



Kegan W. Boyer, P.G.
Project Manager

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February 6, 2019

Mr. Peter Campbell
Environmental Program Specialist
Alaska Department of Environmental Conservation
43335 Kalifornsky Beach Road, Suite 11
Soldotna, Alaska 99669

Re: Compressor Plant 10
2018 Monitoring Report
Swanson River Field,
Sterling, Alaska

Mr. Campbell,

Chevron Environmental Management Company (CEMC) is submitting the following document related to the Swanson River Field Compressor Plant 10 and Soldotna Creek Unit 14-3:

- *2018 Compressor Plant 10 and Soldotna Creek Unit 14-3 Polychlorinated Biphenyl Groundwater Monitoring Report, Swanson River Field, Sterling, Alaska, dated January 30, 2019*

This document was prepared by AECOM on behalf of CEMC to document the results of ongoing groundwater monitoring activities at the above-referenced project site.

Should you have any questions regarding this document or the results of the monitoring, please do not hesitate to contact me by phone at 832-854-5630 or via e-mail at kegan.boyer@chevron.com.

Sincerely,

A handwritten signature in blue ink that reads "Kegan W. Boyer".

Kegan W. Boyer, P.G.
Environmental Project Manager

cc w/enc: Lynnda Kahn, US Fish & Wildlife Service
Sharon Yarawsky, Bureau of Land Management

January 30, 2019

Your Reference

Compressor Plant 10 and Soldotna Creek
Unit 14-3

Mr. Kegan Boyer
Chevron Environmental Management and
Real Estate Company
1500 Louisiana Street
RM 38110
Houston, Texas 77002

Our reference: 60572661

Dear Mr. Boyer,

Subject: 2018 Compressor Plant 10 and Soldotna Creek Unit 14-3 Polychlorinated Biphenyl Groundwater Monitoring Report, Swanson River Field, Sterling, Alaska

AECOM has prepared this letter report on behalf of Chevron Environmental Management Company (CEMC). This letter provides bi-annual sampling results as established in Amendment #4 to the Order by Consent (OBC) for Compressor Plant 10 (Plant 10). This letter report also provides the second annual sampling results conducted at Soldotna Creek Unit (SCU) 14-3 in accordance with the OBC and various amendments and in accordance with a letter dated January 31, 2017, received by CEMC from Alaska Department of Environmental Conservation (ADEC). The OBC requires that CEMC periodically monitor the groundwater at the SCU 14-3 site for the life of Swanson River Field (the field). In a letter dated August 23, 2018, from ADEC, ADEC required CEMC to conduct the SCU 14-3 sampling in 2018 and then stated that SCU 14-3 sampling could be conducted every 5 years for the life of the field.

Biannual polychlorinated biphenyl (PCB) groundwater monitoring was conducted on July 15, 2018, and September 22, 2018, at Plant 10. Additionally, annual groundwater monitoring was conducted on September 15, 2018, at SCU 14-3. Sampling at both sites was conducted in accordance with procedures detailed in the 2017 Plant 10 and SCU 14-3 PCB groundwater monitoring work plan¹.

Plant 10

Groundwater samples were collected from four existing wells at Plant 10 (CP-A, CP-BR, CP-C, and CP-F) utilizing low-flow purge and sample techniques. Water quality parameters and water level measurements were collected and recorded on sample forms. The samples were analyzed by TestAmerica Laboratories, Inc. (TestAmerica) of Seattle, Washington for PCBs by Environmental Protection Agency (EPA) Method 8082A. The Plant 10 well locations and groundwater elevation contours from the July and September of 2018 sampling events are shown on Figure 1. Table 1 in Attachment A includes the current and historical analytical results and groundwater elevations for Plant 10.

It should be noted that on September 29, 2018, ADEC revised the Method Two total PCB groundwater cleanup level from 0.0005 milligrams per liter (mg/L) to 0.00044 mg/L in the 18 Alaska Administrative Code Chapter 75 amended through September 29, 2018. The 2018 Plant 10 and SCU 14-3 samples were collected prior to the revised cleanup level; laboratory sample reporting limits ranged from 0.00044 to 0.00049 mg/L and did not meet the amended PCB cleanup level. Non-detect results were reported as ND at the method detection limit (MDL).

Individual PCB and the total PCB values for Plant 10 groundwater were compared against the amended ADEC Method Two groundwater cleanup level of 0.00044 mg/L (0.44 micrograms per liter [$\mu\text{g/L}$]) even though the samples were collected prior to the establishment of the more conservative groundwater cleanup level. All sample results were ND above the MDL. The MDL for each individual PCB and total PCBs was used to compare to cleanup levels. For all samples, there were no detections or MDLs above the cleanup levels.

¹ AECOM. 2017 Compressor Plant 10 and SCU 14-3 PCB Groundwater Monitoring Work Plan, Swanson River Field, Sterling, Alaska. June.

ND above the MDL. The MDL for each individual PCB and total PCBs was used to compare to cleanup levels. For all samples, there were no detections or MDLs above the cleanup levels.

Attachment B includes the laboratory reports and ADEC Laboratory Data Review Checklists. Attachment C includes a data quality assessment (DQA) performed by an AECOM chemist. The DQA was prepared to validate the laboratory data. The overall data quality was acceptable, and all analytical data quality objectives were considered met. No data were rejected, and all data are considered usable with the limitations described in Attachment C. All Plant 10 well purge water was drummed by AECOM and transported and disposed of off-site on October 29, 2018, by NRC Alaska LLC. Attachment D includes the purge water waste manifest.

Table 1 continues to show that only one sampling event (October 2006 at one location, CP-A) had detectable total PCBs over the entire 16-year sampling and analysis record. Since that 2006 event, twice yearly sampling has continued with no detectable PCB Aroclors, and the assigned ND value for total PCBs exceeded the historic 0.5- µg/L cleanup level in only three instances (June 2008, July 2011, and July 2015), and the new more conservative 0.44 µg/L cleanup level in nine instances since 2006. The summation of detection limits for PCB Aroclors can be considered overly conservative because they are not individual compounds. The use of the highest individual Aroclor detection limit could be considered sufficiently conservative. In addition, PCB Aroclors have low water solubilities. Based on the historical data set, continued ND values would be expected in groundwater at the site.

In accordance with the OBC and the January 31, 2017, letter, bi-annual sampling will continue in 2019 at Plant 10 until the lead agency, the United States Fish and Wildlife Service, grants a modification to the OBC for decreased sampling frequency at Plant 10.

SCU 14-3

McLane Surveying under subcontract to AECOM conducted a horizontal and vertical survey on October 17, 2018, of the three SCU 14-3 wells that were located by AECOM in 2017. Mid-October was selected to conduct the survey because the majority of the deciduous trees at the site would have lost their leaves, thereby exposing the one well, presumably Well 4, which could not be located in the high brush in 2017. The AECOM field team was still unable to locate Well 4 in 2018, even though the majority of the deciduous trees and brush had shed their leaves. Attachment E contains the SCU 14-3 survey data. The SCU 14-3 well locations and groundwater elevation contours from the July 2018 sampling event are shown on Figure 2, and Figure 3 shows the primary historical site sketch that was used to locate and name the wells.

On July 15, 2018, AECOM collected groundwater samples from the same three wells at SCU 14-3 (Well 1, Well 2, and Well 3) that were sampled in 2017. Groundwater samples were collected utilizing low-flow purge and sample techniques. Water quality parameters and water level measurements were collected and recorded on sample forms during well purge and sampling activities. The groundwater samples were analyzed by TestAmerica of Seattle, Washington for PCBs by EPA Method 8082A.

Table 2 in Attachment A includes the 2017 and 2018 analytical results and groundwater elevations for SCU 14-3. Individual PCB and the total PCB values for SCU 14-3 were compared against the amended ADEC Method Two groundwater cleanup level of 0.00044 mg/L (0.44 µg/L), even though the samples were collected prior to the establishment of the more conservative groundwater cleanup level. All sample results were ND above the MDL. The MDL for each individual PCB and total PCBs was used to compare to cleanup levels. For all samples, there were no detections or MDLs above the cleanup levels.

Attachment B also includes the laboratory reports and ADEC Laboratory Data Review Checklists for SCU 14-3, and Attachment C includes the DQA. All SCU 14-3 data are considered usable with the limitations described in Attachment C. All SCU 14-3 well purge water was drummed by AECOM and transported and disposed of off-site on October 29, 2018, by NRC Alaska LLC. Attachment D includes the purge water waste manifest.

In accordance with the August 23, 2018, letter, sampling will continue at SCU 14-3 in 2023. The goal of the 5-year groundwater monitoring interval for PCBs at SCU 14-3 is to establish a sample history for the site that continues to exhibit ND values for individual PCB and total PCB below the ADEC groundwater PCB cleanup level.

Please contact Paul Dworjan at (907) 261-6726 should you have any questions.

Yours sincerely,



Paul Dworjan for Paul Myerchin
Environmental Liability Manager
paul.dworjan@aecom.com



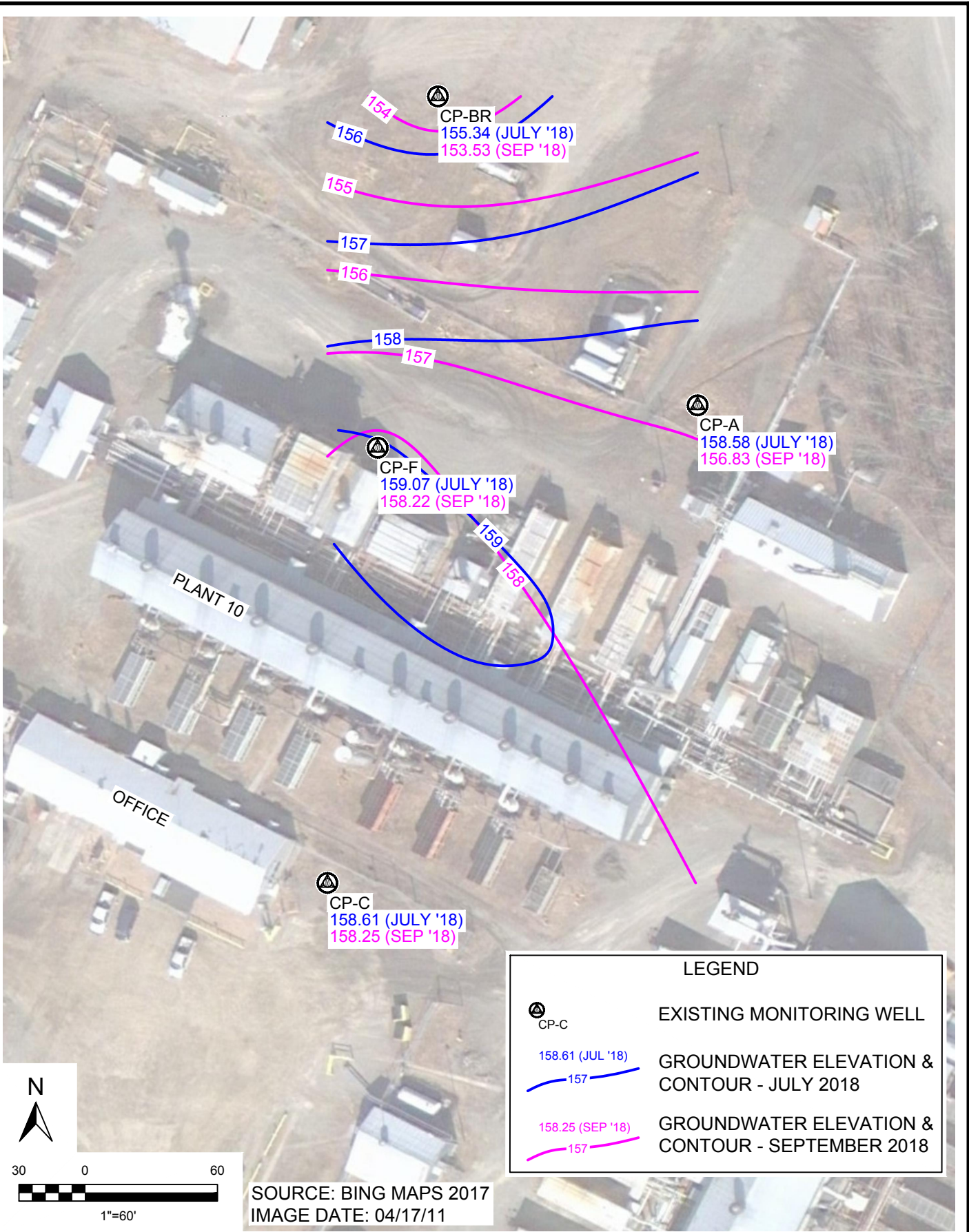
Jacqueline Donley
Deputy Project Manager
jackie.donley@aecom.com

enclosures:

Figure 1 Plant 10 Site Map and 2018 Groundwater Elevations
Figure 2 SCU 14-3 Site Map and 2018 Groundwater Elevations
Figure 3 1985 Ecology and Environment Site Sketch Map
Attachment A Summary of Current and Historical Analytical Results
Attachment B Laboratory Reports and ADEC Laboratory Data Review Checklist
Attachment C Data Quality Assessment
Attachment D Waste Manifest
Attachment E Survey Data

ccs:

Peter Campbell, ADEC (via email)
Lynnda Kahn, United States Fish and Wildlife Service (via email and paper copy)
Sharon L. Yarawsky, Bureau of Land Management (via email and paper copy)





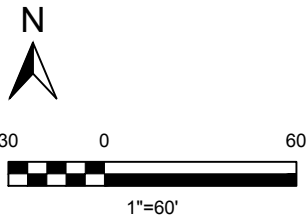
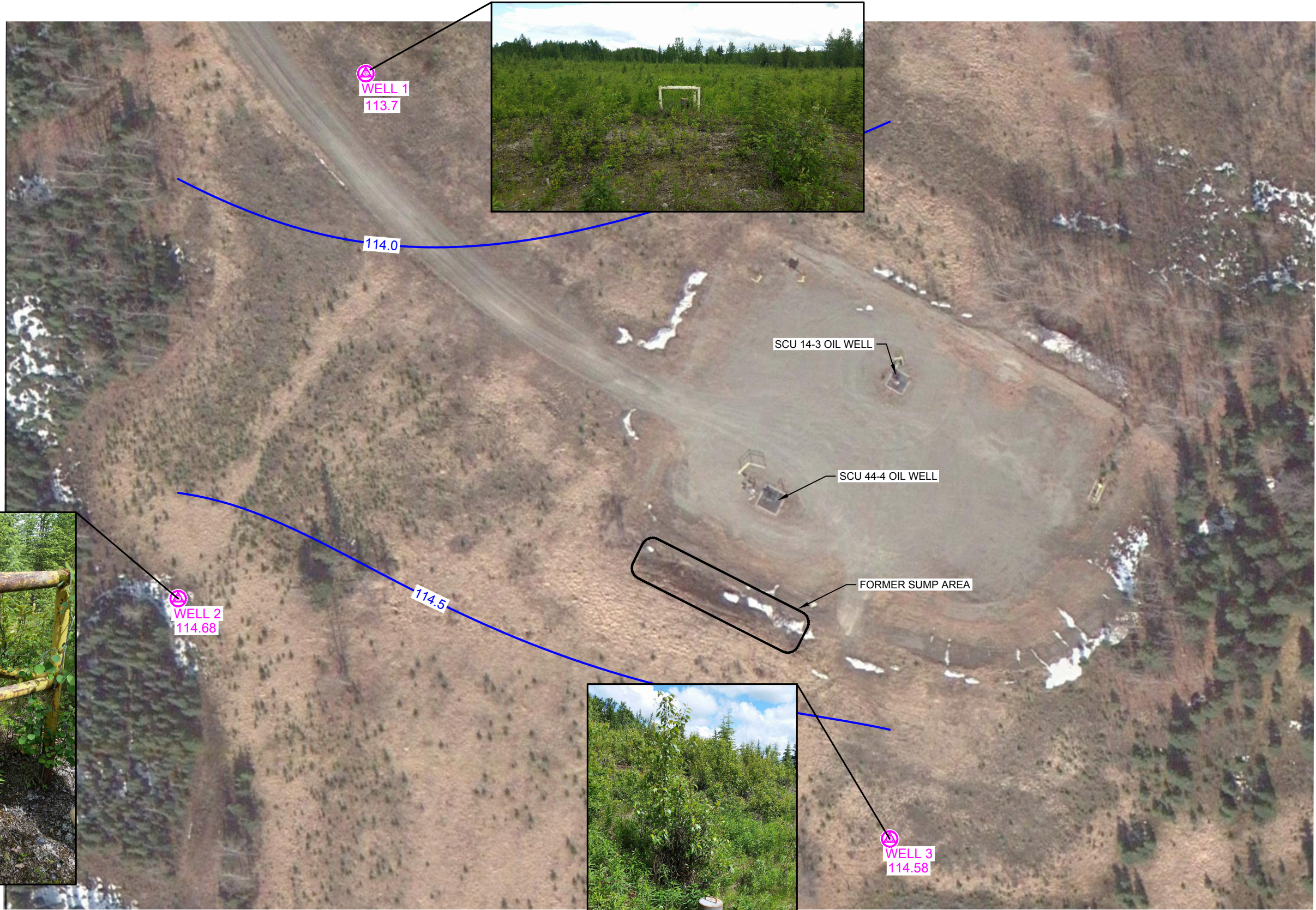
WELL 2
114.68




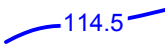
WELL 1
113.7



WELL 3
114.58



SOURCE: BING MAPS 2017
IMAGE DATE: 04/17/11

LEGEND	
	EXISTING MONITORING WELL
	GROUNDWATER ELEVATION & CONTOUR - JULY 2018

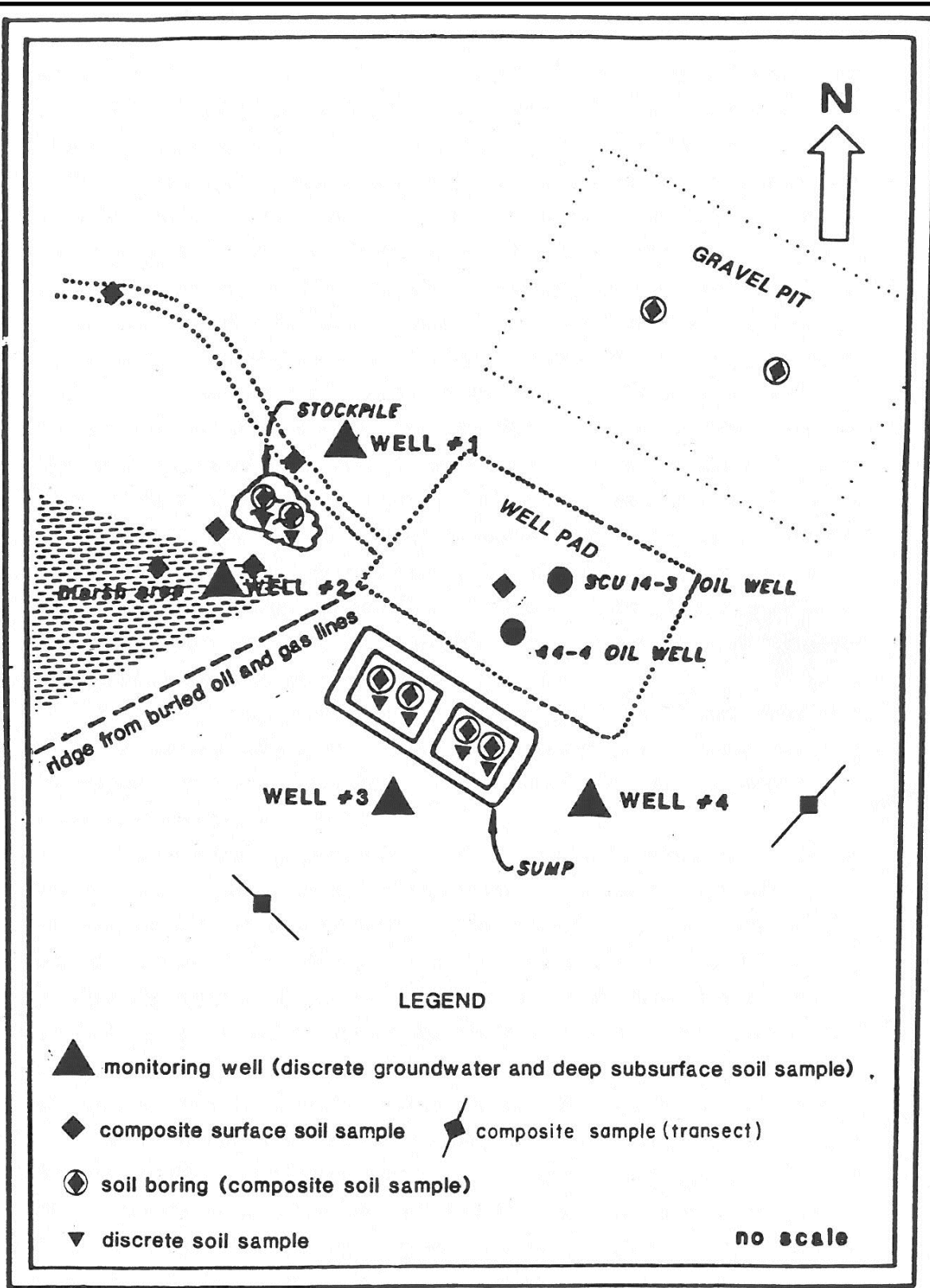


Figure 5-6 AREA B PROPOSED SAMPLING LOCATIONS

REFERENCE: Ecology and Environment Inc. 1985. Sampling Plan, Swanson River Oil Field, Kenai National Wildlife Refuge, Figure 5-6, pg. 5-15. September 16, 1985.

Attachment A

Summary of Current and Historical Analytical Results

Table 1. Plant 10 Current and Historical Groundwater Analytical Results and Groundwater Elevations

Date	CP-A			CP-BR			CP-C			CP-F		
	Depth to Groundwater (ft)	Groundwater Elevation AMSL (ft)	PCB (µg/L)	Depth to Groundwater (ft)	Groundwater Elevation AMSL (ft)	PCB (µg/L)	Depth to Groundwater (ft)	Groundwater Elevation AMSL (ft)	PCB (µg/L)	Depth to Groundwater (ft)	Groundwater Elevation AMSL (ft)	PCB (µg/L)
ADEC Groundwater Cleanup Levels ^a			0.5	—	—	0.5	—	—	0.5	—	—	0.5
10/19/2000	11.51	156.4	ND(0.51)	15.42	152.96	ND(0.51)	10.59	158.1	ND(0.51)	11.44	158.04	ND(0.51)/ ND(0.53)
6/26/2001	9.01	158.9	ND(0.50)	16.34	152.04	ND(0.50)/ ND(0.050)	10.87	157.81	ND(0.50)	10.88	158.61	ND(0.53)
10/19/2001	10.84	157.07	ND(0.51)	17.66	150.72	ND(0.53)	10.28	158.41	ND(0.53)	11.99	157.49	ND(0.50)/ ND(0.50)
6/30/2002	6.53	161.38	ND(0.51)	16.99	151.39	ND(0.51)	8.98	159.71	ND(0.053)/ ND(0.53)	5.95	163.53	ND(0.51)
10/29/2002	7.58	160.33	ND(0.50)	13.59	154.79	ND(0.050)	9.31	159.38	ND(0.050)	8.67	160.81	ND(0.50)/ ND(0.50)
5/14/2003	9.99	157.95	ND(0.052)	16.19	151.86	ND(0.051)	11.22	157.33	ND(0.51)	11.58	158.12	ND(0.51)/ ND(0.52)
10/8/2003	6.22	162.54	ND(0.054)	10.11	157.94	ND(0.053)	10.62	157.93	ND(0.53)	7.16	162.72	ND(0.54)/ ND(0.54)
5/17/2004	6.23	161.71	ND(1.0)	8.32	159.73	ND(1.0)	9.01	159.54	ND(1.0)	7.46	162.24	ND(1.0)/ ND(1.0)
10/20/2004	5.42	162.52	ND(1.0)	9.09	158.96	ND(1.0)	6.85	161.7	ND(1.0)	7.1	162.6	ND(1.0)/ ND(1.0)
5/19/2005	5.83	162.11	ND(1.0)	9.03	159.02	ND(1.0)	8.61	161.85	ND(1.0)	6.7	161.1	ND(1.0)/ ND(1.0)
11/8/2005	6.84	161.1	ND(0.95)	9.65	158.4	ND(0.95)	8.05	160.5	ND(0.95)	8.45	161.25	ND(0.95)/ ND(0.95)
6/22/2006	9.4	158.54	ND(0.97)	12.83	155.22	ND(0.94)	10.16	158.39	ND(0.96)	9.49	160.21	ND(0.96)/ ND(0.96)
10/13/2006	4.88	163.06	1.55	7.94	160.11	ND(0.48)	6.45	162.1	ND(0.48)	6.41	163.29	ND(0.48)/ ND(0.47)
5/18/2007	10.93	157.01	ND(0.48)	14.77	153.28	ND(0.48)	9.9	158.65	ND(0.48)	13.08	156.62	ND(0.48)/ ND(0.48)
11/8/2007	5.82	162.12	ND(0.48)	10.42	157.63	ND(0.47)	7.48	161.07	ND(0.48)	8.28	161.42	ND(0.49)/ ND(0.49)
6/4/2008	7.84	160.1	ND(0.57)	13.93	154.12	ND(0.57)	10.84	157.71	ND(0.57)	11.87	157.83	ND(0.57)/ ND(1.1)
11/17/2008	8.4	159.54	ND(0.19)	11.74	156.31	ND(0.095)	8.78	159.77	ND(0.097)	9.01	160.69	ND(0.10)/ ND(0.19)
6/15/2009	9.52	158.42	ND(0.095)	13.69	154.36	ND(0.095)	10.03	158.52	ND(0.095)	11.75	157.95	ND(0.095)/ ND(0.095)
11/18/2009	12.84	155.1	ND(0.48)	18.19	149.86	ND(0.48)	12.03	156.52	ND(0.48)	14.71	155.53	ND(0.48)/ ND(0.48)
5/11/2010	12.57	155.37	ND(0.48)	24.04	144.01	ND(0.48)	10.61	157.94	ND(0.47)/ ND(0.48)	Dry		
11/30/2010	10.45	157.49	ND(0.0952)	18.81	149.24	ND(0.191)	9.66	158.89	ND(0.0978)/ ND(0.0964)	11.52	158.18	ND(0.188)

Table 1. Plant 10 Current and Historical Groundwater Analytical Results and Groundwater Elevations

Date	CP-A			CP-BR			CP-C			CP-F		
	Depth to Groundwater (ft)	Groundwater Elevation AMSL (ft)	PCB (µg/L)	Depth to Groundwater (ft)	Groundwater Elevation AMSL (ft)	PCB (µg/L)	Depth to Groundwater (ft)	Groundwater Elevation AMSL (ft)	PCB (µg/L)	Depth to Groundwater (ft)	Groundwater Elevation AMSL (ft)	PCB (µg/L)
ADEC Groundwater Cleanup Levels ^a			0.5	—	—	0.5	—	—	0.5	—	—	0.5
7/26/2011	13.42	154.52	<i>ND(0.63)</i>	22.02	146.03	<i>ND(0.47)/ ND(0.47)</i>	11.53	157.02	<i>ND(0.47)</i>	Off-limits due to Plant 10 demolition		
12/26/2011	10.08	157.86	ND(0.194)	15.34	152.71	ND(0.196)	8.63	159.92	ND(0.192)	10.5	159.2	ND(0.191)/ ND(0.191)
6/1/2012	7.5	160.44	<i>ND(0.49)</i>	11.9	156.15	<i>ND(0.49)</i>	8.82	159.73	<i>ND(0.48)</i>	9.12	160.58	<i>ND(0.48)</i>
1/13/2013	12.65	155.29	ND(0.095)	15.52	152.53	ND(0.101)/ ND(0.099)	11.08	157.47	ND(0.095)	11.62	158.08	ND(0.099)
6/26/2013	4.73	163.21	ND(0.347)	6.9	161.15	ND(0.354)	7.43	161.12	ND(0.350)	5.8	163.9	ND(0.373)
10/15/2013	5.6	162.34	ND(0.352)	10.01	158.04	ND(0.343)	6.26	162.29	ND(0.336)	6.8	162.9	ND(0.359)
6/23/2014	PVC riser damaged ^b		ND(0.358)	13.29	154.76	ND(0.370)	9.85	158.7	ND(0.350)	10.55	159.15	ND(0.363)
10/9/2014			ND(0.358)	11.1	156.95	ND(0.361)	13.2	155.35	ND(0.336)	8.12	161.58	ND(0.350)
7/8/2015	3.33	165.55	<i>ND(0.604)</i>	12.93	155.93	<i>ND(0.606)</i>	8.09	161.86	<i>ND(0.585)</i>	3.66	166.88	<i>ND(0.600)</i>
10/2/2015	4.29	164.59	ND(0.226)	9.16	159.7	ND(0.226)	5.24	164.71	ND(0.226)	5.09	165.45	ND(0.226)
8/3/2016	11.68	157.2	ND(0.160)	15.06	153.8	ND(0.180)	11.8	158.15	ND(0.180)	12.26	158.28	ND(0.175)
9/29/2016	15.3	153.75	ND(0.229)	11.26	157.6	ND(0.182)	7.83	162.12	ND(0.184)	17.98	152.56	ND(0.229)
7/7/2017 ^c	12.17	156.71	ND(0.099)/ ND(0.099)	20.62	148.24	ND(0.10)	10.56	159.39	ND(0.097)	14.53	156.01	ND(0.098)
9/21/2017 ^c	7.04	161.84	ND(0.098) JS-/ ND(0.10)	12.8	156.06	ND(0.096) JS-	9.59	160.36	ND(0.10)	8.72	161.82	ND(0.11) JS-
ADEC Groundwater Cleanup Levels ^e			0.44	—	—	0.44	—	—	0.44	—	—	0.44
7/15/2018 ^d	10.30	158.58	ND[0.076] JS- / ND[0.077]	13.52	155.34	ND[0.076]	11.34	158.61	ND[0.077]	11.47	159.07	ND[0.076] JS-
9/22/2018 ^d	12.05	156.83	ND[0.077] / ND[0.081]	15.33	153.53	ND[0.082]	11.70	158.25	ND[0.073]	12.32	158.22	ND[0.076] JS-

Notes:

Results above site-specific cleanup levels are **underlined and bolded**.

Non-detect results with reporting limits above the 2018 site-specific amended cleanup level of 0.44 µg/L are in *italic*.

2013 PCB results are for total aroclor.

Plant 10 monitoring wells were resurveyed in October 2015.

Water was discharging out of Plant 10 vent above CP-F on 7/8/15. Water was pooled around CP-F and flowing toward CP-A, which also had water pooled around the security casing.

Two sets of analytical results are reported and separated by "/" when a duplicate sample was collected.

AMSL = above mean sea level

ft = feet

— = Not applicable

JS- = One or more surrogates recovered outside of control criteria (biased low)

ND = Analyte not detected above the laboratory reporting/detection limit (provided in parentheses or brackets).

PCB = polychlorinated biphenyl

µg/L = Micrograms per liter

^a Alaska Department of Environmental Conservation (ADEC), 2017, Title 18, Alaska Administrative Code Chapter 75 (18 AAC 75), Oil and Other Hazardous Substances Pollution Control, Table C. October 1, 2017.

^b Polyvinyl chloride (PVC) riser was damaged, and technician could not get water level indicator probe past the bulge in the damaged PVC riser.

^c 2017 ND value in () is the TestAmerica laboratory reporting limit.

^d 2018 ND value in [] is the TestAmerica method detection limit.

^e ADEC 2018, 18 AAC 75, Table C. October 27, 2018.

Table 2. SCU 14-3 Current and Historical Groundwater Analytical Results and Groundwater Elevations

Date	WELL 1				WELL 2				WELL 3			
	Depth to Groundwater (ft)	Total Well Depth (ft)	Groundwater Elevation AMSL (ft)	PCB (µg/L)	Depth to Groundwater (ft)	Total Well Depth (ft)	Groundwater Elevation AMSL (ft)	PCB (µg/L)	Depth to Groundwater (ft)	Total Well Depth (ft)	Groundwater Elevation AMSL (ft)	PCB (µg/L)
ADEC Groundwater Cleanup Levels ^a	—	—	—	0.5	—	—	—	0.5	—	—	—	0.5
7/19/2017 ^c	15.77	22.12	113.43	ND(0.10)	16.76	24.75	114.37	ND(0.10)	NM	NM	NM	—
7/20/2017 ^c	NM	NM	NM	—	NM	NM	NM	—	9.34	18.38	114.34	ND(0.10) JS-
ADEC Groundwater Cleanup Levels ^b	—	—	—	0.44	—	—	—	0.44	—	—	—	0.44
7/15/18 ^d	15.43	22.46	113.77	ND[0.075] JS-	16.45	24.80	114.68	ND[0.076]	9.10	18.79	114.58	ND[0.075] JS-

Notes:

Results above site-specific cleanup levels are **underlined and bolded**.

McLane Surveying conducted horizontal and vertical survey on October 17, 2018.

AMSL = above mean sea level

ft = feet

— = Not applicable

JS- = One or more surrogates recovered outside of control criteria (biased low)

NM = not measured

ND = Analyte not detected above the laboratory reporting/detection limit (provided in parentheses or brackets).

PCB = polychlorinated biphenyl

µg/L = Micrograms per liter

^a Alaska Department of Environmental Conservation (ADEC), 2017, Title 18, Alaska Administrative Code Chapter 75 (18 AAC 75), Oil and Other Hazardous Substances Pollution Control, Table C. October 1, 2017.

^b ADEC, 2018, 18 AAC 75, Table C. October 27, 2018.

^c 2017 ND value in () is the TestAmerica laboratory reporting limit.

^d 2018 ND value in [] is the TestAmerica method detection limit.

Attachment B

Laboratory Reports and ADEC Laboratory Data Review Checklist

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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

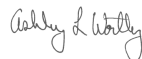
TestAmerica Job ID: 580-78918-1

Client Project/Site: Chevron Plant 10/SCU 14-3 July Event

For:

AECOM
700 G Street, Fifth Floor
Anchorage, Alaska 99501

Attn: Paul Dworian



Authorized for release by:

7/27/2018 12:41:01 PM

Ashley Worthy, Project Manager I
ashley.worthy@testamericainc.com

Designee for

Elaine Walker, Project Manager II
(253)248-4972

elaine.walker@testamericainc.com

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www.testamericainc.com

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

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

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Case Narrative

Client: AECOM
Project/Site: Chevron Plant 10/SCU 14-3 July Event

TestAmerica Job ID: 580-78918-1

Job ID: 580-78918-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-78918-1

Comments

No additional comments.

Receipt

The samples were received on 7/17/2018 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0° C.

GC Semi VOA

Method(s) 8082A: Surrogate recovery for the following samples were outside control limits: CP-A-071518-WA (580-78918-1), CP-BR-071518-WA (580-78918-3), CP-F-071518-WA (580-78918-5), CP-F-071518-WA (580-78918-5[MS]), Well1-071518-WA (580-78918-6) and Well3-071518-WA (580-78918-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8082A: The continuing calibration verification (CCV) associated with 580-279704 recovered low and outside the control limits for PCB-1232, PCB-1248, PCB-1016 and PCB-1260 on the confirmation column. Results are confirmed on both columns and reported from the passing column. The following samples are impacted: CP-A-071518-WA (580-78918-1), CP-800-071518-WA (580-78918-2), CP-BR-071518-WA (580-78918-3), CP-C-071518-WA (580-78918-4), CP-F-071518-WA (580-78918-5), Well1-071518-WA (580-78918-6), Well2-071518-WA (580-78918-7), Well3-071518-WA (580-78918-8), (CCV 580-279704/2), (CCV 580-279704/3) and (CCVIS 580-279704/6).

Method(s) 8082A: The following continuing calibration verification (CCV) standard associated with batch 580-279704 recovered outside acceptance criteria for %D for surrogate DCB Decachlorobiphenyl. Since the %Rec is within the acceptance criteria for the surrogate in the CCV and associated samples, the data have been reported. The following sample is impacted: (CCVIS 580-279704/6)

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

Organic Prep

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

Definitions/Glossary

Client: AECOM

TestAmerica Job ID: 580-78918-1

Project/Site: Chevron Plant 10/SCU 14-3 July Event

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Glossary

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

Client Sample Results

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3 July Event

TestAmerica Job ID: 580-78918-1

Client Sample ID: CP-A-071518-WA

Lab Sample ID: 580-78918-1

Date Collected: 07/15/18 12:20

Matrix: Water

Date Received: 07/17/18 09:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.46	0.062	ug/L		07/19/18 14:48	07/22/18 19:46	1
PCB-1221	ND		0.46	0.076	ug/L		07/19/18 14:48	07/22/18 19:46	1
PCB-1232	ND		0.46	0.064	ug/L		07/19/18 14:48	07/22/18 19:46	1
PCB-1242	ND		0.46	0.060	ug/L		07/19/18 14:48	07/22/18 19:46	1
PCB-1248	ND		0.46	0.053	ug/L		07/19/18 14:48	07/22/18 19:46	1
PCB-1254	ND		0.46	0.076	ug/L		07/19/18 14:48	07/22/18 19:46	1
PCB-1260	ND		0.46	0.062	ug/L		07/19/18 14:48	07/22/18 19:46	1
Polychlorinated biphenyls, Total	ND		0.46	0.076	ug/L		07/19/18 14:48	07/22/18 19:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	73		38 - 140	07/19/18 14:48	07/22/18 19:46	1
Tetrachloro-m-xylene	28	X	40 - 120	07/19/18 14:48	07/22/18 19:46	1

Client Sample Results

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3 July Event

TestAmerica Job ID: 580-78918-1

Client Sample ID: CP-800-071518-WA

Lab Sample ID: 580-78918-2

Date Collected: 07/15/18 12:40

Matrix: Water

Date Received: 07/17/18 09:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.46	0.062	ug/L		07/19/18 14:48	07/22/18 20:04	1
PCB-1221	ND		0.46	0.077	ug/L		07/19/18 14:48	07/22/18 20:04	1
PCB-1232	ND		0.46	0.064	ug/L		07/19/18 14:48	07/22/18 20:04	1
PCB-1242	ND		0.46	0.060	ug/L		07/19/18 14:48	07/22/18 20:04	1
PCB-1248	ND		0.46	0.053	ug/L		07/19/18 14:48	07/22/18 20:04	1
PCB-1254	ND		0.46	0.077	ug/L		07/19/18 14:48	07/22/18 20:04	1
PCB-1260	ND		0.46	0.062	ug/L		07/19/18 14:48	07/22/18 20:04	1
Polychlorinated biphenyls, Total	ND		0.46	0.077	ug/L		07/19/18 14:48	07/22/18 20:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	68		38 - 140	07/19/18 14:48	07/22/18 20:04	1
Tetrachloro-m-xylene	49		40 - 120	07/19/18 14:48	07/22/18 20:04	1

Client Sample Results

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3 July Event

TestAmerica Job ID: 580-78918-1

Client Sample ID: CP-BR-071518-WA

Lab Sample ID: 580-78918-3

Date Collected: 07/15/18 12:20

Matrix: Water

Date Received: 07/17/18 09:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.45	0.062	ug/L		07/19/18 14:48	07/22/18 20:21	1
PCB-1221	ND		0.45	0.076	ug/L		07/19/18 14:48	07/22/18 20:21	1
PCB-1232	ND		0.45	0.064	ug/L		07/19/18 14:48	07/22/18 20:21	1
PCB-1242	ND		0.45	0.059	ug/L		07/19/18 14:48	07/22/18 20:21	1
PCB-1248	ND		0.45	0.052	ug/L		07/19/18 14:48	07/22/18 20:21	1
PCB-1254	ND		0.45	0.076	ug/L		07/19/18 14:48	07/22/18 20:21	1
PCB-1260	ND		0.45	0.062	ug/L		07/19/18 14:48	07/22/18 20:21	1
Polychlorinated biphenyls, Total	ND		0.45	0.076	ug/L		07/19/18 14:48	07/22/18 20:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	63		38 - 140	07/19/18 14:48	07/22/18 20:21	1
Tetrachloro-m-xylene	40		40 - 120	07/19/18 14:48	07/22/18 20:21	1

Client Sample Results

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3 July Event

TestAmerica Job ID: 580-78918-1

Client Sample ID: CP-C-071518-WA

Lab Sample ID: 580-78918-4

Date Collected: 07/15/18 13:20

Matrix: Water

Date Received: 07/17/18 09:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.46	0.063	ug/L		07/19/18 14:48	07/22/18 20:39	1
PCB-1221	ND		0.46	0.077	ug/L		07/19/18 14:48	07/22/18 20:39	1
PCB-1232	ND		0.46	0.065	ug/L		07/19/18 14:48	07/22/18 20:39	1
PCB-1242	ND		0.46	0.061	ug/L		07/19/18 14:48	07/22/18 20:39	1
PCB-1248	ND		0.46	0.053	ug/L		07/19/18 14:48	07/22/18 20:39	1
PCB-1254	ND		0.46	0.077	ug/L		07/19/18 14:48	07/22/18 20:39	1
PCB-1260	ND		0.46	0.063	ug/L		07/19/18 14:48	07/22/18 20:39	1
Polychlorinated biphenyls, Total	ND		0.46	0.077	ug/L		07/19/18 14:48	07/22/18 20:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	55		38 - 140	07/19/18 14:48	07/22/18 20:39	1
Tetrachloro-m-xylene	45		40 - 120	07/19/18 14:48	07/22/18 20:39	1

Client Sample Results

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3 July Event

TestAmerica Job ID: 580-78918-1

Client Sample ID: CP-F-071518-WA

Lab Sample ID: 580-78918-5

Date Collected: 07/15/18 13:15

Matrix: Water

Date Received: 07/17/18 09:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.46	0.062	ug/L		07/19/18 14:48	07/22/18 20:57	1
PCB-1221	ND		0.46	0.076	ug/L		07/19/18 14:48	07/22/18 20:57	1
PCB-1232	ND		0.46	0.064	ug/L		07/19/18 14:48	07/22/18 20:57	1
PCB-1242	ND		0.46	0.060	ug/L		07/19/18 14:48	07/22/18 20:57	1
PCB-1248	ND		0.46	0.053	ug/L		07/19/18 14:48	07/22/18 20:57	1
PCB-1254	ND		0.46	0.076	ug/L		07/19/18 14:48	07/22/18 20:57	1
PCB-1260	ND		0.46	0.062	ug/L		07/19/18 14:48	07/22/18 20:57	1
Polychlorinated biphenyls, Total	ND		0.46	0.076	ug/L		07/19/18 14:48	07/22/18 20:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	66		38 - 140	07/19/18 14:48	07/22/18 20:57	1
Tetrachloro-m-xylene	25	X	40 - 120	07/19/18 14:48	07/22/18 20:57	1

Client Sample Results

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3 July Event

TestAmerica Job ID: 580-78918-1

Client Sample ID: Well1-071518-WA

Lab Sample ID: 580-78918-6

Date Collected: 07/15/18 14:40

Matrix: Water

Date Received: 07/17/18 09:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.45	0.061	ug/L		07/19/18 14:48	07/22/18 21:50	1
PCB-1221	ND		0.45	0.075	ug/L		07/19/18 14:48	07/22/18 21:50	1
PCB-1232	ND		0.45	0.063	ug/L		07/19/18 14:48	07/22/18 21:50	1
PCB-1242	ND		0.45	0.059	ug/L		07/19/18 14:48	07/22/18 21:50	1
PCB-1248	ND		0.45	0.052	ug/L		07/19/18 14:48	07/22/18 21:50	1
PCB-1254	ND		0.45	0.075	ug/L		07/19/18 14:48	07/22/18 21:50	1
PCB-1260	ND		0.45	0.061	ug/L		07/19/18 14:48	07/22/18 21:50	1
Polychlorinated biphenyls, Total	ND		0.45	0.075	ug/L		07/19/18 14:48	07/22/18 21:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	63		38 - 140	07/19/18 14:48	07/22/18 21:50	1
Tetrachloro-m-xylene	13	X	40 - 120	07/19/18 14:48	07/22/18 21:50	1

Client Sample Results

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3 July Event

TestAmerica Job ID: 580-78918-1

Client Sample ID: Well2-071518-WA

Lab Sample ID: 580-78918-7

Date Collected: 07/15/18 15:10

Matrix: Water

Date Received: 07/17/18 09:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.46	0.062	ug/L		07/19/18 14:48	07/22/18 22:07	1
PCB-1221	ND		0.46	0.076	ug/L		07/19/18 14:48	07/22/18 22:07	1
PCB-1232	ND		0.46	0.064	ug/L		07/19/18 14:48	07/22/18 22:07	1
PCB-1242	ND		0.46	0.060	ug/L		07/19/18 14:48	07/22/18 22:07	1
PCB-1248	ND		0.46	0.053	ug/L		07/19/18 14:48	07/22/18 22:07	1
PCB-1254	ND		0.46	0.076	ug/L		07/19/18 14:48	07/22/18 22:07	1
PCB-1260	ND		0.46	0.062	ug/L		07/19/18 14:48	07/22/18 22:07	1
Polychlorinated biphenyls, Total	ND		0.46	0.076	ug/L		07/19/18 14:48	07/22/18 22:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	72		38 - 140	07/19/18 14:48	07/22/18 22:07	1
Tetrachloro-m-xylene	62		40 - 120	07/19/18 14:48	07/22/18 22:07	1

Client Sample Results

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3 July Event

TestAmerica Job ID: 580-78918-1

Client Sample ID: Well3-071518-WA

Lab Sample ID: 580-78918-8

Date Collected: 07/15/18 15:50

Matrix: Water

Date Received: 07/17/18 09:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.45	0.061	ug/L		07/19/18 14:48	07/22/18 22:25	1
PCB-1221	ND		0.45	0.075	ug/L		07/19/18 14:48	07/22/18 22:25	1
PCB-1232	ND		0.45	0.063	ug/L		07/19/18 14:48	07/22/18 22:25	1
PCB-1242	ND		0.45	0.059	ug/L		07/19/18 14:48	07/22/18 22:25	1
PCB-1248	ND		0.45	0.052	ug/L		07/19/18 14:48	07/22/18 22:25	1
PCB-1254	ND		0.45	0.075	ug/L		07/19/18 14:48	07/22/18 22:25	1
PCB-1260	ND		0.45	0.061	ug/L		07/19/18 14:48	07/22/18 22:25	1
Polychlorinated biphenyls, Total	ND		0.45	0.075	ug/L		07/19/18 14:48	07/22/18 22:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	40		38 - 140	07/19/18 14:48	07/22/18 22:25	1
Tetrachloro-m-xylene	12	X	40 - 120	07/19/18 14:48	07/22/18 22:25	1

QC Sample Results

Client: AECOM
Project/Site: Chevron Plant 10/SCU 14-3 July Event

TestAmerica Job ID: 580-78918-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-279531/1-A
Matrix: Water
Analysis Batch: 279704

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 279531

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.45	0.061	ug/L		07/19/18 14:48	07/22/18 19:10	1
PCB-1221	ND		0.45	0.075	ug/L		07/19/18 14:48	07/22/18 19:10	1
PCB-1232	ND		0.45	0.063	ug/L		07/19/18 14:48	07/22/18 19:10	1
PCB-1242	ND		0.45	0.059	ug/L		07/19/18 14:48	07/22/18 19:10	1
PCB-1248	ND		0.45	0.052	ug/L		07/19/18 14:48	07/22/18 19:10	1
PCB-1254	ND		0.45	0.075	ug/L		07/19/18 14:48	07/22/18 19:10	1
PCB-1260	ND		0.45	0.061	ug/L		07/19/18 14:48	07/22/18 19:10	1
Polychlorinated biphenyls, Total	ND		0.45	0.075	ug/L		07/19/18 14:48	07/22/18 19:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	70		38 - 140	07/19/18 14:48	07/22/18 19:10	1
Tetrachloro-m-xylene	69		40 - 120	07/19/18 14:48	07/22/18 19:10	1

Lab Sample ID: LCS 580-279531/2-A
Matrix: Water
Analysis Batch: 279704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 279531

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	1.00	0.795		ug/L		79	50 - 121
PCB-1260	1.00	0.881		ug/L		88	55 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	68		38 - 140
Tetrachloro-m-xylene	62		40 - 120

Lab Sample ID: 580-78918-5 MS
Matrix: Water
Analysis Batch: 279704

Client Sample ID: CP-F-071518-WA
Prep Type: Total/NA
Prep Batch: 279531

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	ND		1.02	0.792		ug/L		78	50 - 121
PCB-1260	ND		1.02	0.900		ug/L		88	55 - 132

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl	67		38 - 140
Tetrachloro-m-xylene	29	X	40 - 120

Lab Sample ID: 580-78918-5 MSD
Matrix: Water
Analysis Batch: 279704

Client Sample ID: CP-F-071518-WA
Prep Type: Total/NA
Prep Batch: 279531

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
PCB-1016	ND		1.02	0.904		ug/L		88	50 - 121	13	25
PCB-1260	ND		1.02	0.975		ug/L		95	55 - 132	8	22

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	72		38 - 140

TestAmerica Seattle

QC Sample Results

Client: AECOM
Project/Site: Chevron Plant 10/SCU 14-3 July Event

TestAmerica Job ID: 580-78918-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 580-78918-5 MSD
Matrix: Water
Analysis Batch: 279704

Client Sample ID: CP-F-071518-WA
Prep Type: Total/NA
Prep Batch: 279531

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
<i>Tetrachloro-m-xylene</i>	45		40 - 120

- 1
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- 11

Lab Chronicle

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3 July Event

TestAmerica Job ID: 580-78918-1

Client Sample ID: CP-A-071518-WA

Lab Sample ID: 580-78918-1

Date Collected: 07/15/18 12:20

Matrix: Water

Date Received: 07/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			279531	07/19/18 14:48	JCM	TAL SEA
Total/NA	Analysis	8082A		1	279704	07/22/18 19:46	TL1	TAL SEA

Client Sample ID: CP-800-071518-WA

Lab Sample ID: 580-78918-2

Date Collected: 07/15/18 12:40

Matrix: Water

Date Received: 07/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			279531	07/19/18 14:48	JCM	TAL SEA
Total/NA	Analysis	8082A		1	279704	07/22/18 20:04	TL1	TAL SEA

Client Sample ID: CP-BR-071518-WA

Lab Sample ID: 580-78918-3

Date Collected: 07/15/18 12:20

Matrix: Water

Date Received: 07/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			279531	07/19/18 14:48	JCM	TAL SEA
Total/NA	Analysis	8082A		1	279704	07/22/18 20:21	TL1	TAL SEA

Client Sample ID: CP-C-071518-WA

Lab Sample ID: 580-78918-4

Date Collected: 07/15/18 13:20

Matrix: Water

Date Received: 07/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			279531	07/19/18 14:48	JCM	TAL SEA
Total/NA	Analysis	8082A		1	279704	07/22/18 20:39	TL1	TAL SEA

Client Sample ID: CP-F-071518-WA

Lab Sample ID: 580-78918-5

Date Collected: 07/15/18 13:15

Matrix: Water

Date Received: 07/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			279531	07/19/18 14:48	JCM	TAL SEA
Total/NA	Analysis	8082A		1	279704	07/22/18 20:57	TL1	TAL SEA

Client Sample ID: Well1-071518-WA

Lab Sample ID: 580-78918-6

Date Collected: 07/15/18 14:40

Matrix: Water

Date Received: 07/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			279531	07/19/18 14:48	JCM	TAL SEA
Total/NA	Analysis	8082A		1	279704	07/22/18 21:50	TL1	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: AECOM
Project/Site: Chevron Plant 10/SCU 14-3 July Event

TestAmerica Job ID: 580-78918-1

Client Sample ID: Well2-071518-WA

Lab Sample ID: 580-78918-7

Date Collected: 07/15/18 15:10

Matrix: Water

Date Received: 07/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			279531	07/19/18 14:48	JCM	TAL SEA
Total/NA	Analysis	8082A		1	279704	07/22/18 22:07	TL1	TAL SEA

Client Sample ID: Well3-071518-WA

Lab Sample ID: 580-78918-8

Date Collected: 07/15/18 15:50

Matrix: Water

Date Received: 07/17/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			279531	07/19/18 14:48	JCM	TAL SEA
Total/NA	Analysis	8082A		1	279704	07/22/18 22:25	TL1	TAL SEA

Laboratory References:

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

Accreditation/Certification Summary

Client: AECOM

TestAmerica Job ID: 580-78918-1

Project/Site: Chevron Plant 10/SCU 14-3 July Event

Laboratory: TestAmerica Seattle

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-024	01-19-19
ANAB	DoD ELAP		L2236	01-19-19
ANAB	ISO/IEC 17025		L2236	01-19-19
California	State Program	9	2901	11-05-18
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-18
US Fish & Wildlife	Federal		LE058448-0	07-31-18
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-19

Sample Summary

Client: AECOM

TestAmerica Job ID: 580-78918-1

Project/Site: Chevron Plant 10/SCU 14-3 July Event


Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-78918-1	CP-A-071518-WA	Water	07/15/18 12:20	07/17/18 09:30
580-78918-2	CP-800-071518-WA	Water	07/15/18 12:40	07/17/18 09:30
580-78918-3	CP-BR-071518-WA	Water	07/15/18 12:20	07/17/18 09:30
580-78918-4	CP-C-071518-WA	Water	07/15/18 13:20	07/17/18 09:30
580-78918-5	CP-F-071518-WA	Water	07/15/18 13:15	07/17/18 09:30
580-78918-6	Well1-071518-WA	Water	07/15/18 14:40	07/17/18 09:30
580-78918-7	Well2-071518-WA	Water	07/15/18 15:10	07/17/18 09:30
580-78918-8	Well3-071518-WA	Water	07/15/18 15:50	07/17/18 09:30



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

Cooler #6 Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Sampler: Jackie Donley		Lab PM: Walker, Elaine M		Carrier Tracking No(s):		COC No: 580-28735-9504.1	
Client Contact: Jackie Donley		Phone: 907-7489043		E-Mail: elaine.walker@testamericainc.com				Page: Page 1 of 1	
Company: AECOM								Job #: 580 78918	
Address: 700 G Street, Fifth Floor		Due Date Requested:		Analysis Requested  580-78918 Chain of Custody		Preservation Codes A - HCL M B - NaOH N C - Zn Acetate O D - Nitric Acid P - NaOH E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)		Special Instructions/Note: MS/MSD	
City: Anchorage		TAT Requested (days): STANDARD							
State, Zip: AK, 99501		PO #: Purchase Order Requested							
Phone: 907-7489043		W/O #: 60572661							
Email: jackie.donley@aecom.com		Project #: 58012481							
Project Name: Chevron Plant 10/SCU 14-3 July event		SSOW#:							
Site:									
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of Containers		Other:
CP-A-071518-WA	7/15/18	1220	G	Water		N			
CP-800-071518-WA	7/15/18	1240	G	Water					
CP-BR-071518-WA	7/15/18	1220	G	Water					
CP-C-071518-WA	7/15/18	1320	G	Water					
CP-F-071518-WA	7/15/18	1315	G	Water					
WELL 1 - 071518-WA	7/15/18	1440	G	Water					
WELL 2 - 071518-WA	7/15/18	1510	G	Water					
WELL 3 - 071518-WA	7/15/18	1550	G	Water					
JA									
									Therm. ID: 5 Cor: 3.0 ° Unc: 3.0 °
									Cooler Dsc: L4 BL-C
									Packing: Bub FedEx: PO
									Cust. Seal: Yes & No UPS:
									Wet/Packs/Dry Ice/None Lab Cour:
									Other:
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify) Level 2					Special Instructions/QC Requirements: Low Level ALASKA				
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:			
Relinquished by: Jacqueline Donley		Date/Time: 7/16/18 0800		Company: AECOM		Received by: [Signature]		Date/Time: 7-17-18 0930	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:					

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-78918-1

Login Number: 78918

List Source: TestAmerica Seattle

List Number: 1

Creator: Hobbs, Kenneth F

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



Laboratory Data Review Checklist

Completed by:

Todd Fortun

Title:

Environmental Scientist

Date:

July 31, 2018

CS Report Name:

Swanson River Plant 10

Report Date:

July 27, 2018

Consultant Firm:

AECOM

Laboratory Name:

TestAmerica

Laboratory Report Number:

580-78918-1

ADEC File Number:

Hazard Identification Number:

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes No Comments:

TestAmerica in Seattle received and performed all analyses.

b. If the samples were transferred to another “network” laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes No Comments:

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

Yes No Comments:

b. Correct analyses requested?

Yes No Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

Yes No Comments:

Cooler temperature was 3.0 °C when samples arrived at TestAmerica in Seattle.

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes No Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes No Comments:

No discrepancies were noted.

e. Data quality or usability affected?

Comments:

Data quality and usability are not affected.

4. Case Narrative

a. Present and understandable?

Yes No

Comments:

b. Discrepancies, errors or QC failures identified by the lab?

Yes No

Comments:

The case narrative indicates the following:

Surrogate recoveries were outside of criteria for several samples due to potential matrix interference.

Various analyte and surrogate CCVs recovered outside of criteria. Results are reported from the passing column and/or the associated surrogate was within acceptable range.

c. Were all corrective actions documented?

Yes No

Comments:

d. What is the effect on data quality/usability according to the case narrative?

Comments:

The case narrative does not indicate the effect on data quality or usability. See respective sections of this checklist for data quality and usability impacts.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes No

Comments:

b. All applicable holding times met?

Yes No

Comments:

c. All soils reported on a dry weight basis?

Yes No

Comments:

N/A. Only water samples were submitted.

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

Yes No

Comments:

e. Data quality or usability affected?

Comments:

Data quality and usability are not affected.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes No

Comments:

ii. All method blank results less than limit of quantitation (LOQ)?

Yes No

Comments:

iii. If above LOQ, what samples are affected?

Comments:

N/A

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

Recovery criteria was met.

v. Data quality or usability affected?

Comments:

Data quality and usability are not affected.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No

Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes No

Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes No Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes No Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

Accuracy and precision criteria were met.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No Comments:

Accuracy and precision criteria were met.

vii. Data quality or usability affected?

Comments:

Data quality and usability are not affected.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

Yes No Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes No Comments:

Surrogate recovery of tetrachloro-m-xylene in samples CP-A-071518-WA, CP-F-071518-WA, Well1-071518-WA, and Well3-071518-WA were outside of QC criteria (biased low) due to potential matrix interference.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Yes No Comments:

PCB sample results for CP-A-071518-WA, CP-F-071518-WA, Well1-071518-WA, and Well3-071518-WA were flagged JS- for a low surrogate recovery.

iv. Data quality or usability affected?

Comments:

Data quality is minimally affected. Sample results were all non-detect and the reporting limits were below cleanup levels.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and cooler?

Yes No

Comments:

Volatile analyses were not requested therefore no trip blank was submitted.

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC?
(If not, a comment explaining why must be entered below)

Yes No

Comments:

N/A

iii. All results less than LOQ?

Yes No

Comments:

N/A

iv. If above LOQ, what samples are affected?

Comments:

N/A

v. Data quality or usability affected?

Comments:

Data quality and usability are not affected.

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes No

Comments:

ii. Submitted blind to lab?

Yes No

Comments:

Sample CP-A-071518-WA and its duplicate CP-800-071518-WA.

- iii. Precision – All relative percent differences (RPD) less than specified DQOs?
(Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes No Comments:

- iv. Data quality or usability affected?

Comments:

Data quality and usability are not affected.

- f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

Yes No Not Applicable

No non-dedicated equipment was used to collect the samples therefore equipment blanks were not collected.

- i. All results less than LOQ?

Yes No Comments:

N/A. No non-dedicated equipment was used to collect the samples therefore equipment blanks were not collected.

- ii. If above LOQ, what samples are affected?

Comments:

N/A. No non-dedicated equipment was used to collect the samples therefore equipment blanks were not collected.

- iii. Data quality or usability affected?

Comments:

N/A. No non-dedicated equipment was used to collect the samples therefore equipment blanks were not collected.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

Yes No

Comments:

--

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: 580-80641-1

Client Project/Site: Chevron Plant 10/SCU 14-3

For:

AECOM
700 G Street, Fifth Floor
Anchorage, Alaska 99501

Attn: Paul Dworian



Authorized for release by:

10/11/2018 2:11:26 PM

Kristine Allen, Manager of Project Management
(253)248-4970

kristine.allen@testamericainc.com

Designee for

Elaine Walker, Project Manager II
(253)248-4972

elaine.walker@testamericainc.com

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

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

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Case Narrative

Client: AECOM
Project/Site: Chevron Plant 10/SCU 14-3

TestAmerica Job ID: 580-80641-1

Job ID: 580-80641-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-80641-1

Comments

No additional comments.

Receipt

The samples were received on 9/25/2018 2:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.8° C.

GC Semi VOA

Method(s) 8082A: The continuing calibration verification (CCV) associated with 580-285892 recovered outside the control limits for PCB-1232 on one column. Results are confirmed on both columns and reported from the passing column. The following sample is impacted: (CCV 580-285892/3).

Method(s) 8082A: The continuing calibration verification (CCV) associated with 580-285804 recovered outside the control limits for PCB-1232 on one column. Results are confirmed on both columns and reported from the passing column. The following sample is impacted: (CCV 580-285804/46).

Method(s) 8082, 8082A: The continuing calibration verification (CCV) associated with 580-285677 recovered high and outside the control limits for PCB-1232, PCB-1248, PCB-1254 and PCB-1260 on one column. Results are confirmed on both columns and reported from the passing column. The following samples are impacted: CP-BR-092218-WA (580-80641-2), CP-C-092218-WA (580-80641-3), (CCV 580-285677/4), (CCV 580-285677/5), (CCV 580-285677/7), (CCVIS 580-285677/8), (LCS 580-285626/2-A), (LCSD 580-285626/3-A) and (MB 580-285626/1-A).

Method(s) 8082A: Surrogate recovery for the following samples were outside control limits: CP-F-092218-WA (580-80641-4) and CP-F-092218-WA (580-80641-4[MSD]). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

Definitions/Glossary

Client: AECOM
Project/Site: Chevron Plant 10/SCU 14-3

TestAmerica Job ID: 580-80641-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Glossary

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

Client Sample Results

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3

TestAmerica Job ID: 580-80641-1

Client Sample ID: CP-A-092218-WA

Lab Sample ID: 580-80641-1

Date Collected: 09/22/18 11:07

Matrix: Water

Date Received: 09/25/18 14:40

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.46	0.063	ug/L		10/03/18 08:14	10/05/18 18:46	1
PCB-1221	ND		0.46	0.077	ug/L		10/03/18 08:14	10/05/18 18:46	1
PCB-1232	ND		0.46	0.065	ug/L		10/03/18 08:14	10/05/18 18:46	1
PCB-1242	ND		0.46	0.061	ug/L		10/03/18 08:14	10/05/18 18:46	1
PCB-1248	ND		0.46	0.053	ug/L		10/03/18 08:14	10/05/18 18:46	1
PCB-1254	ND		0.46	0.077	ug/L		10/03/18 08:14	10/05/18 18:46	1
PCB-1260	ND		0.46	0.063	ug/L		10/03/18 08:14	10/05/18 18:46	1
Polychlorinated biphenyls, Total	ND		0.46	0.077	ug/L		10/03/18 08:14	10/05/18 18:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	71		38 - 140	10/03/18 08:14	10/05/18 18:46	1
Tetrachloro-m-xylene	60		40 - 120	10/03/18 08:14	10/05/18 18:46	1

Client Sample Results

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3

TestAmerica Job ID: 580-80641-1

Client Sample ID: CP-BR-092218-WA

Lab Sample ID: 580-80641-2

Date Collected: 09/22/18 10:56

Matrix: Water

Date Received: 09/25/18 14:40

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.49	0.067	ug/L		10/03/18 18:42	10/04/18 23:21	1
PCB-1221	ND		0.49	0.082	ug/L		10/03/18 18:42	10/04/18 23:21	1
PCB-1232	ND		0.49	0.069	ug/L		10/03/18 18:42	10/04/18 23:21	1
PCB-1242	ND		0.49	0.065	ug/L		10/03/18 18:42	10/04/18 23:21	1
PCB-1248	ND		0.49	0.057	ug/L		10/03/18 18:42	10/04/18 23:21	1
PCB-1254	ND		0.49	0.082	ug/L		10/03/18 18:42	10/04/18 23:21	1
PCB-1260	ND		0.49	0.067	ug/L		10/03/18 18:42	10/04/18 23:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	86		38 - 140	10/03/18 18:42	10/04/18 23:21	1
Tetrachloro-m-xylene	82		40 - 120	10/03/18 18:42	10/04/18 23:21	1

Client Sample Results

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3

TestAmerica Job ID: 580-80641-1

Client Sample ID: CP-C-092218-WA

Lab Sample ID: 580-80641-3

Date Collected: 09/22/18 12:10

Matrix: Water

Date Received: 09/25/18 14:40

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.44	0.059	ug/L		10/03/18 18:42	10/04/18 23:38	1
PCB-1221	ND		0.44	0.073	ug/L		10/03/18 18:42	10/04/18 23:38	1
PCB-1232	ND		0.44	0.061	ug/L		10/03/18 18:42	10/04/18 23:38	1
PCB-1242	ND		0.44	0.057	ug/L		10/03/18 18:42	10/04/18 23:38	1
PCB-1248	ND		0.44	0.050	ug/L		10/03/18 18:42	10/04/18 23:38	1
PCB-1254	ND		0.44	0.073	ug/L		10/03/18 18:42	10/04/18 23:38	1
PCB-1260	ND		0.44	0.059	ug/L		10/03/18 18:42	10/04/18 23:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	80		38 - 140	10/03/18 18:42	10/04/18 23:38	1
Tetrachloro-m-xylene	80		40 - 120	10/03/18 18:42	10/04/18 23:38	1

Client Sample Results

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3

TestAmerica Job ID: 580-80641-1

Client Sample ID: CP-F-092218-WA

Lab Sample ID: 580-80641-4

Date Collected: 09/22/18 12:06

Matrix: Water

Date Received: 09/25/18 14:40

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.45	0.062	ug/L		10/03/18 08:14	10/05/18 20:49	1
PCB-1221	ND		0.45	0.076	ug/L		10/03/18 08:14	10/05/18 20:49	1
PCB-1232	ND		0.45	0.064	ug/L		10/03/18 08:14	10/05/18 20:49	1
PCB-1242	ND		0.45	0.060	ug/L		10/03/18 08:14	10/05/18 20:49	1
PCB-1248	ND		0.45	0.053	ug/L		10/03/18 08:14	10/05/18 20:49	1
PCB-1254	ND		0.45	0.076	ug/L		10/03/18 08:14	10/05/18 20:49	1
PCB-1260	ND		0.45	0.062	ug/L		10/03/18 08:14	10/05/18 20:49	1
Polychlorinated biphenyls, Total	ND		0.45	0.076	ug/L		10/03/18 08:14	10/05/18 20:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	52		38 - 140	10/03/18 08:14	10/05/18 20:49	1
Tetrachloro-m-xylene	30	X	40 - 120	10/03/18 08:14	10/05/18 20:49	1

Client Sample Results

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3

TestAmerica Job ID: 580-80641-1

Client Sample ID: CP-800-092218-WA

Lab Sample ID: 580-80641-5

Date Collected: 09/22/18 11:20

Matrix: Water

Date Received: 09/25/18 14:40

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.49	0.066	ug/L		10/03/18 08:14	10/05/18 21:42	1
PCB-1221	ND		0.49	0.081	ug/L		10/03/18 08:14	10/05/18 21:42	1
PCB-1232	ND		0.49	0.068	ug/L		10/03/18 08:14	10/05/18 21:42	1
PCB-1242	ND		0.49	0.064	ug/L		10/03/18 08:14	10/05/18 21:42	1
PCB-1248	ND		0.49	0.056	ug/L		10/03/18 08:14	10/05/18 21:42	1
PCB-1254	ND		0.49	0.081	ug/L		10/03/18 08:14	10/05/18 21:42	1
PCB-1260	ND		0.49	0.066	ug/L		10/03/18 08:14	10/05/18 21:42	1
Polychlorinated biphenyls, Total	ND		0.49	0.081	ug/L		10/03/18 08:14	10/05/18 21:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	69		38 - 140	10/03/18 08:14	10/05/18 21:42	1
Tetrachloro-m-xylene	55		40 - 120	10/03/18 08:14	10/05/18 21:42	1

QC Sample Results

Client: AECOM
Project/Site: Chevron Plant 10/SCU 14-3

TestAmerica Job ID: 580-80641-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-285528/1-A
Matrix: Water
Analysis Batch: 285892

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 285528

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.45	0.061	ug/L		10/03/18 08:14	10/05/18 14:03	1
PCB-1221	ND		0.45	0.075	ug/L		10/03/18 08:14	10/05/18 14:03	1
PCB-1232	ND		0.45	0.063	ug/L		10/03/18 08:14	10/05/18 14:03	1
PCB-1242	ND		0.45	0.059	ug/L		10/03/18 08:14	10/05/18 14:03	1
PCB-1248	ND		0.45	0.052	ug/L		10/03/18 08:14	10/05/18 14:03	1
PCB-1254	ND		0.45	0.075	ug/L		10/03/18 08:14	10/05/18 14:03	1
PCB-1260	ND		0.45	0.061	ug/L		10/03/18 08:14	10/05/18 14:03	1
Polychlorinated biphenyls, Total	ND		0.45	0.075	ug/L		10/03/18 08:14	10/05/18 14:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	99		38 - 140	10/03/18 08:14	10/05/18 14:03	1
Tetrachloro-m-xylene	42		40 - 120	10/03/18 08:14	10/05/18 14:03	1

Lab Sample ID: LCS 580-285528/6-A
Matrix: Water
Analysis Batch: 285892

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 285528

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	2.00	1.58		ug/L		79	50 - 121
PCB-1260	2.00	1.86		ug/L		93	55 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	80		38 - 140
Tetrachloro-m-xylene	47		40 - 120

Lab Sample ID: LCSD 580-285528/7-A
Matrix: Water
Analysis Batch: 285892

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 285528

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	2.00	1.64		ug/L		82	50 - 121	3	25
PCB-1260	2.00	1.92		ug/L		96	55 - 132	3	22

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	87		38 - 140
Tetrachloro-m-xylene	58		40 - 120

Lab Sample ID: 580-80641-4 MS
Matrix: Water
Analysis Batch: 285804

Client Sample ID: CP-F-092218-WA
Prep Type: Total/NA
Prep Batch: 285528

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	ND		2.02	1.50		ug/L		74	50 - 121
PCB-1260	ND		2.02	1.78		ug/L		88	55 - 132

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl	74		38 - 140

TestAmerica Seattle

QC Sample Results

Client: AECOM
Project/Site: Chevron Plant 10/SCU 14-3

TestAmerica Job ID: 580-80641-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 580-80641-4 MS
Matrix: Water
Analysis Batch: 285804

Client Sample ID: CP-F-092218-WA
Prep Type: Total/NA
Prep Batch: 285528

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	63		40 - 120

Lab Sample ID: 580-80641-4 MSD
Matrix: Water
Analysis Batch: 285804

Client Sample ID: CP-F-092218-WA
Prep Type: Total/NA
Prep Batch: 285528

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec.		RPD	Limit
				Result	Qualifier				Limits	RPD		
PCB-1016	ND		2.04	1.41		ug/L		69	50 - 121	6	25	
PCB-1260	ND		2.04	1.70		ug/L		83	55 - 132	4	22	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl	59		38 - 140
Tetrachloro-m-xylene	29	X	40 - 120

Lab Sample ID: MB 580-285626/1-A
Matrix: Water
Analysis Batch: 285677

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 285626

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-1016	ND		0.45	0.061	ug/L		10/03/18 18:42	10/04/18 22:14	1
PCB-1221	ND		0.45	0.075	ug/L		10/03/18 18:42	10/04/18 22:14	1
PCB-1232	ND		0.45	0.063	ug/L		10/03/18 18:42	10/04/18 22:14	1
PCB-1242	ND		0.45	0.059	ug/L		10/03/18 18:42	10/04/18 22:14	1
PCB-1248	ND		0.45	0.052	ug/L		10/03/18 18:42	10/04/18 22:14	1
PCB-1254	ND		0.45	0.075	ug/L		10/03/18 18:42	10/04/18 22:14	1
PCB-1260	ND		0.45	0.061	ug/L		10/03/18 18:42	10/04/18 22:14	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
DCB Decachlorobiphenyl	72		38 - 140	10/03/18 18:42	10/04/18 22:14	1
Tetrachloro-m-xylene	82		40 - 120	10/03/18 18:42	10/04/18 22:14	1

Lab Sample ID: LCS 580-285626/2-A
Matrix: Water
Analysis Batch: 285677

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 285626

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	RPD
PCB-1016	1.00	0.785		ug/L		79	50 - 121	
PCB-1260	1.00	0.767		ug/L		77	55 - 132	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl	73		38 - 140
Tetrachloro-m-xylene	75		40 - 120

QC Sample Results

Client: AECOM
 Project/Site: Chevron Plant 10/SCU 14-3

TestAmerica Job ID: 580-80641-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCSD 580-285626/3-A

Matrix: Water

Analysis Batch: 285677

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 285626

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	1.00	0.925		ug/L		92	50 - 121	16	25
PCB-1260	1.00	0.953		ug/L		95	55 - 132	22	22
LCSD LCSD									
Surrogate	%Recovery	Qualifier	Limits						
DCB Decachlorobiphenyl	95		38 - 140						
Tetrachloro-m-xylene	80		40 - 120						



Lab Chronicle

Client: AECOM
Project/Site: Chevron Plant 10/SCU 14-3

TestAmerica Job ID: 580-80641-1

Client Sample ID: CP-A-092218-WA

Lab Sample ID: 580-80641-1

Date Collected: 09/22/18 11:07

Matrix: Water

Date Received: 09/25/18 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			285528	10/03/18 08:14	KS	TAL SEA
Total/NA	Analysis	8082A		1	285892	10/05/18 18:46	APR	TAL SEA

Client Sample ID: CP-BR-092218-WA

Lab Sample ID: 580-80641-2

Date Collected: 09/22/18 10:56

Matrix: Water

Date Received: 09/25/18 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			285626	10/03/18 18:42	JCM	TAL SEA
Total/NA	Analysis	8082A		1	285677	10/04/18 23:21	TL1	TAL SEA

Client Sample ID: CP-C-092218-WA

Lab Sample ID: 580-80641-3

Date Collected: 09/22/18 12:10

Matrix: Water

Date Received: 09/25/18 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			285626	10/03/18 18:42	JCM	TAL SEA
Total/NA	Analysis	8082A		1	285677	10/04/18 23:38	TL1	TAL SEA

Client Sample ID: CP-F-092218-WA

Lab Sample ID: 580-80641-4

Date Collected: 09/22/18 12:06

Matrix: Water

Date Received: 09/25/18 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			285528	10/03/18 08:14	KS	TAL SEA
Total/NA	Analysis	8082A		1	285804	10/05/18 20:49	CJB	TAL SEA

Client Sample ID: CP-800-092218-WA

Lab Sample ID: 580-80641-5

Date Collected: 09/22/18 11:20

Matrix: Water

Date Received: 09/25/18 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			285528	10/03/18 08:14	KS	TAL SEA
Total/NA	Analysis	8082A		1	285804	10/05/18 21:42	CJB	TAL SEA

Laboratory References:

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

Accreditation/Certification Summary

Client: AECOM

TestAmerica Job ID: 580-80641-1

Project/Site: Chevron Plant 10/SCU 14-3

Laboratory: TestAmerica Seattle

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-024	01-19-19
ANAB	DoD ELAP		L2236	01-19-19
ANAB	ISO/IEC 17025		L2236	01-19-19
California	State Program	9	2901	11-05-18
Montana (UST)	State Program	8	N/A	04-30-20
Nevada	State Program	9	WA000502019-1	07-31-19
Oregon	NELAP	10	WA100007	11-05-18
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-19

Sample Summary

Client: AECOM

Project/Site: Chevron Plant 10/SCU 14-3

TestAmerica Job ID: 580-80641-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-80641-1	CP-A-092218-WA	Water	09/22/18 11:07	09/25/18 14:40
580-80641-2	CP-BR-092218-WA	Water	09/22/18 10:56	09/25/18 14:40
580-80641-3	CP-C-092218-WA	Water	09/22/18 12:10	09/25/18 14:40
580-80641-4	CP-F-092218-WA	Water	09/22/18 12:06	09/25/18 14:40
580-80641-5	CP-800-092218-WA	Water	09/22/18 11:20	09/25/18 14:40

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Regulatory Program: DW NPDES RCRA Other:

Client Contact		Project Manager: PAUL DUBOIAN		Site Contact: Jackie Donley		Date: 9/22/18		COC No:			
Company Name: AECOM		Tel/Fax: 907-748-4043		Lab Contact: EIaine Walker		Carrier:		1 of 1 COCs			
Address: 700 G Street, Suite 500		Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below _____ <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week STANDARD TAT <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Filtered Sample (Y/N) Perform MS / MSD (Y/N) PCB 808A						Sampler:	
City/State/Zip: Anchorage AK										For Lab Use Only:	
Phone: 907-748-9043										Walk-in Client:	
Fax:										Lab Sampling:	
Project Name: CHEVRON PLANT 10										Job / SDG No.:	
Site:											
P O # 60372661											
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Sample Specific Notes:		
CP-A-092218-WA		9/22/18	11:07	G	WA			2			
CP-BR-092218-WA		9/22/18	10:56	G	WA			2			
CP-C-092218-WA		9/22/18	12:10	G	WA			2			
CP-F-092218-WA		9/22/18	12:06	G	WA			6	MS/MSD		
CP-800-092218-WA		9/22/18	11:20	G	WA			2	MS/MSD 90		
 580-80641 Chain of Custody										Therm. ID: A7 Cor: 1.5 ° Unc: 1.5 °	
										Cooler Dsc: 65 B/102	
										Packing: Bubble FedEx:	
										Cust. Seal: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> UPS:	
										Lab Cour: <input checked="" type="checkbox"/>	
										Wet/Packs/Dry Ice/None <input checked="" type="checkbox"/> Other:	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other											
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown						<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months					
Special Instructions/QC Requirements & Comments: Low Level ALASKA Method, Report TOTAL SUM + INDIVIDUAL ISOMERS, Report to D.L.											
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Corr'd:		Therm ID No.:			
Relinquished by: Jackie Donley		Company: AECOM		Date/Time: 9/24/18 0820		Received by:		Company: TA-AK		Date/Time: 9/24/18 10:30	
Relinquished by: [Signature]		Company: TA-AK		Date/Time: 9/24/18 1530		Received by: [Signature]		Company: TA-AK		Date/Time: 9/25/18 1440	
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:		Company:		Date/Time:	

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-80641-1

Login Number: 80641

List Source: TestAmerica Seattle

List Number: 1

Creator: Bean, Dennis L

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



Laboratory Data Review Checklist

Completed by:

Cathy Larson

Title:

Environmental Chemist

Date:

November 05, 2018

CS Report Name:

Swanson River Plant 10

Report Date:

December 01, 2018

Consultant Firm:

AECOM

Laboratory Name:

TestAmerica

Laboratory Report Number:

580-80641-1

ADEC File Number:

Hazard Identification Number:

1. Laboratory

- a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes No Comments:

TestAmerica in Seattle received and performed all analyses.

- b. If the samples were transferred to another “network” laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes No Comments:

2. Chain of Custody (COC)

- a. COC information completed, signed, and dated (including released/received by)?

Yes No Comments:

- b. Correct analyses requested?

Yes No Comments:

3. Laboratory Sample Receipt Documentation

- a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

Yes No Comments:

Cooler temperature was 1.8 °C when samples arrived at TestAmerica in Seattle.

- b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes No Comments:

- c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No Comments:

- d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes No Comments:

No discrepancies were noted.

e. Data quality or usability affected?

Comments:

Data quality and usability are not affected.

4. Case Narrative

a. Present and understandable?

Yes No

Comments:

b. Discrepancies, errors or QC failures identified by the lab?

Yes No

Comments:

The case narrative indicates the following:

Surrogate recoveries were outside of criteria for one sample due to matrix interference.

Various Arochlors had CCVs recovered outside of criteria. Results are reported from the passing column.

c. Were all corrective actions documented?

Yes No

Comments:

d. What is the effect on data quality/usability according to the case narrative?

Comments:

The case narrative does not indicate the effect on data quality or usability. See respective sections of this checklist for data quality and usability impacts.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes No

Comments:

b. All applicable holding times met?

Yes No

Comments:

c. All soils reported on a dry weight basis?

Yes No

Comments:

N/A. Only water samples were submitted.

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

Yes No Comments:

The PCB Cleanup Level is 0.00044 mg/L. LOQs ranged from 0.00044 - 0.00049 mg/L. Results were reported at the method detection limit.

e. Data quality or usability affected?

Comments:

Data quality and usability are not affected.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes No Comments:

ii. All method blank results less than limit of quantitation (LOQ)?

Yes No Comments:

iii. If above LOQ, what samples are affected?

Comments:

N/A

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No Comments:

N/A

v. Data quality or usability affected?

Comments:

Data quality and usability are not affected.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Not applicable

Yes No Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes No Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes No Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

Accuracy and precision criteria were met.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No Comments:

Accuracy and precision criteria were met.

vii. Data quality or usability affected?

Comments:

Data quality and usability are not affected.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

Yes No Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes No Comments:

Surrogate recovery of tetrachloro-m-xylene in sample CP-F-092218-WA was outside of QC criteria (biased low) due to matrix interference.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Yes No Comments:

PCB sample results for CP-F-092218-WA were flagged JS- for a low surrogate recovery.

iv. Data quality or usability affected?

Comments:

Data quality is minimally affected. Sample results were all non-detect and the method detection limits were below cleanup levels.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and cooler?

Yes No

Comments:

Volatile analyses were not requested therefore no trip blank was submitted.

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC?
(If not, a comment explaining why must be entered below)

Yes No

Comments:

N/A

iii. All results less than LOQ?

Yes No

Comments:

N/A

iv. If above LOQ, what samples are affected?

Comments:

N/A

v. Data quality or usability affected?

Comments:

Data quality and usability are not affected.

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes No

Comments:

ii. Submitted blind to lab?

Yes No

Comments:

Sample CP-A-092218-WA and its duplicate CP-800-092218-WA.

- iii. Precision – All relative percent differences (RPD) less than specified DQOs?
(Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes No Comments:

- iv. Data quality or usability affected?

Comments:

Data quality and usability are not affected.

- f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

Yes No Not Applicable

No non-dedicated equipment was used to collect the samples; therefore, equipment blanks were not collected.

- i. All results less than LOQ?

Yes No Comments:

N/A.

- ii. If above LOQ, what samples are affected?

Comments:

N/A.

- iii. Data quality or usability affected?

Comments:

N/A.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

- a. Defined and appropriate?

Yes No Comments:

Attachment C

Data Quality Assessment

1.0 Introduction

This data quality assessment (DQA) has been completed in review of the laboratory results (sample delivery groups (SDGs) 580-78918-1 and 580-80641-1) for samples collected at Compressor Plant 10 and Soldotna Creek Unit 14-3, Swanson River Field, Sterling, Alaska in July and September of 2018. A total of 11 water samples, two water duplicate samples, and two matrix spike/matrix spike duplicate (MS/MSD) sample pairs were collected and analyzed for seven polychlorinated biphenyl (PCB) compounds. The sample quantities described above show that the project met the 10-percent (%) field duplicate and 5% MS/MSD objectives of the project.

TestAmerica Laboratories, Inc. of Seattle, Washington (TestAmerica) performed the chemical analyses in accordance with laboratory standard operating procedures and quality assurance manuals. PCB analyses were performed using Environmental Protection Agency Method 8082A.

Individual PCB and the total PCB values were compared against the Alaska Department of Environmental Conservation Method Two water cleanup level, revised from 0.0005 milligrams per liter (mg/L) to 0.00044 mg/L in the 18 AAC 75 version amended through September 29, 2018. Sample reporting limits ranged from 0.00044 to 0.00049 mg/L and did not meet the amended PCB cleanup level. Non-detect results were reported as ND at the method detection limit (MDL).

All sample results were ND above the MDL. The MDL for each individual PCB and total PCBs was used to compare to cleanup levels. For all samples, there were no detections or MDLs above the cleanup levels.

2.0 Data Review and Qualification

An AECOM project chemist reviewed the Level II analytical data packages supplied by TestAmerica and associated sample documentation including chain-of-custody and laboratory sample cooler receipt forms. The following data quality parameters were examined to determine potential data qualifications:

- Sample handling and preservation,
- Holding times,
- Laboratory reporting limits and detection limits,
- Continuous calibration verifications recoveries (as described in the laboratory narrative),
- MS and MSD recoveries,
- Laboratory control spike (LCS) and laboratory control spike duplicate (LCSD) recoveries,
- Surrogate recoveries,

- Method blank recoveries, and
- Precision of sample duplicates, MS/MSD pairs, and LCS/LCSD pairs.

Raw data (such as chromatograms), laboratory standards or calibration summaries, internal standards, and sample preparation information were not provided by the laboratory or reviewed as part of this DQA.

Quality control samples were compared against laboratory limits to determine data accuracy and precision. Discussions concerning data validation are presented in the Laboratory Data Quality Review Checklists (Attachment B). The data validation process identified individual datum requiring data validation qualifiers as shown in the table below. All data are considered usable with the limitations indicated.

Sample Identification	Date Collected	Total PCB ($\mu\text{g/L}$)	Data Qualifier (all individual and total PCB results)	Data Qualifier Description
CP-A-071518-WA	07/15/2018	ND [0.46]	JS-	One of the surrogates, tetrachloro-m-xylene, recovered outside of control criteria due to potential matrix interference. The second surrogate, decachlorobiphenyl, recovered within control criteria. Results are potentially biased low.
CP-F-071518-WA	07/15/2018	ND [0.46]	JS-	
CP-F-092218-WA	09/22/18	ND [0.45]	JS-	
Well1-071518-WA	07/15/2018	ND [0.45]	JS-	
Well3-071518-WA	07/15/2018	ND [0.45]	JS-	

3.0 Conclusion

The overall data quality was acceptable, and all analytical data quality objectives were considered met. No data were rejected. All data are considered usable with the limitations described.

This statement is to certify that I have examined the analytical data, and based upon the information provided to me by the laboratory, in my professional judgment, the data are acceptable for use except where indicated with data qualifiers that may modify the usefulness of those individual values.



Cathy Larson
Environmental Chemist

Attachment D Waste Manifest

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. CESQG		Manifest Document No. 131755A		2. Page 1 of 1	
3. Generator's Name and Mailing Address CHEVRON ENVIRONMENTAL MANAGEMENT COI 1400 SMITH STREET, RM 07047 HOUSTON, TX 77002				CHEVRON ENV MGMT COMPANY P&S YARD XYLENE REMEDIATION SITE STERLING, AK 99672			
4. Generator's Phone (907) 263-7642							
5. Transporter 1 Company Name NRC ALASKA LLC		6. US EPA ID Number AKR000004184		A. State Transporter's ID		B. Transporter 1 Phone 907-258-1558	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Transporter's ID		D. Transporter 2 Phone	
9. Designated Facility Name and Site Address NRC ALASKA LLC 44086 KENAI SPUR HIGHWAY KENAI, AK 99611				10. US EPA ID Number AKR000203984		E. State Facility's ID	
				F. Facility's Phone 907-395-4600			
11. WASTE DESCRIPTION						Containers	
						No.	Type
a. HM MATERIAL NOT REGULATED BY D.O.T.						8	DM
b. MATERIAL NOT REGULATED BY D.O.T.						1	DM
c.							
d.							
13. Total Quantity						14. Unit Wt./Vol.	
						3,600	P
						300	P
15. Special Handling Instructions and Additional Information						H. Handling Codes for Wastes Listed Above	
) EA0302 P&S YARD IDW DECON WATER/GROUNDWATER) EA0802 PLANT 10/SCU 14-3 (ND<2PPM) PCB CONTAMINATED WATER						D 9981	
15. Special Handling Instructions and Additional Information Shipper's Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation							
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.							
Printed/Typed Name DOA for CHEVRON Jacqueline Donley EMC						Signature <i>Jacqueline Donley</i>	
17. Transporter 1 Acknowledgement of Receipt of Materials						Date 10/29/18	
Printed/Typed Name Jared W Gilliam						Signature <i>Jared W Gilliam</i>	
18. Transporter 2 Acknowledgement of Receipt of Materials						Date 10 29 2018	
Printed/Typed Name						Signature	
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.						Date	
Printed/Typed Name						Signature	
						Month Day Year	

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY

Attachment E Survey Data



	WELL	POINT #	NAD 83				NAD27				ELEVATIONS		
			NORTHING	EASTING	LATITUDE	LONGITUDE	NORTHING	EASTING	LATITUDE	LONGITUDE	PVC	CASE	GROUND
SCU 14-3 PAD	MONITOR WELL 1	103	2456517.54	1488038.06	N60°43'16.65282"	W150°51'03.75157"	2456756.40	348015.23	N60°43'18.68185"	W150°50'55.76513"	130.23	130.83	129.20
	MONITOR WELL 2	106	2456216.63	1487930.50	N60°43'13.67587"	W150°51'05.83546"	2456455.49	347907.68	N60°43'15.70502"	W150°50'57.84899"	131.13	131.81	129.05
	MONITOR WELL 3	109	2456078.93	1488338.21	N60°43'12.37181"	W150°50'57.60345"	2456317.80	348315.39	N60°43'14.40097"	W150°50'49.61741"	123.68	124.35	122.71

NOTE:

1) BASIS OF HORIZONTAL; NAD83 US FEET POSITION (EPOCH 2010) AND VERTICAL CONTROL (NAVD88) IS AN OPUS SOLUTION FROM NGS STATIONS TBON, TSEA, AND ANC2 TO ESTABLISH CP-2.

THE ALASKA STATE PLANE NAD83 ZONE 4 COORDINATES ARE:

N: 2458384.578
 E: 1483669.444
 EL: 212.690

2) DATUM TRANSFORMATIONS (NAD83 ASP Z4 to NAD27 ASP Z4) WERE DONE USING CORPSCON SOFTWARE VERSION 6.0.1.

3) SURVEY METHODOLOGY: GPS RTK FOR HORIZONTAL LOCATIONS, DIFFERENTIAL LEVELING FOR GROUND, PVC AND CASING ELEVATIONS.

4) DATE OF SURVEY: OCTOBER 17, 2018

