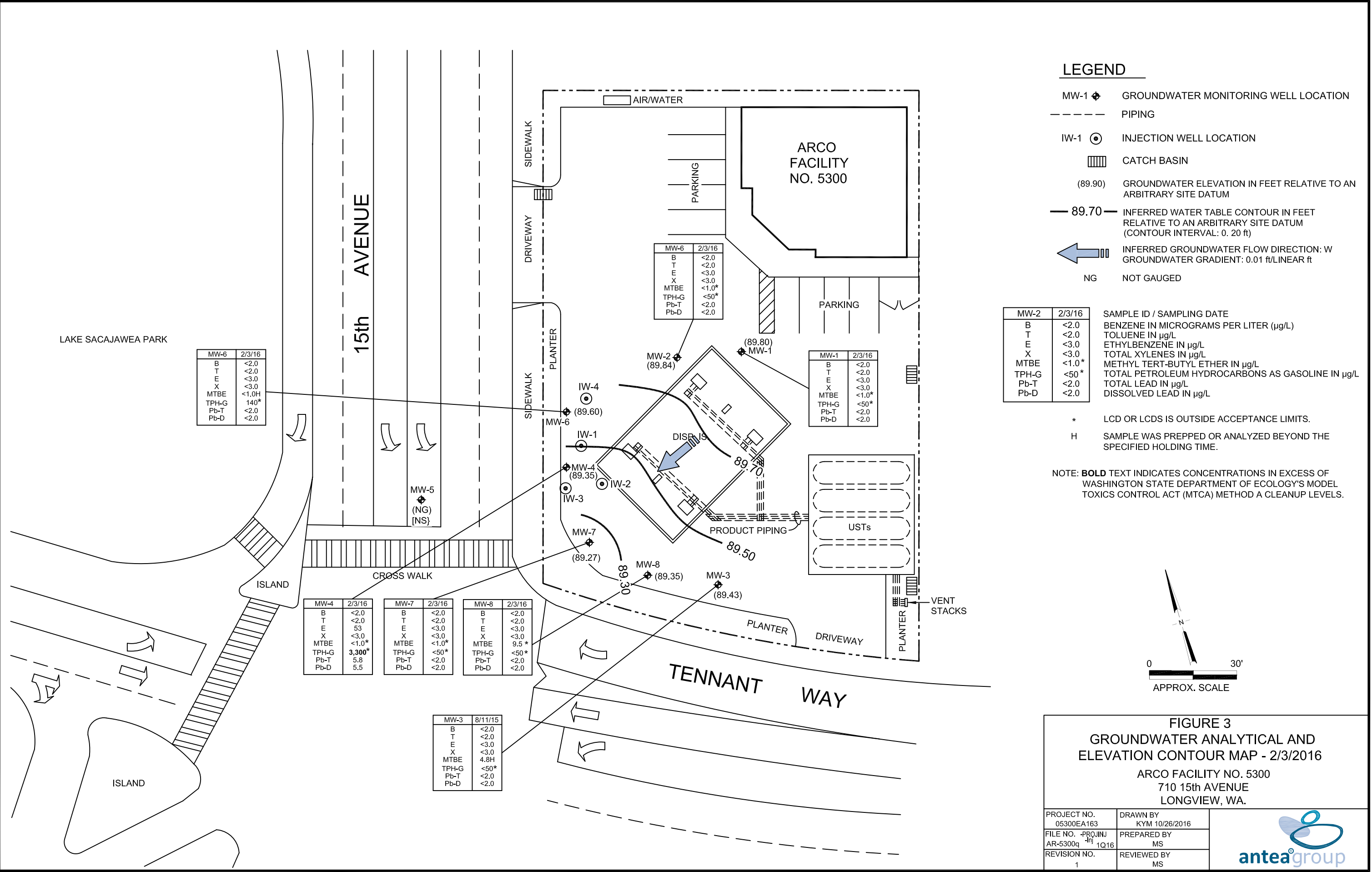
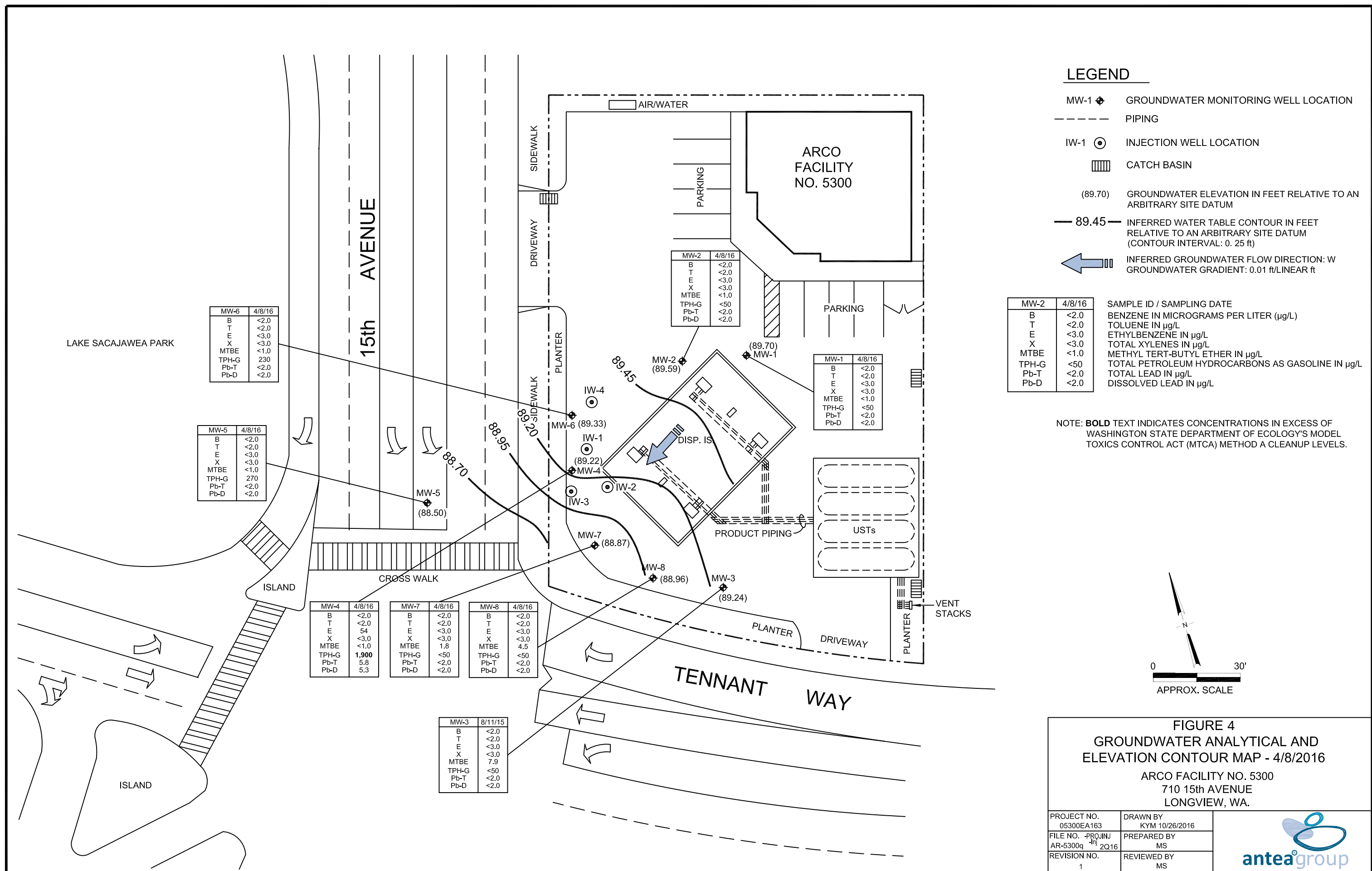


FIGURE 2
SITE AERIAL MAP
 ARCO FACILITY NO. 5300
 710 15th AVENUE
 LONGVIEW, WASHINGTON

PROJECT NO. 5300EA121	DRN KM
FILE NO. 5300G-Sam	PREPARED MS
DATE 04 JUN 13	REV. 0
	REVIEWED







Appendix A

Analytical Lab Reports and Chain-of-Custody Documentation

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle

5755 8th Street East

Tacoma, WA 98424

Tel: (253)922-2310

TestAmerica Job ID: 580-57169-1

Client Project/Site: ARCO 5300

For:

Antea USA, Inc.

4006 148th Ave NE

Redmond, Washington 98052

Attn: Mackie Stock



Authorized for release by:

2/25/2016 1:47:37 PM

Robert Greer, Project Manager II

(253)922-2310

robert.greer@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

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.

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

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPLAMP Technical Specifications, applicable federal, state, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPLAMP. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody is included and is an integral part of this report.



Robert Greer
Project Manager II
2/25/2016 1:47:37 PM

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Case Narrative

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Job ID: 580-57169-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-57169-1

Comments

No additional comments.

Receipt

The samples were received on 2/4/2016 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.4° C.

GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 580-211350 recovered above the upper control limit for o-Xylene and Methyl tert-butyl ether. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MW-1 (580-57169-1), MW-2 (580-57169-2), MW-3 (580-57169-3), MW-4 (580-57169-4), MW-6 (580-57169-5), MW-7 (580-57169-6), MW-8 (580-57169-7), Trip Blank (580-57169-8) and (CCVIS 580-211350/2).

Method(s) 8260C: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-211350 recovered outside control limits for the following analytes: Methyl tert-butyl ether. These analytes were biased high in the LCS and LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The laboratory control sample (LCS) for batch analytical batch 580-211441 recovered outside control limits for the following analyte: Methyl tert-butyl ether. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The surrogate recovery for the LCS associated with analytical batch 580-211441 was outside the upper control limits for Methyl tert-butyl ether. All associated sample surrogates fell within acceptance criteria; therefore, the data have been reported.

Method(s) 8260C: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 580-211441 recovered outside control limits for the following analyte: Methyl tert-butyl ether.

Method(s) 8260C: Reanalysis of the following samples for Methyl tert-butyl ether was performed outside of the analytical holding time due to failure of quality control parameters in the initial analysis. MW-3 (580-57169-3) and MW-6 (580-57169-5). Results have been qualified and reported.

Method(s) NWTPH-Gx: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-211485 recovered outside control limits for the following analytes: Gasoline. These analytes were biased high in the LCS and LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method(s) NWTPH-Gx: The ICV passed the calibration, but subsequent batches had high failure in the LCS/LCSD. A new ICAL was run after determining that the primary gasoline standard used for this ICAL had a low recovery. All associated non detect sample was reported due to high bias in the LCS/LCSD.

Method(s) NWTPH-Gx: Reanalysis of the following samples was performed outside of the analytical holding time due to failure of quality control parameters in the initial analysis. MW-4 (580-57169-4) and MW-6 (580-57169-5). Results for primary and secondary run have been reported.

Method(s) NWTPH-Gx: The surrogate recovery of 4-Bromofluorobenzene surrogate recovery for the following sample was outside control limits: MW-4 (580-57169-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

Metals

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

Definitions/Glossary

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Qualifiers

GC/MS VOA

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

GC VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, 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: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Client Sample ID: MW-1
Date Collected: 02/03/16 09:35
Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.0		ug/L			02/16/16 12:55	1
Benzene	ND		2.0		ug/L			02/16/16 12:55	1
Toluene	ND		2.0		ug/L			02/16/16 12:55	1
Ethylbenzene	ND		3.0		ug/L			02/16/16 12:55	1
Xylenes, Total	ND		3.0		ug/L			02/16/16 12:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	119		80 - 127		02/16/16 12:55	1
Toluene-d8 (Surr)	105		75 - 125		02/16/16 12:55	1
1,2-Dichloroethane-d4 (Surr)	113		70 - 128		02/16/16 12:55	1
4-Bromofluorobenzene (Surr)	92		75 - 120		02/16/16 12:55	1
Dibromofluoromethane (Surr)	96		85 - 115		02/16/16 12:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND	*	50		ug/L			02/17/16 17:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150		02/17/16 17:55	1
Trifluorotoluene (Surr)	112		50 - 150		02/17/16 17:55	1

Method: 6020 - Dissolved Metals by ICP-MS - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		02/13/16 12:34	02/16/16 18:21	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		02/11/16 10:47	02/16/16 23:45	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Client Sample ID: MW-2
Date Collected: 02/03/16 10:15
Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.0		ug/L			02/16/16 13:23	1
Benzene	ND		2.0		ug/L			02/16/16 13:23	1
Toluene	ND		2.0		ug/L			02/16/16 13:23	1
Ethylbenzene	ND		3.0		ug/L			02/16/16 13:23	1
Xylenes, Total	ND		3.0		ug/L			02/16/16 13:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	105		80 - 127		02/16/16 13:23	1
Toluene-d8 (Surr)	101		75 - 125		02/16/16 13:23	1
1,2-Dichloroethane-d4 (Surr)	116		70 - 128		02/16/16 13:23	1
4-Bromofluorobenzene (Surr)	87		75 - 120		02/16/16 13:23	1
Dibromofluoromethane (Surr)	96		85 - 115		02/16/16 13:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND	*	50		ug/L			02/17/16 18:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150		02/17/16 18:27	1
Trifluorotoluene (Surr)	112		50 - 150		02/17/16 18:27	1

Method: 6020 - Dissolved Metals by ICP-MS - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		02/13/16 12:34	02/16/16 17:31	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		02/11/16 10:47	02/17/16 00:22	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Client Sample ID: MW-3
Date Collected: 02/03/16 12:50
Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			02/16/16 13:50	1
Toluene	ND		2.0		ug/L			02/16/16 13:50	1
Ethylbenzene	ND		3.0		ug/L			02/16/16 13:50	1
Xylenes, Total	ND		3.0		ug/L			02/16/16 13:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	101		80 - 127		02/16/16 13:50	1
Toluene-d8 (Surr)	106		75 - 125		02/16/16 13:50	1
1,2-Dichloroethane-d4 (Surr)	117		70 - 128		02/16/16 13:50	1
4-Bromofluorobenzene (Surr)	93		75 - 120		02/16/16 13:50	1
Dibromofluoromethane (Surr)	99		85 - 115		02/16/16 13:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	4.8	H	1.0		ug/L			02/23/16 19:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	96		80 - 127		02/23/16 19:11	1
Toluene-d8 (Surr)	102		75 - 125		02/23/16 19:11	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 128		02/23/16 19:11	1
4-Bromofluorobenzene (Surr)	91		75 - 120		02/23/16 19:11	1
Dibromofluoromethane (Surr)	92		85 - 115		02/23/16 19:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND	*	50		ug/L			02/17/16 19:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150		02/17/16 19:00	1
Trifluorotoluene (Surr)	111		50 - 150		02/17/16 19:00	1

Method: 6020 - Dissolved Metals by ICP-MS - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		02/13/16 12:34	02/16/16 17:26	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		02/11/16 10:47	02/17/16 00:27	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Client Sample ID: MW-4
Date Collected: 02/03/16 11:25
Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.0		ug/L			02/16/16 14:16	1
Benzene	ND		2.0		ug/L			02/16/16 14:16	1
Toluene	ND		2.0		ug/L			02/16/16 14:16	1
Ethylbenzene	53		3.0		ug/L			02/16/16 14:16	1
Xylenes, Total	ND		3.0		ug/L			02/16/16 14:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	88		80 - 127		02/16/16 14:16	1
Toluene-d8 (Surr)	105		75 - 125		02/16/16 14:16	1
1,2-Dichloroethane-d4 (Surr)	116		70 - 128		02/16/16 14:16	1
4-Bromofluorobenzene (Surr)	89		75 - 120		02/16/16 14:16	1
Dibromofluoromethane (Surr)	99		85 - 115		02/16/16 14:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	3300	*	50		ug/L			02/17/16 19:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	231	X	50 - 150		02/17/16 19:32	1
Trifluorotoluene (Surr)	117		50 - 150		02/17/16 19:32	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	2200	H	100		ug/L			02/22/16 22:35	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	154	X	50 - 150		02/22/16 22:35	2
Trifluorotoluene (Surr)	101		50 - 150		02/22/16 22:35	2

Method: 6020 - Dissolved Metals by ICP-MS - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	5.5		2.0		ug/L		02/13/16 12:34	02/16/16 17:44	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	5.8		2.0		ug/L		02/11/16 10:47	02/17/16 00:31	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Client Sample ID: MW-6
Date Collected: 02/03/16 10:50
Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			02/16/16 14:43	1
Toluene	ND		2.0		ug/L			02/16/16 14:43	1
Ethylbenzene	ND		3.0		ug/L			02/16/16 14:43	1
Xylenes, Total	ND		3.0		ug/L			02/16/16 14:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	99		80 - 127		02/16/16 14:43	1
Toluene-d8 (Surr)	106		75 - 125		02/16/16 14:43	1
1,2-Dichloroethane-d4 (Surr)	98		70 - 128		02/16/16 14:43	1
4-Bromofluorobenzene (Surr)	94		75 - 120		02/16/16 14:43	1
Dibromofluoromethane (Surr)	90		85 - 115		02/16/16 14:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	H	1.0		ug/L			02/23/16 19:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	97		80 - 127		02/23/16 19:38	1
Toluene-d8 (Surr)	106		75 - 125		02/23/16 19:38	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 128		02/23/16 19:38	1
4-Bromofluorobenzene (Surr)	91		75 - 120		02/23/16 19:38	1
Dibromofluoromethane (Surr)	96		85 - 115		02/23/16 19:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	140	*	50		ug/L			02/17/16 20:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		50 - 150		02/17/16 20:04	1
Trifluorotoluene (Surr)	110		50 - 150		02/17/16 20:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	54	H	50		ug/L			02/22/16 21:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150		02/22/16 21:31	1
Trifluorotoluene (Surr)	102		50 - 150		02/22/16 21:31	1

Method: 6020 - Dissolved Metals by ICP-MS - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		02/13/16 12:34	02/16/16 17:49	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		02/11/16 10:47	02/17/16 00:36	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Client Sample ID: MW-7
Date Collected: 02/03/16 11:50
Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			02/16/16 15:09	1
Toluene	ND		2.0		ug/L			02/16/16 15:09	1
Ethylbenzene	ND		3.0		ug/L			02/16/16 15:09	1
Xylenes, Total	ND		3.0		ug/L			02/16/16 15:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	103		80 - 127		02/16/16 15:09	1
Toluene-d8 (Surr)	106		75 - 125		02/16/16 15:09	1
1,2-Dichloroethane-d4 (Surr)	98		70 - 128		02/16/16 15:09	1
4-Bromofluorobenzene (Surr)	90		75 - 120		02/16/16 15:09	1
Dibromofluoromethane (Surr)	90		85 - 115		02/16/16 15:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.0		ug/L			02/17/16 12:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	103		80 - 127		02/17/16 12:59	1
Toluene-d8 (Surr)	100		75 - 125		02/17/16 12:59	1
1,2-Dichloroethane-d4 (Surr)	119		70 - 128		02/17/16 12:59	1
4-Bromofluorobenzene (Surr)	101		75 - 120		02/17/16 12:59	1
Dibromofluoromethane (Surr)	115		85 - 115		02/17/16 12:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND	*	50		ug/L			02/17/16 20:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150		02/17/16 20:36	1
Trifluorotoluene (Surr)	112		50 - 150		02/17/16 20:36	1

Method: 6020 - Dissolved Metals by ICP-MS - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		02/13/16 12:34	02/16/16 17:40	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		02/11/16 10:47	02/17/16 00:40	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Client Sample ID: MW-8
Date Collected: 02/03/16 12:20
Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			02/16/16 15:37	1
Toluene	ND		2.0		ug/L			02/16/16 15:37	1
Ethylbenzene	ND		3.0		ug/L			02/16/16 15:37	1
Xylenes, Total	ND		3.0		ug/L			02/16/16 15:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	102		80 - 127		02/16/16 15:37	1
Toluene-d8 (Surr)	107		75 - 125		02/16/16 15:37	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 128		02/16/16 15:37	1
4-Bromofluorobenzene (Surr)	90		75 - 120		02/16/16 15:37	1
Dibromofluoromethane (Surr)	91		85 - 115		02/16/16 15:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	9.5	*	1.0		ug/L			02/17/16 13:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	100		80 - 127		02/17/16 13:26	1
Toluene-d8 (Surr)	97		75 - 125		02/17/16 13:26	1
1,2-Dichloroethane-d4 (Surr)	115		70 - 128		02/17/16 13:26	1
4-Bromofluorobenzene (Surr)	100		75 - 120		02/17/16 13:26	1
Dibromofluoromethane (Surr)	105		85 - 115		02/17/16 13:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND	*	50		ug/L			02/17/16 21:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150		02/17/16 21:41	1
Trifluorotoluene (Surr)	109		50 - 150		02/17/16 21:41	1

Method: 6020 - Dissolved Metals by ICP-MS - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		02/13/16 12:34	02/16/16 17:35	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		02/11/16 10:47	02/17/16 00:45	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Client Sample ID: Trip Blank

Date Collected: 02/03/16 00:00

Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-8

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND	*	1.0		ug/L			02/16/16 11:34	1
Benzene	ND		2.0		ug/L			02/16/16 11:34	1
Toluene	ND		2.0		ug/L			02/16/16 11:34	1
Ethylbenzene	ND		3.0		ug/L			02/16/16 11:34	1
Xylenes, Total	ND		3.0		ug/L			02/16/16 11:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	102		80 - 127		02/16/16 11:34	1
Toluene-d8 (Surr)	105		75 - 125		02/16/16 11:34	1
1,2-Dichloroethane-d4 (Surr)	111		70 - 128		02/16/16 11:34	1
4-Bromofluorobenzene (Surr)	89		75 - 120		02/16/16 11:34	1
Dibromofluoromethane (Surr)	96		85 - 115		02/16/16 11:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND	*	50		ug/L			02/17/16 17:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150		02/17/16 17:23	1
Trifluorotoluene (Surr)	112		50 - 150		02/17/16 17:23	1

TestAmerica Seattle

QC Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

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

Lab Sample ID: MB 580-211350/4

Matrix: Water

Analysis Batch: 211350

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		1.0		ug/L			02/16/16 09:19	1
Benzene	ND		2.0		ug/L			02/16/16 09:19	1
Toluene	ND		2.0		ug/L			02/16/16 09:19	1
Ethylbenzene	ND		3.0		ug/L			02/16/16 09:19	1
Xylenes, Total	ND		3.0		ug/L			02/16/16 09:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	103		80 - 127		02/16/16 09:19	1
Toluene-d8 (Surr)	105		75 - 125		02/16/16 09:19	1
1,2-Dichloroethane-d4 (Surr)	112		70 - 128		02/16/16 09:19	1
4-Bromofluorobenzene (Surr)	90		75 - 120		02/16/16 09:19	1
Dibromofluoromethane (Surr)	95		85 - 115		02/16/16 09:19	1

Lab Sample ID: LCS 580-211350/5

Matrix: Water

Analysis Batch: 211350

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	5.01	6.48	*	ug/L		129	75 - 120
Benzene	5.02	4.66		ug/L		93	80 - 120
Toluene	5.00	5.12		ug/L		102	80 - 120
Ethylbenzene	5.02	5.47		ug/L		109	80 - 125
m-Xylene & p-Xylene	5.01	5.69		ug/L		113	80 - 130
o-Xylene	5.01	5.83		ug/L		117	80 - 120
Xylenes, Total	10.0	11.5		ug/L		115	80 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Trifluorotoluene (Surr)	96		80 - 127
Toluene-d8 (Surr)	105		75 - 125
1,2-Dichloroethane-d4 (Surr)	115		70 - 128
4-Bromofluorobenzene (Surr)	93		75 - 120
Dibromofluoromethane (Surr)	98		85 - 115

Lab Sample ID: LCSD 580-211350/6

Matrix: Water

Analysis Batch: 211350

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
Methyl tert-butyl ether	5.01	6.65	*	ug/L		133	75 - 120	3	20
Benzene	5.02	4.61		ug/L		92	80 - 120	1	20
Toluene	5.00	4.55		ug/L		91	80 - 120	12	20
Ethylbenzene	5.02	5.33		ug/L		106	80 - 125	3	20
m-Xylene & p-Xylene	5.01	5.65		ug/L		113	80 - 130	1	20
o-Xylene	5.01	5.69		ug/L		114	80 - 120	2	20
Xylenes, Total	10.0	11.3		ug/L		113	80 - 130	2	20

TestAmerica Seattle

QC Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

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

Lab Sample ID: LCSD 580-211350/6

Matrix: Water

Analysis Batch: 211350

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Trifluorotoluene (Surr)	86		80 - 127
Toluene-d8 (Surr)	92		75 - 125
1,2-Dichloroethane-d4 (Surr)	109		70 - 128
4-Bromofluorobenzene (Surr)	90		75 - 120
Dibromofluoromethane (Surr)	94		85 - 115

Lab Sample ID: MB 580-211441/4

Matrix: Water

Analysis Batch: 211441

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		1.0		ug/L			02/17/16 09:35	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	99		80 - 127					02/17/16 09:35	1
Toluene-d8 (Surr)	97		75 - 125					02/17/16 09:35	1
1,2-Dichloroethane-d4 (Surr)	116		70 - 128					02/17/16 09:35	1
4-Bromofluorobenzene (Surr)	103		75 - 120					02/17/16 09:35	1
Dibromofluoromethane (Surr)	112		85 - 115					02/17/16 09:35	1

Lab Sample ID: LCS 580-211441/5

Matrix: Water

Analysis Batch: 211441

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	5.01	6.51	*	ug/L		130	75 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Trifluorotoluene (Surr)	101		80 - 127				
Toluene-d8 (Surr)	97		75 - 125				
1,2-Dichloroethane-d4 (Surr)	124		70 - 128				
4-Bromofluorobenzene (Surr)	101		75 - 120				
Dibromofluoromethane (Surr)	130	X	85 - 115				

Lab Sample ID: LCSD 580-211441/6

Matrix: Water

Analysis Batch: 211441

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
Methyl tert-butyl ether	5.01	4.93	*	ug/L		98	75 - 120	28	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
Trifluorotoluene (Surr)	100		80 - 127						
Toluene-d8 (Surr)	82		75 - 125						
1,2-Dichloroethane-d4 (Surr)	99		70 - 128						
4-Bromofluorobenzene (Surr)	104		75 - 120						
Dibromofluoromethane (Surr)	105		85 - 115						

TestAmerica Seattle

QC Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Lab Sample ID: MB 580-211789/4

Matrix: Water

Analysis Batch: 211789

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		1.0		ug/L			02/23/16 10:07	1
Benzene	ND		2.0		ug/L			02/23/16 10:07	1
Toluene	ND		2.0		ug/L			02/23/16 10:07	1
Ethylbenzene	ND		3.0		ug/L			02/23/16 10:07	1
Xylenes, Total	ND		3.0		ug/L			02/23/16 10:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	98		80 - 127		02/23/16 10:07	1
Toluene-d8 (Surr)	104		75 - 125		02/23/16 10:07	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 128		02/23/16 10:07	1
4-Bromofluorobenzene (Surr)	91		75 - 120		02/23/16 10:07	1
Dibromofluoromethane (Surr)	94		85 - 115		02/23/16 10:07	1

Lab Sample ID: LCS 580-211789/5

Matrix: Water

Analysis Batch: 211789

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	5.01	5.86		ug/L		117	75 - 120
Benzene	5.02	4.62		ug/L		92	80 - 120
Toluene	5.00	5.09		ug/L		102	80 - 120
Ethylbenzene	5.02	5.22		ug/L		104	80 - 125
m-Xylene & p-Xylene	5.01	5.53		ug/L		110	80 - 130
o-Xylene	5.01	5.62		ug/L		112	80 - 120
Xylenes, Total	10.0	11.2		ug/L		111	80 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Trifluorotoluene (Surr)	94		80 - 127
Toluene-d8 (Surr)	104		75 - 125
1,2-Dichloroethane-d4 (Surr)	111		70 - 128
4-Bromofluorobenzene (Surr)	93		75 - 120
Dibromofluoromethane (Surr)	97		85 - 115

Lab Sample ID: LCSD 580-211789/6

Matrix: Water

Analysis Batch: 211789

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
Methyl tert-butyl ether	5.01	5.93		ug/L		118	75 - 120	1	20
Benzene	5.02	4.72		ug/L		94	80 - 120	2	20
Toluene	5.00	5.15		ug/L		103	80 - 120	1	20
Ethylbenzene	5.02	5.30		ug/L		106	80 - 125	2	20
m-Xylene & p-Xylene	5.01	5.55		ug/L		111	80 - 130	0	20
o-Xylene	5.01	5.59		ug/L		112	80 - 120	0	20
Xylenes, Total	10.0	11.1		ug/L		111	80 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Trifluorotoluene (Surr)	101		80 - 127
Toluene-d8 (Surr)	103		75 - 125

TestAmerica Seattle

QC Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

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

Lab Sample ID: LCSD 580-211789/6

Matrix: Water

Analysis Batch: 211789

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 128
4-Bromofluorobenzene (Surr)	90		75 - 120
Dibromofluoromethane (Surr)	97		85 - 115

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

Lab Sample ID: MB 580-211485/5

Matrix: Water

Analysis Batch: 211485

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		50		ug/L			02/17/16 15:42	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150					02/17/16 15:42	1
Trifluorotoluene (Surr)	111		50 - 150					02/17/16 15:42	1

Lab Sample ID: LCS 580-211485/6

Matrix: Water

Analysis Batch: 211485

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1170	1490	*	ug/L		128	79 - 110
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	105		50 - 150				
Trifluorotoluene (Surr)	115		50 - 150				

Lab Sample ID: LCSD 580-211485/7

Matrix: Water

Analysis Batch: 211485

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
Gasoline	1170	1500	*	ug/L		128	79 - 110	0	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	105		50 - 150						
Trifluorotoluene (Surr)	114		50 - 150						

Lab Sample ID: MB 580-211768/5

Matrix: Water

Analysis Batch: 211768

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		50		ug/L			02/22/16 12:57	1

TestAmerica Seattle

QC Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

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

Lab Sample ID: MB 580-211768/5

Matrix: Water

Analysis Batch: 211768

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150		02/22/16 12:57	1
Trifluorotoluene (Surr)	103		50 - 150		02/22/16 12:57	1

Lab Sample ID: LCS 580-211768/6

Matrix: Water

Analysis Batch: 211768

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1170	1110		ug/L		95	79 - 110
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	103		50 - 150				
Trifluorotoluene (Surr)	105		50 - 150				

Lab Sample ID: LCSD 580-211768/7

Matrix: Water

Analysis Batch: 211768

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
Gasoline	1170	1100		ug/L		94	79 - 110	1	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	104		50 - 150						
Trifluorotoluene (Surr)	104		50 - 150						

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-211106/20-A

Matrix: Water

Analysis Batch: 211423

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 211106

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.40		ug/L		02/11/16 10:47	02/16/16 23:27	1

Lab Sample ID: LCS 580-211106/21-A

Matrix: Water

Analysis Batch: 211423

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 211106

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1000	983		ug/L		98	80 - 120

Lab Sample ID: LCSD 580-211106/22-A

Matrix: Water

Analysis Batch: 211423

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 211106

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	1000	972		ug/L		97	80 - 120	1	20

TestAmerica Seattle

QC Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-57169-1 MS

Matrix: Water

Analysis Batch: 211423

Client Sample ID: MW-1
Prep Type: Total Recoverable
Prep Batch: 211106

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		1000	1060		ug/L		106	80 - 120

Lab Sample ID: 580-57169-1 MSD

Matrix: Water

Analysis Batch: 211423

Client Sample ID: MW-1
Prep Type: Total Recoverable
Prep Batch: 211106

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	ND		1000	1040		ug/L		104	80 - 120	2	20

Lab Sample ID: 580-57169-1 DU

Matrix: Water

Analysis Batch: 211423

Client Sample ID: MW-1
Prep Type: Total Recoverable
Prep Batch: 211106

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

Method: 6020 - Dissolved Metals by ICP-MS

Lab Sample ID: LCS 580-211245/12-A

Matrix: Water

Analysis Batch: 211423

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 211245

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1000	992		ug/L		99	80 - 120

Lab Sample ID: LCSD 580-211245/13-A

Matrix: Water

Analysis Batch: 211423

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 211245

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	1000	999		ug/L		100	80 - 120	1	20

Lab Sample ID: MB 580-211055/8-B

Matrix: Water

Analysis Batch: 211423

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 211245

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		2.0		ug/L		02/13/16 12:34	02/16/16 18:03	5

Lab Sample ID: 580-57169-1 MS

Matrix: Water

Analysis Batch: 211423

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 211245

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		1000	1020		ug/L		102	80 - 120

TestAmerica Seattle

QC Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Method: 6020 - Dissolved Metals by ICP-MS (Continued)

Lab Sample ID: 580-57169-1 MSD

Matrix: Water

Analysis Batch: 211423

Client Sample ID: MW-1

Prep Type: Dissolved

Prep Batch: 211245

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND		1000	1010		ug/L	-	101	80 - 120	0	20

Lab Sample ID: 580-57169-1 DU

Matrix: Water

Analysis Batch: 211423

Client Sample ID: MW-1

Prep Type: Dissolved

Prep Batch: 211245

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

Lab Chronicle

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Client Sample ID: MW-1

Date Collected: 02/03/16 09:35

Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	211350	02/16/16 12:55	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	211485	02/17/16 17:55	HDK	TAL SEA
Dissolved	Filtration	FILTRATION			211055	02/10/16 15:28	MKN	TAL SEA
Dissolved	Prep	3005A			211245	02/13/16 12:34	DCC	TAL SEA
Dissolved	Analysis	6020		5	211423	02/16/16 18:21	FCW	TAL SEA
Total Recoverable	Prep	3005A			211106	02/11/16 10:47	DCC	TAL SEA
Total Recoverable	Analysis	6020		5	211423	02/16/16 23:45	FCW	TAL SEA

Client Sample ID: MW-2

Date Collected: 02/03/16 10:15

Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	211350	02/16/16 13:23	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	211485	02/17/16 18:27	HDK	TAL SEA
Dissolved	Filtration	FILTRATION			211055	02/10/16 15:28	MKN	TAL SEA
Dissolved	Prep	3005A			211245	02/13/16 12:34	DCC	TAL SEA
Dissolved	Analysis	6020		5	211423	02/16/16 17:31	FCW	TAL SEA
Total Recoverable	Prep	3005A			211106	02/11/16 10:47	DCC	TAL SEA
Total Recoverable	Analysis	6020		5	211423	02/17/16 00:22	FCW	TAL SEA

Client Sample ID: MW-3

Date Collected: 02/03/16 12:50

Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	211350	02/16/16 13:50	TL1	TAL SEA
Total/NA	Analysis	8260C	RA	1	211789	02/23/16 19:11	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	211485	02/17/16 19:00	HDK	TAL SEA
Dissolved	Filtration	FILTRATION			211055	02/10/16 15:28	MKN	TAL SEA
Dissolved	Prep	3005A			211245	02/13/16 12:34	DCC	TAL SEA
Dissolved	Analysis	6020		5	211423	02/16/16 17:26	FCW	TAL SEA
Total Recoverable	Prep	3005A			211106	02/11/16 10:47	DCC	TAL SEA
Total Recoverable	Analysis	6020		5	211423	02/17/16 00:27	FCW	TAL SEA

Client Sample ID: MW-4

Date Collected: 02/03/16 11:25

Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	211350	02/16/16 14:16	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	211485	02/17/16 19:32	HDK	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Client Sample ID: MW-4

Date Collected: 02/03/16 11:25

Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	NWTPH-Gx	RA	2	211768	02/22/16 22:35	HDK	TAL SEA
Dissolved	Filtration	FILTRATION			211055	02/10/16 15:28	MKN	TAL SEA
Dissolved	Prep	3005A			211245	02/13/16 12:34	DCC	TAL SEA
Dissolved	Analysis	6020		5	211423	02/16/16 17:44	FCW	TAL SEA
Total Recoverable	Prep	3005A			211106	02/11/16 10:47	DCC	TAL SEA
Total Recoverable	Analysis	6020		5	211423	02/17/16 00:31	FCW	TAL SEA

Client Sample ID: MW-6

Date Collected: 02/03/16 10:50

Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	211350	02/16/16 14:43	TL1	TAL SEA
Total/NA	Analysis	8260C	RA	1	211789	02/23/16 19:38	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	211485	02/17/16 20:04	HDK	TAL SEA
Total/NA	Analysis	NWTPH-Gx	RA	1	211768	02/22/16 21:31	HDK	TAL SEA
Dissolved	Filtration	FILTRATION			211055	02/10/16 15:28	MKN	TAL SEA
Dissolved	Prep	3005A			211245	02/13/16 12:34	DCC	TAL SEA
Dissolved	Analysis	6020		5	211423	02/16/16 17:49	FCW	TAL SEA
Total Recoverable	Prep	3005A			211106	02/11/16 10:47	DCC	TAL SEA
Total Recoverable	Analysis	6020		5	211423	02/17/16 00:36	FCW	TAL SEA

Client Sample ID: MW-7

Date Collected: 02/03/16 11:50

Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	211350	02/16/16 15:09	TL1	TAL SEA
Total/NA	Analysis	8260C	RA	1	211441	02/17/16 12:59	D1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	211485	02/17/16 20:36	HDK	TAL SEA
Dissolved	Filtration	FILTRATION			211055	02/10/16 15:28	MKN	TAL SEA
Dissolved	Prep	3005A			211245	02/13/16 12:34	DCC	TAL SEA
Dissolved	Analysis	6020		5	211423	02/16/16 17:40	FCW	TAL SEA
Total Recoverable	Prep	3005A			211106	02/11/16 10:47	DCC	TAL SEA
Total Recoverable	Analysis	6020		5	211423	02/17/16 00:40	FCW	TAL SEA

Client Sample ID: MW-8

Date Collected: 02/03/16 12:20

Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	211350	02/16/16 15:37	TL1	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Client Sample ID: MW-8

Date Collected: 02/03/16 12:20

Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C	RA	1	211441	02/17/16 13:26	D1R	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	211485	02/17/16 21:41	HDK	TAL SEA
Dissolved	Filtration	FILTRATION			211055	02/10/16 15:28	MKN	TAL SEA
Dissolved	Prep	3005A			211245	02/13/16 12:34	DCC	TAL SEA
Dissolved	Analysis	6020		5	211423	02/16/16 17:35	FCW	TAL SEA
Total Recoverable	Prep	3005A			211106	02/11/16 10:47	DCC	TAL SEA
Total Recoverable	Analysis	6020		5	211423	02/17/16 00:45	FCW	TAL SEA

Client Sample ID: Trip Blank

Date Collected: 02/03/16 00:00

Date Received: 02/04/16 09:45

Lab Sample ID: 580-57169-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	211350	02/16/16 11:34	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	211485	02/17/16 17:23	HDK	TAL SEA

Laboratory References:

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

Certification Summary

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Laboratory: TestAmerica Seattle

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-16
California	State Program	9	2901	01-31-18
L-A-B	DoD ELAP		L2236	01-19-19
L-A-B	ISO/IEC 17025		L2236	01-19-19
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-16
US Fish & Wildlife	Federal		LE058448-0	02-28-16
USDA	Federal		P330-14-00126	04-08-17

Sample Summary

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-57169-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-57169-1	MW-1	Water	02/03/16 09:35	02/04/16 09:45
580-57169-2	MW-2	Water	02/03/16 10:15	02/04/16 09:45
580-57169-3	MW-3	Water	02/03/16 12:50	02/04/16 09:45
580-57169-4	MW-4	Water	02/03/16 11:25	02/04/16 09:45
580-57169-5	MW-6	Water	02/03/16 10:50	02/04/16 09:45
580-57169-6	MW-7	Water	02/03/16 11:50	02/04/16 09:45
580-57169-7	MW-8	Water	02/03/16 12:20	02/04/16 09:45
580-57169-8	Trip Blank	Water	02/03/16 00:00	02/04/16 09:45

Laboratory Management Program LaMP Chain of Custody Record

Lab Name:	Test America, Inc.	BP/ARC Facility Address:	710 15th Avenue	Consultant/Contractor:	Antea Group
Lab Address:	5755 8th Street East, Tacoma, WA	City, State, ZIP Code:	Longview, WA	Consultant/Contractor Project No:	05300EA161
Lab PM:	Robert Greer	Lead Regulatory Agency:	Washington State Department of Ecology	Address:	4006 148th Ave NE, Redmond, WA 98052
Lab Phone:	(253) 922-2310	California Global ID No.:	NA	Consultant/Contractor PM:	Mackie Stock
Lab Shipping Acct:		Enfos Proposal No:	008JJ-0005 / WR297658	Phone:	425-498-7740
Lab Bottle Order No:		Accounting Mode:	Provision ☒ OOC-BU ☐ OOC-RM ☐	Email EDD To:	mackie.stock@anteagroup.com
Other Info:		Stage:	40 Activity: 80	Invoice To:	BP/ARC ☒ Contractor ☐

BP/ARC EBM: Paul Supple		Matrix	No. Containers / Preservative	Requested Analyses	Report Type & QC Level
EBM Phone: (925) 275-3801					
EBM Email: Paul.Supple@bp.com					Full Data Package

[illegible]

Sampler's Name: <u>Nicky Tracy / Brad Jackson</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: <u>AMEA Group</u>	<u>Nicky Tracy / AMEA</u>	<u>2/3/16</u>		<u>Brad Jackson</u>	<u>2/4/16</u>	<u>0944</u>
Shipment Method: <u>FedEx</u>	Ship Date: <u>2/3/16</u>					
Shipment Tracking No:						
Special Instructions:						
THIS LINE - I AM USE ONLY: Custody Seals In Place: Yes / No Temp Blank: Yes / No Cooler Temp on Receipt:						
Submitted: Yes / No						

Submitted: Yes / No
 CAMP COC Rev. 6 01/01/2009

Login Sample Receipt Checklist

Client: Antea USA, Inc.

Job Number: 580-57169-1

Login Number: 57169

List Number: 1

Creator: Presley, Kim A

List Source: TestAmerica Seattle

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

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle

5755 8th Street East

Tacoma, WA 98424

Tel: (253)922-2310

TestAmerica Job ID: 580-58728-1

Client Project/Site: ARCO 5300

For:

Antea USA, Inc.

4006 148th Ave NE

Redmond, Washington 98052

Attn: Mackie Stock



Authorized for release by:

4/22/2016 12:19:50 PM

Robert Greer, Project Manager II

(253)922-2310

robert.greer@testamericainc.com

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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.



The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPLAMP Technical Specifications, applicable federal, state, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPLAMP. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody is included and is an integral part of this report.

A handwritten signature in black ink, appearing to read 'Robert Greer', positioned above a horizontal blue line.

Robert Greer
Project Manager II
4/22/2016 12:19:50 PM

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Case Narrative

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Job ID: 580-58728-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-58728-1

Receipt

The samples were received on 4/13/2016 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.0° C.

Receipt Exceptions

The chain of custody lists the following analysis for sample MW-8: BTEX by 8260 and NWTPH-Gx. This sample was logged in for BTEX/MTBE by 8260, NWTPH-Gx and Total and Dissolved Pb. The COC did not list any analysis for the Trip Blank. This sample was logged in for BTEX by 8260 and NWTPH-Gx. Please contact your Project Manager if this is not correct.

GC/MS VOA

Method(s) NWTPH-Gx: Surrogate recovery for the following sample was outside control limits: MW-4 (580-58728-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

Metals

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

Definitions/Glossary

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Client Sample ID: MW-1
Date Collected: 04/08/16 13:00
Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			04/21/16 12:28	1
Toluene	ND		2.0		ug/L			04/21/16 12:28	1
Ethylbenzene	ND		3.0		ug/L			04/21/16 12:28	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/21/16 12:28	1
Xylenes, Total	ND		3.0		ug/L			04/21/16 12:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 120		04/21/16 12:28	1
4-Bromofluorobenzene (Surr)	104		75 - 120		04/21/16 12:28	1
Toluene-d8 (Surr)	100		85 - 120		04/21/16 12:28	1
Trifluorotoluene (Surr)	114		70 - 136		04/21/16 12:28	1
Dibromofluoromethane (Surr)	99		85 - 115		04/21/16 12:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			04/14/16 17:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150		04/14/16 17:41	1
Trifluorotoluene (Surr)	100		50 - 150		04/14/16 17:41	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/19/16 14:47	04/20/16 17:42	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/20/16 09:45	04/20/16 20:14	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Client Sample ID: MW-2
Date Collected: 04/08/16 13:30
Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			04/21/16 12:54	1
Toluene	ND		2.0		ug/L			04/21/16 12:54	1
Ethylbenzene	ND		3.0		ug/L			04/21/16 12:54	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/21/16 12:54	1
Xylenes, Total	ND		3.0		ug/L			04/21/16 12:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 120		04/21/16 12:54	1
4-Bromofluorobenzene (Surr)	105		75 - 120		04/21/16 12:54	1
Toluene-d8 (Surr)	104		85 - 120		04/21/16 12:54	1
Trifluorotoluene (Surr)	114		70 - 136		04/21/16 12:54	1
Dibromofluoromethane (Surr)	104		85 - 115		04/21/16 12:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			04/14/16 18:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150		04/14/16 18:14	1
Trifluorotoluene (Surr)	96		50 - 150		04/14/16 18:14	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/19/16 14:47	04/20/16 17:47	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/20/16 09:45	04/20/16 20:47	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Client Sample ID: MW-3
Date Collected: 04/08/16 09:30
Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			04/21/16 13:21	1
Toluene	ND		2.0		ug/L			04/21/16 13:21	1
Ethylbenzene	ND		3.0		ug/L			04/21/16 13:21	1
Methyl tert-butyl ether	7.9		1.0		ug/L			04/21/16 13:21	1
Xylenes, Total	ND		3.0		ug/L			04/21/16 13:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 120		04/21/16 13:21	1
4-Bromofluorobenzene (Surr)	104		75 - 120		04/21/16 13:21	1
Toluene-d8 (Surr)	100		85 - 120		04/21/16 13:21	1
Trifluorotoluene (Surr)	114		70 - 136		04/21/16 13:21	1
Dibromofluoromethane (Surr)	99		85 - 115		04/21/16 13:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			04/14/16 18:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150					04/14/16 18:46	1
Trifluorotoluene (Surr)	103		50 - 150					04/14/16 18:46	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/19/16 14:47	04/20/16 17:52	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/20/16 09:45	04/20/16 20:51	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Client Sample ID: MW-4
Date Collected: 04/08/16 11:55
Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			04/21/16 13:47	1
Toluene	ND		2.0		ug/L			04/21/16 13:47	1
Ethylbenzene	54		3.0		ug/L			04/21/16 13:47	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/21/16 13:47	1
Xylenes, Total	ND		3.0		ug/L			04/21/16 13:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 120		04/21/16 13:47	1
4-Bromofluorobenzene (Surr)	105		75 - 120		04/21/16 13:47	1
Toluene-d8 (Surr)	101		85 - 120		04/21/16 13:47	1
Trifluorotoluene (Surr)	117		70 - 136		04/21/16 13:47	1
Dibromofluoromethane (Surr)	106		85 - 115		04/21/16 13:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1.9		0.050		mg/L			04/14/16 19:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	224	X	50 - 150		04/14/16 19:18	1
Trifluorotoluene (Surr)	107		50 - 150		04/14/16 19:18	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0058		0.0020		mg/L		04/19/16 14:47	04/20/16 17:57	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0053		0.0020		mg/L		04/20/16 09:45	04/20/16 20:55	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Client Sample ID: MW-5
Date Collected: 04/08/16 09:00
Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			04/21/16 14:14	1
Toluene	ND		2.0		ug/L			04/21/16 14:14	1
Ethylbenzene	ND		3.0		ug/L			04/21/16 14:14	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/21/16 14:14	1
Xylenes, Total	ND		3.0		ug/L			04/21/16 14:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 120		04/21/16 14:14	1
4-Bromofluorobenzene (Surr)	104		75 - 120		04/21/16 14:14	1
Toluene-d8 (Surr)	99		85 - 120		04/21/16 14:14	1
Trifluorotoluene (Surr)	116		70 - 136		04/21/16 14:14	1
Dibromofluoromethane (Surr)	99		85 - 115		04/21/16 14:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	0.27		0.050		mg/L			04/14/16 19:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		50 - 150		04/14/16 19:51	1
Trifluorotoluene (Surr)	100		50 - 150		04/14/16 19:51	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/19/16 14:47	04/20/16 18:17	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/20/16 09:45	04/20/16 20:59	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Client Sample ID: MW-6
Date Collected: 04/08/16 12:35
Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			04/21/16 14:40	1
Toluene	ND		2.0		ug/L			04/21/16 14:40	1
Ethylbenzene	ND		3.0		ug/L			04/21/16 14:40	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/21/16 14:40	1
Xylenes, Total	ND		3.0		ug/L			04/21/16 14:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 120		04/21/16 14:40	1
4-Bromofluorobenzene (Surr)	104		75 - 120		04/21/16 14:40	1
Toluene-d8 (Surr)	102		85 - 120		04/21/16 14:40	1
Trifluorotoluene (Surr)	110		70 - 136		04/21/16 14:40	1
Dibromofluoromethane (Surr)	102		85 - 115		04/21/16 14:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	0.23		0.050		mg/L			04/14/16 20:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		50 - 150		04/14/16 20:23	1
Trifluorotoluene (Surr)	99		50 - 150		04/14/16 20:23	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/19/16 14:47	04/20/16 18:22	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/20/16 09:45	04/20/16 21:03	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Client Sample ID: MW-7
Date Collected: 04/08/16 10:20
Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			04/21/16 15:06	1
Toluene	ND		2.0		ug/L			04/21/16 15:06	1
Ethylbenzene	ND		3.0		ug/L			04/21/16 15:06	1
Methyl tert-butyl ether	1.8		1.0		ug/L			04/21/16 15:06	1
Xylenes, Total	ND		3.0		ug/L			04/21/16 15:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 120		04/21/16 15:06	1
4-Bromofluorobenzene (Surr)	106		75 - 120		04/21/16 15:06	1
Toluene-d8 (Surr)	102		85 - 120		04/21/16 15:06	1
Trifluorotoluene (Surr)	111		70 - 136		04/21/16 15:06	1
Dibromofluoromethane (Surr)	104		85 - 115		04/21/16 15:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L	-		04/14/16 21:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150					04/14/16 21:27	1
Trifluorotoluene (Surr)	101		50 - 150					04/14/16 21:27	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/19/16 14:47	04/20/16 18:27	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/20/16 09:45	04/20/16 21:07	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Client Sample ID: MW-8

Date Collected: 04/08/16 09:55

Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-8

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			04/21/16 15:33	1
Toluene	ND		2.0		ug/L			04/21/16 15:33	1
Ethylbenzene	ND		3.0		ug/L			04/21/16 15:33	1
Methyl tert-butyl ether	4.5		1.0		ug/L			04/21/16 15:33	1
Xylenes, Total	ND		3.0		ug/L			04/21/16 15:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 120		04/21/16 15:33	1
4-Bromofluorobenzene (Surr)	102		75 - 120		04/21/16 15:33	1
Toluene-d8 (Surr)	100		85 - 120		04/21/16 15:33	1
Trifluorotoluene (Surr)	118		70 - 136		04/21/16 15:33	1
Dibromofluoromethane (Surr)	98		85 - 115		04/21/16 15:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L	-		04/14/16 21:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150					04/14/16 21:59	1
Trifluorotoluene (Surr)	101		50 - 150					04/14/16 21:59	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/19/16 14:47	04/20/16 18:32	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/20/16 09:45	04/20/16 21:11	5

TestAmerica Seattle

Client Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Client Sample ID: Trip Blanks

Date Collected: 04/08/16 00:01

Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-9

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			04/21/16 12:02	1
Toluene	ND		2.0		ug/L			04/21/16 12:02	1
Ethylbenzene	ND		3.0		ug/L			04/21/16 12:02	1
Xylenes, Total	ND		3.0		ug/L			04/21/16 12:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 120		04/21/16 12:02	1
4-Bromofluorobenzene (Surr)	104		75 - 120		04/21/16 12:02	1
Toluene-d8 (Surr)	103		85 - 120		04/21/16 12:02	1
Trifluorotoluene (Surr)	112		70 - 136		04/21/16 12:02	1
Dibromofluoromethane (Surr)	105		85 - 115		04/21/16 12:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			04/14/16 17:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150		04/14/16 17:09	1
Trifluorotoluene (Surr)	105		50 - 150		04/14/16 17:09	1

TestAmerica Seattle

QC Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

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

Lab Sample ID: MB 580-215430/5

Matrix: Water

Analysis Batch: 215430

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			04/21/16 10:17	1
Toluene	ND		2.0		ug/L			04/21/16 10:17	1
Ethylbenzene	ND		3.0		ug/L			04/21/16 10:17	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/21/16 10:17	1
Xylenes, Total	ND		3.0		ug/L			04/21/16 10:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 120		04/21/16 10:17	1
4-Bromofluorobenzene (Surr)	102		75 - 120		04/21/16 10:17	1
Toluene-d8 (Surr)	102		85 - 120		04/21/16 10:17	1
Trifluorotoluene (Surr)	114		70 - 136		04/21/16 10:17	1
Dibromofluoromethane (Surr)	99		85 - 115		04/21/16 10:17	1

Lab Sample ID: LCS 580-215430/6

Matrix: Water

Analysis Batch: 215430

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.8		ug/L		107	80 - 120
Toluene	10.0	11.1		ug/L		110	75 - 120
Ethylbenzene	10.0	11.2		ug/L		112	75 - 125
m-Xylene & p-Xylene	10.0	10.9		ug/L		109	75 - 130
o-Xylene	10.0	11.1		ug/L		111	80 - 120
Methyl tert-butyl ether	10.0	10.8		ug/L		107	65 - 125
Xylenes, Total	20.0	22.0		ug/L		110	75 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 120
4-Bromofluorobenzene (Surr)	100		75 - 120
Toluene-d8 (Surr)	101		85 - 120
Trifluorotoluene (Surr)	110		70 - 136
Dibromofluoromethane (Surr)	103		85 - 115

Lab Sample ID: LCSD 580-215430/7

Matrix: Water

Analysis Batch: 215430

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	10.0	10.5		ug/L		104	80 - 120	3	30
Toluene	10.0	10.4		ug/L		104	75 - 120	6	30
Ethylbenzene	10.0	10.6		ug/L		105	75 - 125	6	30
m-Xylene & p-Xylene	10.0	10.5		ug/L		105	75 - 130	4	30
o-Xylene	10.0	10.4		ug/L		104	80 - 120	6	30
Methyl tert-butyl ether	10.0	10.2		ug/L		102	65 - 125	5	30
Xylenes, Total	20.0	20.9		ug/L		104	75 - 125	5	30

TestAmerica Seattle

QC Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

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

Lab Sample ID: LCSD 580-215430/7

Matrix: Water

Analysis Batch: 215430

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 120
4-Bromofluorobenzene (Surr)	102		75 - 120
Toluene-d8 (Surr)	99		85 - 120
Trifluorotoluene (Surr)	113		70 - 136
Dibromofluoromethane (Surr)	101		85 - 115

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

Lab Sample ID: MB 580-215001/5

Matrix: Water

Analysis Batch: 215001

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			04/14/16 15:32	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150					04/14/16 15:32	1
Trifluorotoluene (Surr)	103		50 - 150					04/14/16 15:32	1

Lab Sample ID: LCS 580-215001/6

Matrix: Water

Analysis Batch: 215001

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	1.17	1.10		mg/L		95	79 - 110
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	104		50 - 150				
Trifluorotoluene (Surr)	105		50 - 150				

Lab Sample ID: LCSD 580-215001/7

Matrix: Water

Analysis Batch: 215001

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
Gasoline	1.17	1.12		mg/L		96	79 - 110	1	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	104		50 - 150						
Trifluorotoluene (Surr)	105		50 - 150						

TestAmerica Seattle

QC Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-215306/20-A
Matrix: Water
Analysis Batch: 215423

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 215306

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/19/16 14:47	04/20/16 14:00	5

Lab Sample ID: LCS 580-215306/21-A
Matrix: Water
Analysis Batch: 215423

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 215306

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	1.01		mg/L		101	80 - 120

Lab Sample ID: LCSD 580-215306/22-A
Matrix: Water
Analysis Batch: 215423

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 215306

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	1.00	1.01		mg/L		101	80 - 120	1	20

Lab Sample ID: MB 580-215356/18-A
Matrix: Water
Analysis Batch: 215440

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 215356

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0020		mg/L		04/20/16 09:45	04/20/16 19:58	5

Lab Sample ID: LCS 580-215356/19-A
Matrix: Water
Analysis Batch: 215440

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 215356

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	0.935		mg/L		94	80 - 120

Lab Sample ID: LCSD 580-215356/20-A
Matrix: Water
Analysis Batch: 215440

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 215356

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	1.00	0.948		mg/L		95	80 - 120	1	20

Lab Sample ID: 580-58728-1 MS
Matrix: Water
Analysis Batch: 215440

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 215356

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		1.00	1.08		mg/L		108	80 - 120

Lab Sample ID: 580-58728-1 MSD
Matrix: Water
Analysis Batch: 215440

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 215356

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	ND		1.00	1.02		mg/L		102	80 - 120	6	20

TestAmerica Seattle

QC Sample Results

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Lab Sample ID: 580-58728-1 DU
Matrix: Water
Analysis Batch: 215440

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 215356

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Lead	ND		ND		mg/L	-	NC	20

1

2

3

4

5

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7

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9

10

11

Lab Chronicle

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Client Sample ID: MW-1

Date Collected: 04/08/16 13:00

Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	215430	04/21/16 12:28	CJ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	215001	04/14/16 17:41	TL1	TAL SEA
Dissolved	Prep	3005A			215356	04/20/16 09:45	MKN	TAL SEA
Dissolved	Analysis	6020A		5	215440	04/20/16 20:14	FCW	TAL SEA
Total Recoverable	Prep	3005A			215306	04/19/16 14:47	MKN	TAL SEA
Total Recoverable	Analysis	6020A		5	215423	04/20/16 17:42	FCW	TAL SEA

Client Sample ID: MW-2

Date Collected: 04/08/16 13:30

Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	215430	04/21/16 12:54	CJ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	215001	04/14/16 18:14	TL1	TAL SEA
Dissolved	Prep	3005A			215356	04/20/16 09:45	MKN	TAL SEA
Dissolved	Analysis	6020A		5	215440	04/20/16 20:47	FCW	TAL SEA
Total Recoverable	Prep	3005A			215306	04/19/16 14:47	MKN	TAL SEA
Total Recoverable	Analysis	6020A		5	215423	04/20/16 17:47	FCW	TAL SEA

Client Sample ID: MW-3

Date Collected: 04/08/16 09:30

Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	215430	04/21/16 13:21	CJ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	215001	04/14/16 18:46	TL1	TAL SEA
Dissolved	Prep	3005A			215356	04/20/16 09:45	MKN	TAL SEA
Dissolved	Analysis	6020A		5	215440	04/20/16 20:51	FCW	TAL SEA
Total Recoverable	Prep	3005A			215306	04/19/16 14:47	MKN	TAL SEA
Total Recoverable	Analysis	6020A		5	215423	04/20/16 17:52	FCW	TAL SEA

Client Sample ID: MW-4

Date Collected: 04/08/16 11:55

Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	215430	04/21/16 13:47	CJ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	215001	04/14/16 19:18	TL1	TAL SEA
Dissolved	Prep	3005A			215356	04/20/16 09:45	MKN	TAL SEA
Dissolved	Analysis	6020A		5	215440	04/20/16 20:55	FCW	TAL SEA
Total Recoverable	Prep	3005A			215306	04/19/16 14:47	MKN	TAL SEA
Total Recoverable	Analysis	6020A		5	215423	04/20/16 17:57	FCW	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Client Sample ID: MW-5

Date Collected: 04/08/16 09:00

Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	215430	04/21/16 14:14	CJ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	215001	04/14/16 19:51	TL1	TAL SEA
Dissolved	Prep	3005A			215356	04/20/16 09:45	MKN	TAL SEA
Dissolved	Analysis	6020A		5	215440	04/20/16 20:59	FCW	TAL SEA
Total Recoverable	Prep	3005A			215306	04/19/16 14:47	MKN	TAL SEA
Total Recoverable	Analysis	6020A		5	215423	04/20/16 18:17	FCW	TAL SEA

Client Sample ID: MW-6

Date Collected: 04/08/16 12:35

Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	215430	04/21/16 14:40	CJ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	215001	04/14/16 20:23	TL1	TAL SEA
Dissolved	Prep	3005A			215356	04/20/16 09:45	MKN	TAL SEA
Dissolved	Analysis	6020A		5	215440	04/20/16 21:03	FCW	TAL SEA
Total Recoverable	Prep	3005A			215306	04/19/16 14:47	MKN	TAL SEA
Total Recoverable	Analysis	6020A		5	215423	04/20/16 18:22	FCW	TAL SEA

Client Sample ID: MW-7

Date Collected: 04/08/16 10:20

Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	215430	04/21/16 15:06	CJ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	215001	04/14/16 21:27	TL1	TAL SEA
Dissolved	Prep	3005A			215356	04/20/16 09:45	MKN	TAL SEA
Dissolved	Analysis	6020A		5	215440	04/20/16 21:07	FCW	TAL SEA
Total Recoverable	Prep	3005A			215306	04/19/16 14:47	MKN	TAL SEA
Total Recoverable	Analysis	6020A		5	215423	04/20/16 18:27	FCW	TAL SEA

Client Sample ID: MW-8

Date Collected: 04/08/16 09:55

Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	215430	04/21/16 15:33	CJ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	215001	04/14/16 21:59	TL1	TAL SEA
Dissolved	Prep	3005A			215356	04/20/16 09:45	MKN	TAL SEA
Dissolved	Analysis	6020A		5	215440	04/20/16 21:11	FCW	TAL SEA
Total Recoverable	Prep	3005A			215306	04/19/16 14:47	MKN	TAL SEA
Total Recoverable	Analysis	6020A		5	215423	04/20/16 18:32	FCW	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Client Sample ID: Trip Blanks

Date Collected: 04/08/16 00:01

Date Received: 04/13/16 09:45

Lab Sample ID: 580-58728-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	215430	04/21/16 12:02	CJ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	215001	04/14/16 17:09	TL1	TAL SEA

Laboratory References:

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

Certification Summary

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Laboratory: TestAmerica Seattle

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Oregon	NELAP	10	WA100007	11-06-16

The following analytes are included in this report, but are not certified under this certification:

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	Xylenes, Total

Sample Summary

Client: Antea USA, Inc.
Project/Site: ARCO 5300

TestAmerica Job ID: 580-58728-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-58728-1	MW-1	Water	04/08/16 13:00	04/13/16 09:45
580-58728-2	MW-2	Water	04/08/16 13:30	04/13/16 09:45
580-58728-3	MW-3	Water	04/08/16 09:30	04/13/16 09:45
580-58728-4	MW-4	Water	04/08/16 11:55	04/13/16 09:45
580-58728-5	MW-5	Water	04/08/16 09:00	04/13/16 09:45
580-58728-6	MW-6	Water	04/08/16 12:35	04/13/16 09:45
580-58728-7	MW-7	Water	04/08/16 10:20	04/13/16 09:45
580-58728-8	MW-8	Water	04/08/16 09:55	04/13/16 09:45
580-58728-9	Trip Blanks	Water	04/08/16 00:01	04/13/16 09:45

Login Sample Receipt Checklist

Client: Antea USA, Inc.

Job Number: 580-58728-1

Login Number: 58728

List Source: TestAmerica Seattle

List Number: 1

Creator: Blankinship, Tom X

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	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	