Williams Petroleum Services, LLC
One Williams Center
P.O. Box 3483
Tulsa, OK 74101-3483

April 2, 2019

Mr. Don Lininger, CHMM
Chief, Waste Remediation & Permitting
Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

Re: Quarterly Update – 1st Quarter 2019
Former Augusta Refinery (FAR) RCRA Facility Investigation (RFI)
Williams Petroleum Services (WPS), LLC
Augusta, Kansas – KSD007235138

Dear Mr. Lininger:

This letter is offered as the report of investigation activities at the Former Augusta Refinery (FAR) in accordance with Section X, "Reporting," of the Administrative Order on Consent dated October 24, 2003, Docket No. RCRA-07-2004-0009. This report addresses activities occurring during the period of January 1 through March 31, 2019.

Description of Activities

- In accordance with the August 26, 2015 LNAPL Corrective Measures Study (CMS) Work Plan Addendum, completed routine manual and passive light non-aqueous phase liquid (LNAPL) recovery efforts for the continued evaluation of LNAPL removal efficacy.
- In correspondence dated January 15, 2019, the 4th quarter 2018 NPDES report was submitted to KDHE.
- In correspondence dated January 8, 2019, the 4th quarter 2018 Quarterly Report was submitted to the USEPA and KDHE.
- In email dated February 26, 2019, APTIM submitted to KDHE the SWMU 1 and 2 2018 Annual Post-Closure Groundwater Monitoring Report.
- In March 2019, downloaded transducer data and collected water levels as part of the continued Water Balance evaluation through the ongoing monitoring of water level data per the September 11, 2013 scope of work.

- In March 2019, completed 1st quarterly NPDES sampling.

Summary of All Findings

- The results for 2018 Walnut River AOI Interim Measures surface water performance sampling, monthly inspections, and evaluation of the PBA capacity are presented in Attachment A. Surface water performance sampling was not completed in December of 2018 or this quarter because of high Walnut River flow rates (>50 cubic feet per second).

Summaries of All EPA/KDHE Approved Changes

- None.

Summaries of All Contacts

- See description of activities.

Summaries of Problems Encountered

- None.

Actions to Rectify Problems

- None.

Changes in Key Project Entities

- None.

Projected Work for the Next Reporting Period

The following activities will be performed or initiated during the next reporting period:

- Continue LNAPL monitoring and removal.
- Continue quarterly NPDES monitoring.
- Continue pilot test activities.
- Complete the NuStar AOC reporting activities.

Other Relevant Documentation

- None

I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to evaluate the information submitted. I certify that the information contained in or accompanying this submittal is true, accurate, and complete. As to those identified portion(s) of this submittal for which I cannot personally verify the accuracy, I certify that this submittal and all attachments were prepared in accordance with the procedures designed to ensure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, or the immediate supervisor of such person(s), the information submitted is, to the best of my

knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please provide all written correspondence regarding this Quarterly Update directly to Mr. Lee Andrews, with Williams Petroleum Services, LLC. If you have any questions, do not hesitate to contact Mr. Andrews at (918) 573-6912.

Sincerely,
Williams Petroleum Services, LLC

Mark A. Gebbia
Vice President, Environmental, Regulatory & Permitting

c: Gary Blackburn, KDHE
Lee Andrews, Williams Petroleum Services, LLC
David Way, Aptim Environmental & Infrastructure, Inc.

Walnut River Area of Interest Interim Corrective Measure 2018 Monitoring

Per the Operations and Maintenance Plan, monitoring and sampling activities were completed at the Walnut River AOI. These activities included revegetation monitoring, light non-aqueous phase liquid recovery, surface water sampling, and Permeable Adsorptive Barrier (PAB) performance monitoring. Installation of the PAB was completed at the end of February 2016

Revegetation Monitoring

The observed vegetation within the disturbed area of the WRAOI has continued to fill in with new grass throughout the last year. The area was mowed in December 2018 and does not appear to require any over seeding at this time.

LNAPL Recovery

Monitoring wells WRAOI-16-01 and WRAOI-16-02 are gauged on a monthly basis during other site wide monitoring activities. Both monitoring wells have had measurable LNAPL at some point during the 2018 monitoring activities. Monitoring well WRAOI-16-01 has had a trace to as much as 0.16 feet of LNAPL and monitoring well WRAOI-16-02 has had a trace to as much as 0.11 feet of LNAPL, with the LNAPL being removed as needed by bailing or peristaltic pump. The monthly gauging activities for these two monitoring wells is included in the attached field notes.

Surface Water Sampling

Performance acceptability of the PAB is measured by evaluating surface water quality at locations noted as See-07 and Seep-08 and verification that no seeps are visible at the river bank along the extent of the PAB. As specified in the Operations and Maintenance Plan, the flow rate of the Walnut River must be less than 50 cubic feet per second (cfs) for collection of representative surface water samples.

Biased surface water samples were collected from the western bank of the Walnut River east of the historical locations of former Seep-07 and Seep-08 sampling locations on December 11, 2017 and June 25, 2018. A background surface water sample is also collected from the west bank of the Walnut River, approximately 20 to 30 feet up stream of the PAB. Due to significant precipitation events in the fall and into the winter of 2018, the Walnut River flow rate was higher than the 50 cfs threshold, preventing surface water sampling in December 2018. The flow rate continues to be above 50 cfs into March 2019.

Each of the Walnut River surface water samples were analyzed per the O&M Plan for target volatile organic compounds (VOC analysis by EPA Method 8260), target semi-volatile organic compounds (SVOC analysis by EPA Method 8270), and target total metals (total metals only by EPA Method 6010 and arsenic by EPA Method 6020). A surface water sample was also collected at each sampling

location for hardness as calcium carbonate by Standard Methods 2340C. A summary of the surface water sampling results are shown in **Table 1**. Complete laboratory results for the surface water samples collected on December 11, 2017 and June 25, 2018 are attached.

The laboratory analytical results for the surface water samples were screened against the Kansas Surface Water Quality Standard. If there is no Kansas Surface Water Quality Standard for the constituent, then the results were compared to the United States Environmental Protection Agency (USEPA) Primary Drinking Water Standard Maximum Contaminant Level (MCL).

No VOCs were detected in the surface water samples collected during the June 2018 sampling event. Trace amounts of 2-methylnaphthalene, bis(2-ethylhexl)phathalate, and naphthalene were reported in both the Seep-7 and Seep-8 surface water samples. All detected inorganics were less than their respective standard. The average concentrations of inorganic analytical results for the down-gradient surface water samples are comparable to the up-gradient surface water analytical results with no notable increase in concentrations.

Monthly inspection of the PAB area did not indicate the presence of any hydrocarbon seeps along the length of the PABs documented in the inspection forms. There continues to be residual iron bacteria noted in the area of the former Seep-8 location that was not excavated during the installation of the PAB, however, no evidence of a hydrocarbon seep was observed.

PAB Performance Monitoring

The long term PAB monitoring for remaining adsorption capacity calculations are included in **Table 2**. No new benzene data is available since the PAB capacity calculation was performed in June 2016. Trace amounts of LNAPL prevented groundwater sampling of several of the monitoring wells during the 2017 groundwater sampling event in the area of the WRAOI. Therefore, the same benzene concentration of 3,760 µg/l was used. The benzene concentration of 3,760 µg/l is the maximum benzene concentration observed in monitoring well WRFAR10-03S during the 2010 groundwater sampling event.

The recent arsenic data from the 2017 groundwater sampling event of 192 µg/l for monitoring well DG-03D was used in place of the concentration of 212 µg/l used in the June 2016 calculation. The updated estimates of the remaining adsorption capacities of the AquaGate+Organoclay and the AquaGate+ProvectIRM portions of the PAB were found to be from 29.9 (using benzene saturation limit to represent LNAPL) to 502.6 years 502.6 years (using maximum benzene concentration observed in monitoring well WRFAR10-03S during the 2010 groundwater sampling event) for the AquaGate+Organoclay and 13.6 years (using most recent highest actual dissolved arsenic concentrations) for the AquaGate+ProvectIRM.

Updated capacities represent worst case scenarios where 100% of the PAB materials are exposed to either highest dissolved benzene/arsenic concentrations or LNAPL. Capacity calculations do not in-

clude the AquaGate+PAC portion of the PAB, which would add several additional years to the PAB adsorption capacity.

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561
Date : 1/17/18
Weather: Cold, windy
Inspector: A. Haller

Check List	Comments
Overhead Line fuses:	Good
Locks at, Gate 1: Gate 15: Gate 12: Gate 16: Gate 14: Gate 17:	Good
Sign IN/OUT sheet Check:	Good
SWPP drainage and site ponding water check:	Good ; No standing water, site is dry
South Pond Info:	DTW: 7.70 Frozen From Gauge Point Water Level Down
North Pond info:	DTW: 5.33 Frozen Water Level Down
Pump House check: East & West Pumps	West Pump Operational East Pump not operational
Flood corridor check:	Good. No standing water
River Outfall check (Qtrly): (check valve annually)	Checked with SWPPP inspection in Dec. Good condition
Fence and Gate Breech checks:	Good. No breeches observed.
SWMU 1&2 checks: (ruts, erosion, burrows, etc)	Cap in Good condition.
Site mowing and growth check:	Site recently mowed
River AOI Inspection:	Full vegetative cover or rip-rap; no visible knarl observed. Former seep & iron staining observed.
Product Storage Unit Inspection:	Drum nearly full. Lable in good condition.
Other comments:	1.75 ft rod in drum .25 ft remaining

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561
Date : 1/17/18
Weather: COLD, WINDY
Inspector: A. HALLER

Product and Water Level Information for wells that historically shown LNAPL

Well	Product Level (TOC)	Water Level (TOC)	Comments/Product Removed
FAR10-5S	–	18.00	
FAR10-6S	–	9.02	
FAR10-7S	–	14.43	
GM-1SR	15.43	15.65	
GM-2S	17.87	17.91	4 oz PRODUCT REMOVED 12 oz WATER REMOVED
GM-3S	14.55	14.65	16 oz PRODUCT REMOVED 4 oz WATER REMOVED
GM-6SR	–	14.32	
GM-9	–	12.07	
WRAOI16-02	23.58	23.69	4 oz PRODUCT REMOVED 4 oz WATER REMOVED
WRAOI16-01	25.11	24.95	4 oz PRODUCT REMOVED 4 oz WATER REMOVED

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561
Date : 2-13-2018
Weather: cool, windy
Inspector: Jacque Wilson

Check List	Comments
Overhead Line fuses:	Good
Locks at, Gate 1: Gate 15: Gate 12: Gate 16: Gate 14: Gate 17:	Good
Sign IN/OUT sheet Check:	Good
SWPP drainage and site ponding water check:	No standing water on-site.
South Pond Info:	DTW = 8.20' Pond levels down
North Pond info:	DTW - 5.60' - frozen in casing. Pond level down
Pump House check: East & West Pumps	West pump operational. East pump not operational.
Flood corridor check:	No standing water on-site
River Outfall check (Qtrly): (check valve annually)	Checked with Quarterly SWPPP inspection in Dec 2017. Good condition.
Fence and Gate Breech checks:	No breeches observed.
SWMU 1&2 checks: (ruts, erosion, burrows, etc)	Cap in good condition.
Site mowing and growth check:	Site was mowed in the fall, little growth since mowed.
River AOI Inspection:	Full vegetative cover or rip-rap. No visible NAPL observed. Iron-staining observed at Former Seep 8.
Product Storage Unit Inspection:	1 Full drum + 1 partial drum.
Other comments:	

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561.1102320
Date : 2/12/18 - 2/14/18
Weather: Cold - Clear.
Inspector: BD

Product and Water Level Information for wells that historically shown LNAPL

Well	Product Level (TOC)	Water Level (TOC)	Comments/Product Removed
FAR10-5S	—	WL: 18.65 TD: 27.05	—; frac
FAR10-6S	—	WL: 9.04 TD: 21.48	—; frac
FAR10-7S	—	WL: 15.18 TD: 21.02	—; frac
GM-1SR	16.02	WL: 16.17 TD: —	40 oz product; 2 oz water; frac
GM-2S	18.67	WL: 18.76 TD: —	4 oz product; 0 oz water; frac
GM-3S	15.27	WL: 15.45 TD: —	12 oz product; 2 oz water frac
GM-6SR	—	WL: 14.71 TD: 22.82	—; frac
GM-9	—	WL: 12.87 TD: 22.68	—; frac
WRAOI16-02	—	WL: 23.68 TD: —	
WRAOI16-01	25.02	WL: 25.18 TD: —	10 oz product; 2 oz water; frac.

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561. 11521320

Date : 3/19/18

Weather: Cloudy ; Lt Rain

Inspector: J. Beilson

Check List	Comments
Overhead Line fuses:	Good
Locks at, Gate 1: Gate 15: Gate 12: Gate 16: Gate 14: Gate 17:	Good
Sign IN/OUT sheet Check:	Good
SWPP drainage and site ponding water check:	Light amount of standing water from previous night / current rain.
South Pond Info:	DTW: 8.49 ; Datum 1226.88 ; 1218.49 3/19/18 @ 1100
North Pond info:	DTW: 5.83 ; Datum 1219.51) 1218.68 3/19/18 @ 1200
Pump House check: East & West Pumps	West Pump : Non-Operational East Pump : Non-Operational
Flood corridor check:	Light amount of water in flood channel 2-3' inches.
River Outfall check (Qtrly): (check valve annually)	Checked with Qtrly SWPPP Inspection ; Clear of Debris -- Good Condition.
Fence and Gate Breech checks:	No Breaches visible / present.
SWMU 1&2 checks: (ruts, erosion, burrows, etc)	Good Condition
Site mowing and growth check:	Site was mowed in Fall; No current overgrowth since that time.
Misc Site Info: Product :	-- 1 full Drum recovered product ; 1 partial Drum product onsite.

River AOI Inspection :

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561. 1152/320

Date : 3/19/18

Weather: Cloudy ; 4f Rain / Clear

Inspector: J. Beilman

Product and Water Level Information for wells that historically shown LNAPL

Well	Product Level (TOC)	Water Level (TOC)	Comments/Product Removed
FAR10-5S	—	WL: 19.09 TD: 27.05	—
FAR10-6S	—	WL: 8.99 TD: 21.48	—
FAR10-7S	—	WL: 15.99 TD: 21.02	—
GM-1SR	14.29	WL: 14.31 TD: —	Removed 16 oz product.
GM-2S	18.03	WL: 18.18 TD: —	Removed 15 oz product.
GM-3S	15.24	WL: 15.31 TD: —	Removed 8 oz product
GM-6SR	—	WL: 13.77 TD: 22.82	—
GM-9	—	WL: 12.44 TD: 22.68	—
WRAOI16-02	~~25.88~~ —	WL: ~~26.18~~ 23.74 TD: —	~~Removed 20 oz product.~~ 038
WRAOI16-01	Trace	WL: 25.01 TD: —	—

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561-11521320

Date : 4-20-18

Weather: Clear 60-70°F

Inspector: Phil Osborn

Check List	Comments
Overhead Line fuses:	O/C
Locks at, Gate 1: Gate 15: Gate 12: Gate 16: Gate 14: Gate 17:	ok
Sign IN/OUT sheet Check: OK	
SWPP drainage and site ponding water check:	Dry No surface water in ditches –
South Pond Info: DTW 8.88 SWMU-11	
North Pond info: DTW 6.26 SWMU-10	
Pump House check: East & West Pumps	9:25 started East Pump, West Pump won't run 12:15 off DTW SWMU 13 12.02'
Flood corridor check: mowed OK	levee Pond SWMU 14 ~2' lower Almost dry
River Outfall check (Qtrly): (check valve annually)	
Fence and Gate Breech checks:	fixed fence just N. of 2nd St Gate –
SWMU 1&2 checks: (ruts, erosion, burrows, etc)	looks good
Site mowing and growth check:	looks good
River AOI Inspection:	Some noted iron stainings North end Smells OK walk edge riprap south looks good
Product Storage Unit Inspection:	two new drums – ok
Other comments:	

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561-1152/320

Date : 4-20-18

Weather: clear 50-60°F

Inspector: Mel Osborn

Product and Water Level Information for wells that historically shown LNAPL

Well	Product Level (TOC)	Water Level (TOC)	Comments/Product Removed
FAR10-5S	—	18.19	10:40
FAR10-6S	—	18.99	10:35
FAR10-7S	—	16.09	10:15
GM-1SR	15.57	15.64	11:00 16 oz LNAPL & 16 oz water
GM-2S	18.06	18.25	10:00 8 oz LNAPL 8 oz water DTW 18.40 after
GM-3S	14.52	14.55	DTW 15.00 after 10:30 2 oz LNAPL 6 oz water
GM-6SR	—	13.80	10:45
GM-9	—	12.19	9:40
WRAOI16-02	23.87	23.95	2 oz LNAPL 16 oz water 1130 DTW 23.50
WRAOI16-01	25.19	25.20	11:15 1 oz LNAPL 16 oz water DTW 25.50

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561 - 1152320
Date : 5-10-16
Weather: Clear 80°F
Inspector: phil Osborn

Check List	Comments
Overhead Line fuses:	OK
Locks at, Gate 1: Gate 15: Gate 12: Gate 16: Gate 14: Gate 17:	OK
Sign IN/OUT sheet Check:	OK
SWPP drainage and site ponding water check:	
South Pond Info: (SWMU-11) TOC 1226.98	ATW = 8.78 elev = 1218.2
North Pond info: (SWMU-10) TOC 1219.51	ATW = 6.35 elev = 1213.22
Pump House check: East & West Pumps	Turned on east pump @ 10:10 off @ 11:40 West pump is not operable
Flood corridor check:	Good - Grass ~ 6" tall
River Outfall check (Qtrly): (check valve annually)	
Fence and Gate Breech checks:	looks good. No noted breeches —
SWMU 1&2 checks: (ruts, erosion, burrows, etc)	looks good. Grass ~ 6" tall
Site mowing and growth check:	off site City of Augusta lots mowed by Early Bird on 5-9-16 - rest of site 6-12" grass
River AOI Inspection:	Grass is starting to fill in good. Noted iron bacteria could be seep B but No petro odor -
Product Storage Unit Inspection:	OK
Other comments:	

Former Augusta Refinery Monthly Site Inspection Form

Project #
Date : ~~8~~ 5-24-18
Weather: Cloudy 85°F
Inspector: Phil Osborn

Product and Water Level Information for wells that historically shown LNAPL

Well	Product Level (TOC)	Water Level (TOC)	Comments/Product Removed
FAR10-5S 1210	—	15.40	
FAR10-6S 1215	—	8.67	
FAR10-7S 1220	—	8.41	
GM-1SR 1240	12.48	12.53	18 oz LNAPL 4oz water 12.70 after water
GM-2S	14.85	15.28	2oz water 12oz LNAPL ATW 15.27
GM-3S 1222	trace	6.55	dk LNAPL
GM-6SR 1200	—	11.44	~~18 oz LNAPL 4oz water~~ (PO)
GM-9 11:45	8.74	8.76	bailed 6oz water 8.84 after 1oz product
WRAOI16-02 1300	—	22.50	
WRAOI16-01 1305	—	23.80	

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561 - 115211320
Date : 5-10-16
Weather: Clear 80°F
Inspector: phil Osborn

Check List	Comments
Overhead Line fuses:	OK
Locks at, Gate 1: Gate 15: Gate 12: Gate 16: Gate 14: Gate 17:	OK
Sign IN/OUT sheet Check:	OK
SWPP drainage and site ponding water check:	
South Pond Info: (SWMU-11) TOC 1226.98	DTW = 8.78 elev = 1218.2
North Pond info: (SWMU-10) TOC 1219.51	DTW = 6.35 elev = 1213.22
Pump House check: East & West Pumps	Turned on east pump @ 10:10 after 11:40 West pump is not operable
Flood corridor check:	Good - Grass ~ 6" tall
River Outfall check (Qtrly): (check valve annually)	
Fence and Gate Breech checks:	looks good. No noted breeches —
SWMU 1&2 checks: (ruts, erosion, burrows, etc)	looks good. Grass ~ 6" tall
Site mowing and growth check:	off site city of Augusta lot mowed by early bird on 5-9-16 - rest of site 6-12" grass
River AOI Inspection:	Grass is starting to fill in good. Noted iron bacteria sample keep @ but No petro odor -
Product Storage Unit Inspection:	OK
Other comments:	

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561 – 115 2/320
Date : 6-13-18
Weather: Clear 95°F
Inspector: Phil Osborn

Check List	Comments
Overhead Line fuses:	Ok
Locks at, Gate 1: Gate 15: Gate 12: Gate 16: Gate 14: Gate 17:	ok
Sign IN/OUT sheet Check:	ok
SWPP drainage and site ponding water check:	dry ok
South Pond Info: DTW 8.89	
North Pond info: DTW 6.75	
Pump House check: East & West Pumps	Run east pump, West pump off for repair
Flood corridor check: OK	Fox / Bird recently Moved
River Outfall check (Qtrly): (check valve annually) OK	opened valve
Fence and Gate Breech checks:	None Noted
SWMU 1&2 checks: (ruts, erosion, burrows, etc)	None Noted OK
Site mowing and growth check:	Early bird onsite to start mowing –
River AOI Inspection:	ok Grass 2-3' tall
Product Storage Unit Inspection:	ok
Other comments:	

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561-115
Date : 6-13-18
Weather: Clear 85°F
Inspector: Mike Osborn

Product and Water Level Information for wells that historically shown LNAPL

Well	Product Level (TOC)	Water Level (TOC)	Comments/Product Removed
FAR10-5S	trace	16.07	bailed trace LNAPL 6 ozwater
FAR10-6S	—	8.71	
FAR10-7S	—	11.89	
GM-1SR	13.69	13.71	4oz LNAPL 8oz water 13.75 after
GM-2S	16.18	16.29	trace LNAPL on 6/26 MW 16.67 el 3725
GM-3S	trace	8.79	
GM-6SR	—	12.83	
GM-9	trace	9.88	
WRAOI16-02	—	20.63	6/27 @ 10:25
WRAOI16-01	—	25.67	6/27 @ 10:10

Former Augusta Refinery Monthly Site Inspection Form

Project # WH 15561 - 115 21320

Date : 7-24-18

Weather: clear 90°F

Inspector: Phil Osborn

Check List	Comments
Overhead Line fuses:	ok
Locks at, Gate 1: Gate 15: Gate 12: Gate 16: Gate 14: Gate 17:	ok
Sign IN/OUT sheet Check:	ok
SWPP drainage and site ponding water check:	Site dry - grass ~1-2' tall in drainage
South Pond Info: Surv - 11 DTW 9.39 9.39	TOC 1226.98 - 9.39 = 1217.59
North Pond info: Surv - 10 DTW 7.35	TOC 1219.57 - 7.35 = 1212.06
Pump House check: East & West Pumps	West Pump scheduled to rebuild. East pump ok
Flood corridor check:	Grass 1-2' tall will be mowed next month
River Outfall check (Qtrly): (check valve annually)	NA
Fence and Gate Breech checks:	None noted -
SWMU 1&2 checks: (ruts, erosion, burrows, etc)	None noted - Ok
Site mowing and growth check:	Some grass is 7-8' tall in areas, regular grass 1-2' tall - scheduled to be mowed -
River AOI Inspection:	No noted Hydrocarbon odors or Fe iron bacteria at form seep B location
Product Storage Unit Inspection:	Little bit recently mowed level and some weeds - Drum storage looks good
Other comments:	

Former Augusta Refinery Monthly Site Inspection Form

Project # 145097

Date : 7-23-18

Weather: Clear 90°F

Inspector: Phil Osborn

Product and Water Level Information for wells that historically shown LNAPL

Well	Product Level (TOC)	Water Level (TOC)	Comments/Product Removed
FAR10-5S	Trace	17.63	12:25 bailed 2oz water trace product
FAR10-6S	—	8.75	1230
FAR10-7S	—	14.20	1235
GM-1SR	15.15	15.22	1310 Bailed 4oz product 12oz water
GM-2S	17.73	17.76	1245 Bailed 2oz product 10oz water
GM-3S	trace	11.24	1240 Bailed 2oz water + trace product
GM-6SR	—	13.96	1220
GM-9	—	11.66	1330
WRAOI16-02	—	24.42	1440
WRAOI16-01	trace	23.20	1145 removed trace NAPL w/ bailer

Former Augusta Refinery Monthly Site Inspection Form

Project # 15256-1152/720

Date : 8/24/18

Weather: clear 80°F

Inspector:

Check List	Comments
Overhead Line fuses:	O/K
Locks at, Gate 1: Gate 15: Gate 12: Gate 16: Gate 14: Gate 17:	O/K
Sign IN/OUT sheet Check:	O/K
SWPP drainage and site ponding water check:	O/K
South Pond Info: 8/20 MW 9.48	
North Pond info: 8/10 MW 7.40	8/10 MW levee pond 7.14
Pump House check: East & West Pumps	8/20 Ran east levee pump 1012S → 1503
Flood corridor check: Needs mowed	Moving crew mowing lots offsite, bring the mower back onsite to start mowing site.
River Outfall check (Qtrly): (check valve annually) N/A	
Fence and Gate Breech checks: None Noted	
SWMU 1&2 checks: (ruts, erosion, burrows, etc) None Noted OK	
Site mowing and growth check:	Needs mowed. Start next week
River AOI Inspection:	
Product Storage Unit Inspection:	O/K
Other comments:	

Former Augusta Refinery Monthly Site Inspection Form

Project # 149097

Date : 8-28-18

Weather: Clear 85°F

Inspector: Philosbon

8/28/18

Product and Water Level Information for wells that historically shown LNAPL

Well	Product Level (TOC)	Water Level (TOC)	Comments/Product Removed
1145 FAR10-5S	~~16.59~~	16.59	
1150 FAR10-6S	~~8.88~~	8.88	
1200 FAR10-7S	—	14.30	
1215 GM-1SR	14.00	14.10	DTW 14.37 1 oz Bail
1205 GM-2S	16.59	16.75	DTW 16.95 5 oz LNAPL Bail wat
1145 GM-3S	—	7.43	
1140 GM-6SR	—	13.95	
1110 GM-9	10.40	10.45	DTW 10.57 after 2 oz LNAPL Bail wat
8/29 1435 WRAOI16-02	trace	22.42	DTW 22.47 after 1 oz Bail
8/29/1437 WRAOI16-01	—	23.48	

Former Augusta Refinery Monthly Site Inspection Form

Project # 15256.115213.20

Date : 9/26/18

Weather: Cool

Inspector: A. Hallee

Product and Water Level Information for wells that historically shown LNAPL

Well	Product Level (TOC)	Water Level (TOC)	Comments/Product Removed
FAR10-5S	(AU) ~~TRACE~~ —	(AU) ~~18.46~~ 13.00	
FAR10-6S	—	8.18	
FAR10-7S	—	8.20	
GM-1SR	11.45	11.52	16 oz PRODUCT REMOVED P TRACE W 11.7
GM-2S	13.70	13.75	2 oz PRODUCT 4 oz WATER REMOVED P TRACE W 13.92
GM-3S	—	6.39	
GM-6SR	—	9.34	
GM-9	6.60	6.80	3 oz PRODUCT 3 oz WATER REMOVED P TRACE W 6.79
WRAOI16-02	TRACE	21.43	
WRAOI16-01	—	22.66	

Former Augusta Refinery Monthly Site Inspection Form

Project #: 15256/-
Date : 9-20-18
Weather: Clear 80-90°F
Inspector: Phil Olson

Check List	Comments
Overhead Line fuses:	ok
Locks at, Gate 1: Gate 15: Gate 12: Gate 16: Gate 14: Gate 17:	O/K
Sign IN/OUT sheet Check:	Aptim personnel signing in and out
SWPP drainage and site ponding water check:	water up to ditch being pumped down
South Pond Info: 9/20 DTW 8.69	
North Pond info: 9/20 DTW 7.23	
Pump House check: East & West Pumps	Started East pump 9/20 @ 8:30 → 16:50 West pump scheduled for repair –
Flood corridor check:	Water up into ditch ~7" from previous week
River Outfall check (Qtrly): (check valve annually)	out fall O/K. opened & closed outfall valve –
Fence and Gate Breech checks:	
SWMU 1&2 checks: (ruts, erosion, burrows, etc)	swmu 1 & 2 OK
Site mowing and growth check:	Early Bird in process of mowing site
River AOI Inspection:	Normal noted iron bacteria Noted @ seep 8. Needs mowed –
Product Storage Unit Inspection:	Storage unit OK
Other comments:	

Former Augusta Refinery Monthly Site Inspection Form

Project # HF 152561-1/521720

Date : 10-19-18

Weather: Clear 65°F

Inspector: Phil Osborn

Check List	Comments
Overhead Line fuses:	O/C
Locks at, Gate 1: Gate 15: Gate 12: Gate 16: Gate 14: Gate 17:	O/C
Sign IN/OUT sheet Check:	O/C
SWPP drainage and site ponding water check:	Levee Road Pumped down —
South Pond Info:	Starting to fill low. Not willing to discharge
North Pond info:	full
Pump House check: East & West Pumps	West pump Pulled - 10-17-18 East Pump Good
Flood corridor check:	O/C
River Outfall check (Qtrly): (check valve annually)	NA
Fence and Gate Breech checks:	None
SWMU 1&2 checks: (ruts, erosion, burrows, etc)	O/C
Site mowing and growth check:	Started mowing
River AOI Inspection:	River is up
Product Storage Unit Inspection:	O/C Drum Picked up 10-11-18
Other comments:	

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561-115
Date : 10-15-18
Weather: Clear 45°F
Inspector: Ph.1 Osborn

Product and Water Level Information for wells that historically shown LNAPL

Well	Product Level (TOC)	Water Level (TOC)	Comments/Product Removed
FAR10-5S 1300	—	4.63	
FAR10-6S 1305	—	6.83	
FAR10-7S 1315	—	6.10	
GM-1SR 1325	8.00	8.06	12oz LNAPL Recovered 8.41 DTW
GM-2S 1320	10.96	10.98	2oz LNAPL 12oz water DTW=ft 11.35
GM-3S 1310	—	4.57	
GM-6SR 1250	—	5.45	~~1250~~
GM-9 1330	4.52	4.58	4 oz LNAPL 4oz water 4.71 DTW
WRAOI16-02 1300	15.37 12.01	15.43 12.09	30z LW 12 oz water 10/19 @ 1045 15.36 DTW ft
WRAOI16-01 1505	—	13.58	

AAUS N: 55/50

Former Augusta Refinery Monthly Site Inspection Form

Project # ____________________

Date : 11/30/18

Weather: Cloudy 40°F

Inspector: Phil Olson

Check List	Comments
Overhead Line fuses:	o/c Ran east levee pumps
Locks at, Gate 1: Gate 15: Gate 12: Gate 16: Gate 14: Gate 17:	o/c
Sign IN/OUT sheet Check:	OK
SWPP drainage and site ponding water check:	
South Pond Info: DTW 5.68'	
North Pond info: DTW 6.18	
Pump House check: East & West Pumps	West Pump is Pulled for rebuild 9:00 Started East levee Pump
Flood corridor check: OK	Shut off @ 11:25
River Outfall check (Qtrly): (check valve annually) OK	
Fence and Gate Breech checks: O/C	
SWMU 1&2 checks: (ruts, erosion, burrows, etc) O/C	
Site mowing and growth check:	
River AOI Inspection:	Noted iron staining @ Farm Seep 8 River up slightly flow 133 scfs @ 5.87
Product Storage Unit Inspection:	O/C
Other comments:	

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561-1152/320
Date : 11-27-18
Weather: Clear 40°F
Inspector: Austin Heller

Product and Water Level Information for wells that historically shown LNAPL

Well	Product Level (TOC)	Water Level (TOC)	Comments/Product Removed
FAR10-5S	—	9.28	
FAR10-6S	—	7.66	
FAR10-7S	—	6.50	
GM-1SR	10.47	10.61	17 oz Removed - Product DTW 10.79 DTP Trace
GM-2S	Trace	13.35	
GM-3S	—	4.90	
GM-6SR	—	6.25	
GM-9	Trace	6.79	
WRAOI16-02	~~23.28~~	~~21.30~~	>1 oz Product Removed 1oz Water DTW 21.30 DTP Trace
WRAOI16-01	~~22.28~~ —	22.70	

Former Augusta Refinery Monthly Site Inspection Form

Project # 152501

Date : 12/17/18

Weather: Cool

Inspector: A. HALLER

Check List	Comments
Overhead Line fuses: GOOD	
Locks at, Gate 1: GOOD Gate 15: GOOD Gate 12: GOOD Gate 16: GOOD Gate 14: GOOD Gate 17: GOOD	
Sign IN/OUT sheet Check: GOOD	
SWPP drainage and site ponding water check: GOOD	
South Pond Info: GOOD	
North Pond info: GOOD	EAST PUMP - OPERATIONAL WEST PUMP - REMOVED FOR REPAIRS
Pump House check: East & West Pumps GOOD	
Flood corridor check: GOOD	
River Outfall check (Qtrly): (check valve annually) GOOD	
Fence and Gate Breech checks: GOOD	
SWMU 1&2 checks: (ruts, erosion, burrows, etc) GOOD	NO ISSUES
Site mowing and growth check: GOOD	RECNTLY MOWED
River AOI Inspection: GOOD	
Product Storage Unit Inspection: GOOD	
Other comments:	

Former Augusta Refinery Monthly Site Inspection Form

Project # 152561
Date : 12/18/18
Weather: Cool
Inspector: A. HALLER

Product and Water Level Information for wells that historically shown LNAPL

Well	Product Level (TOC)	Water Level (TOC)	Comments/Product Removed
FAR10-5S	—	10.84	
FAR10-6S	—	7.93	
FAR10-7S	—	6.93	
GM-1SR	11.66	11.80	PROD REMOVED 16 OZ WATER REMOVED Ø OZ DTP TRACE DTW 11.95
GM-2S	14.35	14.41	PROD REMOVED 2 OZ WATER REMOVED 16 OZ DTP TRACE DTW 15.10
GM-3S	—	5.22	
GM-6SR	—	7.84	
GM-9	TRACE	8.15	
WRAOI16-02	TRACE	22.20	
WRAOI16-01	—	23.32	

Table 1
Walnut River Surface Water Sampling
Summary of Analytical Results

Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

SAMPLE TYPE: Water

SITE	DATE	1,1,1-trichloro ethane (ug/l)	1,1-Dichloro ethane (ug/l)	1,1-Dichloro ethylene (ug/l)	Acetone (ug/l)	Benzene (ug/l)	Carbon Disulfide (ug/l)	Chlorobenzene (ug/l)
Maximum Contaminant Level		200		7		5		100
KDHE Surface Water SL		200		7		1.2[(b)]		100
Seep 7	7/20/2017	<0.30	<0.30	<0.30	<10	<0.30	<0.75	<0.30
	12/11/2017	<0.30	<0.30	<0.30	<10	<0.30	<0.75	<0.30
	6/15/2018	<0.20	<0.20	<0.20	<2.0	<0.20	<0.60	<0.30
Seep 8	7/20/2017	<0.30	<0.30	<0.30	<10	<0.30	<0.75	<0.30
	12/11/2017	<0.30	<0.30	<0.30	<10	<0.30	<0.75	<0.30
	6/15/2018	<0.20	<0.20	<0.20	<2.0	<0.20	<0.60	<0.30
Upstream	7/20/2017	<0.30	<0.30	<0.30	<10	<0.30	<0.75	<0.30
	12/11/2017	<0.30	<0.30	<0.30	<10	<0.30	<0.75	<0.30
	6/15/2018	<0.20	<0.20	<0.20	<2.0	<0.20	<0.60	<0.30

[x]=Indicates a result greater than or equal to the method detection limit but Less than Reporting Limit

Maximum Contaminant Level = Maximum Contaminant Level EPA Spring 2012 Edition of the Drinking Water Standard and Health Advisorie
KDHE Surface Water SL = Domestic Water Supply Screening Levels, Kansas Surface Water Quality Standards: Tables of Numeric Criteria, December 15, 201
(a) = Criterion not available
(b) = US EPA has promulgated criterion for Kansas under the Code of Federal Regulations, Title 40, part 131.3

Table 1
Walnut River Surface Water Sampling
Summary of Analytical Results

Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

SAMPLE TYPE: Water

SITE	DATE	Ethylbenzene (ug/l)	MTBE (ug/l)	Methylene chloride (ug/l)	Tetrachloro ethylene (ug/l)	Toluene (ug/l)	Vinyl chloride (ug/l)	Xylene (total) (ug/l)
Maximum Contaminant Level		700		5	5	1000	2	10000
KDHE Surface Water SL		700		5	0.8[(b)]	1000	2	10000
Seep 7	7/20/2017	<0.30	<0.30	<1.3	<0.30	<0.30	<0.30	<0.65
	12/11/2017	<0.30	<0.30	<1.3	<0.30	<0.30	<0.30	<0.65
	6/15/2018	<0.30	<0.20	<1.0	<0.30	<0.20	<0.20	<0.30
Seep 8	7/20/2017	<0.30	<0.30	<1.3	<0.30	<0.30	<0.30	<0.65
	12/11/2017	<0.30	<0.30	<1.3	<0.30	<0.30	<0.30	<0.65
	6/15/2018	<0.30	<0.20	<1.0	<0.30	<0.20	<0.20	<0.30
Upstream	7/20/2017	<0.30	<0.30	<1.3	<0.30	<0.30	<0.30	<0.65
	12/11/2017	<0.30	<0.30	<1.3	<0.30	<0.30	<0.30	<0.65
	6/15/2018	<0.30	<0.20	<1.0	<0.30	<0.20	<0.20	<0.30

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Table 1
Walnut River Surface Water Sampling
Summary of Analytical Results

Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

SAMPLE TYPE: Water

SITE	DATE	2-Methyl naphthalene (ug/l)	Benzoic acid (ug/l)	Penta-chlorophenol (ug/l)	Bis(2-ethyl hexyl)phthalate (BEHP) (ug/l)	Chrysene (ug/l)	Naphthalene (ug/l)	Phenanthrene (ug/l)
Maximum Contaminant Level				1	6.0			
KDHE Surface Water SL				0.28[(b)]	1.8[(b)]	0.0038	(a)	(a)
Seep 7	7/20/2017	<1.9	<2.0	<3.7	<2.2	<0.026	<0.029	<0.023
	12/11/2017	<1.6	<1.7	<3.2	<1.9	<0.026	<0.029	<0.023
	6/15/2018	<0.019	0.38	<0.079	2.9	<0.021	[0.027]	<0.021
Seep 8	7/20/2017	<2.1	<2.3	<4.3	<2.6	<0.029	<0.033	<0.026
	12/11/2017	<1.6	<1.7	<3.2	<1.9	<0.026	<0.029	<0.023
	6/15/2018	[0.033]	0.52	<0.079	[0.078]	<0.021	[0.051]	<0.021
Upstream	7/20/2017	<1.9	<2.0	<3.8	<2.3	<0.030	<0.034	<0.027
	12/11/2017	<1.6	<1.7	<3.2	<1.9	<0.026	<0.029	<0.023
	6/15/2018	<0.019	0.25	<0.079	<0.037	<0.021	<0.020	<0.021

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Table 1
Walnut River Surface Water Sampling
Summary of Analytical Results

Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

SAMPLE TYPE: Water

SITE	DATE	Pyrene (ug/l)	Total Arsenic (ug/l)	Dissolved Arsenic (ug/l)	Total Barium (ug/l)	Dissolved Barium (ug/l)	Total Cadmium (ug/l)	Dissolved Cadmium (ug/l)
Maximum Contaminant Level			10	10	2000	2000	5	5
KDHE Surface Water SL		960[(b)]	10	10	2000	2000	5	5
Seep 7	7/20/2017	<0.019	[1.6]	[1.9]	[157]	[158]	<0.20	<0.20
	12/11/2017	<0.019	[1.4]	[2.2]	[169]	[159]	<0.20	<0.20
	6/15/2018	<0.019	6.26	6.02	158	152	<0.20	<0.20
Seep 8	7/20/2017	<0.022	<1.3	[2.2]	[155]	[156]	<0.20	<0.20
	12/11/2017	<0.019	[1.8]	[1.6]	[170]	[163]	<0.20	<0.20
	6/15/2018	<0.019	7.38	6.78	158	155	<0.20	<0.20
Upstream	7/20/2017	<0.022	[1.6]	[2.0]	[150]	[148]	<0.20	<0.20
	12/11/2017	<0.019	[1.9]	<1.3	[166]	[160]	<0.20	<0.20
	6/15/2018	<0.019	6.12	5.92	153	159	<0.20	<0.20

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Table 1
Walnut River Surface Water Sampling
Summary of Analytical Results

Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

SAMPLE TYPE: Water

SITE	DATE	Total Chromium (ug/l)	Dissolved Chromium (ug/l)	Total Lead (ug/l)	Dissolved Lead (ug/l)	Total Mercury (ug/l)	Dissolved Mercury (ug/l)	Total Selenium (ug/l)
Maximum Contaminant Level		100	100	15	15	2	2	50
KDHE Surface Water SL		100	100	15	15	2	2	50
Seep 7	7/20/2017	<1.0	<1.0	<1.1	<1.1	<0.030	[0.036]	<2.9
	12/11/2017	<1.0	<1.0	<1.1	<1.1	<0.030	<0.030	<2.9
	6/15/2018	<0.40	<0.40	[0.945]	<0.600	[0.030]	<0.030	2.14
Seep 8	7/20/2017	<1.0	<1.0	[1.2]	<1.1	[0.041]	[0.039]	<2.9
	12/11/2017	<1.0	<1.0	<1.1	<1.1	<0.030	<0.030	<2.9
	6/15/2018	<0.40	<0.40	[0.890]	<0.600	<0.030	<0.030	2.1
Upstream	7/20/2017	<1.0	<1.0	<1.1	<1.1	[0.0420	<0.030	<2.9
	12/11/2017	<1.0	<1.0	<1.1	<1.1	<0.030	<0.030	<2.9
	6/15/2018	[0.507]	<0.40	[0.991]	<0.600	[0.0310]	[0.0330]	[1.90]

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Table 1
Walnut River Surface Water Sampling
Summary of Analytical Results

Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

SAMPLE TYPE: Water

SITE	DATE	Dissolved Selenium (ug/l)	Total Silver (ug/l)	Dissolved Silver (ug/l)	Hardness (mg/l)
Maximum Contaminant Level		50			
KDHE Surface Water SL		50	100	100	
Seep 7	7/20/2017	<2.9	<0.70	<0.70	216
	12/11/2017	[3.3]	<0.70	<0.70	297
	6/15/2018	3.78	<0.20	<0.20	222
Seep 8	7/20/2017	<2.9	<0.70	<0.70	226
	12/11/2017	<2.9	<0.70	<0.70	299
	6/15/2018	3.41	<0.20	<0.20	222
Upstream	7/20/2017	<2.9	<0.70	<0.70	236
	12/11/2017	[3.8]	<0.70	<0.70	300
	6/15/2018	3.62	<0.20	<0.20	222

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KDHE Surface Water SL = Domestic Water Supply Screening Levels, Kansas Surface Water Quality Standards: Tables of Numeric Criteria, December 15, 201
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Table 2

Permeable Adsorptive Barrier Capacity Calculation
Walnut River AOI ICM Post-Construction Performance Monitoring
July 2016 through December 2018

Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

AquaGate + Organoclay								
Estimate of Contaminant Adsorption Capacity Starting June 2016 (lbs)[1]	Contaminant	Concentration (µg/l)	Conductivity K (m/day)[2]	i[3]	Area (m^2)[4]	Estimated Mass Flux (lbs/year)	Estimate of Remaning Contaminant Adsorption Capacity (lbs)	Estimated Remaining Treatment Time for Organoclay only (years)
27981.2	Benzene[5]	3,760	8.64	0.0204	104	55.4	27842.6	502.6
27709	Benzene[6]	58,000	8.64	0.0204	104	854	25572.8	29.9
AquaGate + ProvectIRM								
Estimate of Arsenic Sequestration Capacity with ProvectIRM with Aquagate June 2016 (lbs)[1]	Contaminant	Concentration (µg/l)	Conductivity K (m/day)[2]	i[3]	Area (m^2)[4]	Estimated Mass Flux (lbs/year)	Estimate of Remaning Contaminant Adsorption Capacity (lbs)	Estimate Remaining Time for Arsenic Sequestration (years)
45.5	Arsenic[7]	192	8.64	0.0204	104	2.83	38.4	13.6

[1]Treatment capacity provided by John Collins, Aquablok 7/2/15 (Burns&McDonnell, Sept. 13, 2016).

[2]Conductivity of Auagate + Organoclay (Burns&McDonnell, Sept. 13, 2016).

[3]Highest gradient reported in AOI report (Shaw, 2011)

[4]Based on PAB design drawings of 8 feet deep and 140 feet long (Burns&McDonnell, Sept. 13, 2016).

[5]Maximum benzene concentration observed 2010 sampling event (WRFAR10-03S). WRFAR10-03S had LNAPL during the 2017 groundwater sampling event and was not sampled.

[6]API data (1985): Expected concentration of benzene in water (Cw) from a typical unleaded gasoline, https://info.ngwa.org/GWOL/pdf/910155295.pdf.

[7]Maximum arsenic concentration observed 2017 sampling event (DG-03D).

Assumptions:
1. No transfer of contaminant from vadose zone
2. Excavation/Capping inhibits furher migration of free phase

Mass Flux = C*K*i*Area
C = Concentration of benzene upgradient of Permeable Adsorptive Barrier (PAB)
K = Conductivity of Aquagate + Organoclay
i = Groundwater gradient up gradient of PAB.
1 g/day = 0.804687 lbs/yr

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

APTIM

Surface Water

SGS Job Number: TD13523

Sampling Date: 12/11/17

Report to:

APTIM
2872 N Ridge Road Suite 102B
Wichita, KS 67205
Phil.Osborn@aptim.com; Jacquelyn.Wilson@aptim.com

ATTN: Phil Osborn

Total number of pages in report: 65

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Richard Rodriguez
Laboratory Director

Client Service contact: Sylvia Garza 713-271-4700

Certifications: TX (T104704220-17-27) AR (14-016-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2017-002) VA (8999)

Sections: 1 2 3 4 5 6 7 8 9 10

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SGS North America Inc.

Sample Summary

APTIM

Job No: TD13523

Surface Water

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD13523-1	12/11/17	11:00		12/12/17	AQ	Ground Water	SEEP 7
TD13523-1A	12/11/17	11:00		12/12/17	AQ	Ground Water	SEEP 7
TD13523-1F	12/11/17	11:00		12/12/17	AQ	Groundwater Filtered	SEEP 7
TD13523-2	12/11/17	11:10		12/12/17	AQ	Ground Water	SEEP 8
TD13523-2A	12/11/17	11:10		12/12/17	AQ	Ground Water	SEEP 8
TD13523-2F	12/11/17	11:10		12/12/17	AQ	Groundwater Filtered	SEEP 8
TD13523-3	12/11/17	11:25		12/12/17	AQ	Ground Water	UPSTREAM
TD13523-3A	12/11/17	11:25		12/12/17	AQ	Ground Water	UPSTREAM
TD13523-3F	12/11/17	11:25		12/12/17	AQ	Groundwater Filtered	UPSTREAM
TD13523-4	12/11/17	00:00		12/12/17	AQ	Trip Blank Water	TRIP BLANK

Summary of Hits

Job Number: TD13523
Account: APTIM
Project: Surface Water
Collected: 12/11/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD13523-1	**SEEP 7**					
Benzoic Acid		0.0039 J	0.020	0.0017	mg/l	SW846 8270D
Arsenic [a]		1.4 B	10	1.3	ug/l	SW846 6010C
Barium [a]		169 B	200	1.0	ug/l	SW846 6010C
Calcium [a]		91400	1000	50	ug/l	SW846 6010C
Magnesium [a]		16800	5000	35	ug/l	SW846 6010C
Hardness, Total [b]		297	23	0.27	mg/l	SM2340 B-11
Hardness, Total as CaCO3 [c]		297	23	0.27	mg/l	SM19 2340B
TD13523-1A	**SEEP 7**					
No hits reported in this sample.						
TD13523-1F	**SEEP 7**					
Arsenic [a]		2.2 B	10	1.3	ug/l	SW846 6010C
Barium [a]		159 B	200	1.0	ug/l	SW846 6010C
Selenium [a]		3.3 B	10	2.9	ug/l	SW846 6010C
TD13523-2	**SEEP 8**					
Arsenic [a]		1.8 B	10	1.3	ug/l	SW846 6010C
Barium [a]		170 B	200	1.0	ug/l	SW846 6010C
Calcium [a]		91900	1000	50	ug/l	SW846 6010C
Magnesium [a]		17000	5000	35	ug/l	SW846 6010C
Hardness, Total [b]		299	23	0.27	mg/l	SM2340 B-11
Hardness, Total as CaCO3 [c]		299	23	0.27	mg/l	SM19 2340B
TD13523-2A	**SEEP 8**					
No hits reported in this sample.						
TD13523-2F	**SEEP 8**					
Arsenic [a]		1.6 B	10	1.3	ug/l	SW846 6010C
Barium [a]		163 B	200	1.0	ug/l	SW846 6010C
TD13523-3	**UPSTREAM**					
Arsenic [a]		1.9 B	10	1.3	ug/l	SW846 6010C
Barium [a]		166 B	200	1.0	ug/l	SW846 6010C
Calcium [a]		92000	1000	50	ug/l	SW846 6010C
Magnesium [a]		17000	5000	35	ug/l	SW846 6010C
Hardness, Total [b]		300	23	0.27	mg/l	SM2340 B-11

Summary of Hits

Job Number: TD13523
Account: APTIM
Project: Surface Water
Collected: 12/11/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Hardness, Total as CaCO3 [c]		300	23	0.27	mg/l	SM19 2340B
TD13523-3A	**UPSTREAM**					
No hits reported in this sample.						
TD13523-3F	**UPSTREAM**					
Barium [a]		160 B	200	1.0	ug/l	SW846 6010C
Selenium [a]		3.8 B	10	2.9	ug/l	SW846 6010C
TD13523-4	**TRIP BLANK**					
No hits reported in this sample.						

(a) Analysis performed at SGS Accutest, Orlando, FL.
(b) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)
(c) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118) Analysis performed at SGS Accutest, Orlando, FL.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SEEP 7		
Lab Sample ID:	TD13523-1	**Date Sampled:**	12/11/17
Matrix:	AQ - Ground Water	**Date Received:**	12/12/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Surface Water		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01243041.D	1	12/19/17 00:48	EM	n/a	n/a	VX3471
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

EPA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	0.050	0.010	mg/l	
71-43-2	Benzene	ND	0.0010	0.00030	mg/l	
108-90-7	Chlorobenzene	ND	0.0010	0.00030	mg/l	
75-15-0	Carbon disulfide	ND	0.0050	0.00075	mg/l	
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethylene	ND	0.0010	0.00030	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00030	mg/l	
75-09-2	Methylene chloride	ND	0.0050	0.0013	mg/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00030	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00030	mg/l	
127-18-4	Tetrachloroethylene	ND	0.0010	0.00030	mg/l	
108-88-3	Toluene	ND	0.0010	0.00030	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00030	mg/l	
1330-20-7	Xylene (total)	ND	0.0030	0.00065	mg/l	
	m,p-Xylene	ND	0.0020	0.00044	mg/l	
95-47-6	o-Xylene	ND	0.0010	0.00030	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		72-122%
17060-07-0	1,2-Dichloroethane-D4	106%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	101%		72-126%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SEEP 7		
Lab Sample ID:	TD13523-1	**Date Sampled:**	12/11/17
Matrix:	AQ - Ground Water	**Date Received:**	12/12/17
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Surface Water		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J189841.D	1	12/14/17 18:08	SC	12/14/17 10:00	OP45194	EJ2666
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

EPA 8270 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	0.0039	0.020	0.0017	mg/l	J
87-86-5	Pentachlorophenol	ND	0.025	0.0032	mg/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.0050	0.0019	mg/l	
91-57-6	2-Methylnaphthalene	ND	0.0050	0.0016	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	26%		10-66%
4165-62-2	Phenol-d5	17%		10-63%
118-79-6	2,4,6-Tribromophenol	84%		32-128%
4165-60-0	Nitrobenzene-d5	72%		29-115%
321-60-8	2-Fluorobiphenyl	76%		34-113%
1718-51-0	Terphenyl-d14	72%		23-138%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SEEP 7		
Lab Sample ID:	TD13523-1	**Date Sampled:**	12/11/17
Matrix:	AQ - Ground Water	**Date Received:**	12/12/17
		Percent Solids:	n/a
Project:	Surface Water		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	1.4 B	10	1.3	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Barium [a]	169 B	200	1.0	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Cadmium [a]	0.20 U	5.0	0.20	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Calcium [a]	91400	1000	50	ug/l	1	12/18/17	12/18/17	AFL	SW846 6010C [3]	SW846 3010A [6]
Chromium [a]	1.0 U	10	1.0	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Lead [a]	1.1 U	5.0	1.1	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Magnesium [a]	16800	5000	35	ug/l	1	12/18/17	12/18/17	AFL	SW846 6010C [3]	SW846 3010A [6]
Mercury [a]	0.030 U	0.50	0.030	ug/l	1	12/18/17	12/18/17	AFL	SW846 7470A [2]	SW846 7470A [5]
Selenium [a]	2.9 U	10	2.9	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Silver [a]	0.70 U	10	0.70	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]

(1) Instrument QC Batch: F:MA14562
(2) Instrument QC Batch: F:MA14565
(3) Instrument QC Batch: F:MA14570
(4) Prep QC Batch: F:MP33117
(5) Prep QC Batch: F:MP33123
(6) Prep QC Batch: F:MP33127

(a) Analysis performed at SGS Accutest, Orlando, FL.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SEEP 7		
Lab Sample ID:	TD13523-1	**Date Sampled:**	12/11/17
Matrix:	AQ - Ground Water	**Date Received:**	12/12/17
		Percent Solids:	n/a
Project:	Surface Water		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Hardness, Total [a]	297	23	0.27	mg/l	1	12/18/17 15:51	AFL	SM2340 B-11
Hardness, Total as CaCO3 [b]	297	23	0.27	mg/l	1	12/18/17 15:51	AFL	SM19 2340B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)
(b) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118) Analysis performed at SGS Accutest, Orlando, FL.

RL = Reporting Limit
MDL = Method Detection Limit
U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SEEP 7		
Lab Sample ID:	TD13523-1A	**Date Sampled:**	12/11/17
Matrix:	AQ - Ground Water	**Date Received:**	12/12/17
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	Surface Water		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3M73444.D	1	01/12/18 12:08	ANJ	12/15/17 00:35	N:OP8684	N:E3M3528
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN Special List by SIM

CAS No.	Compound	Result	RL	MDL	Units	Q
218-01-9	Chrysene	ND	0.00010	0.000026	mg/l	
91-20-3	Naphthalene	ND	0.00010	0.000029	mg/l	
85-01-8	Phenanthrene	ND	0.00010	0.000023	mg/l	
129-00-0	Pyrene	ND	0.00010	0.000019	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		29-124%
321-60-8	2-Fluorobiphenyl	61%		23-122%
1718-51-0	Terphenyl-d14	81%		22-130%

(a) Analysis performed at SGS Dayton, NJ.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SEEP 7		
Lab Sample ID:	TD13523-1F	**Date Sampled:**	12/11/17
Matrix:	AQ - Groundwater Filtered	**Date Received:**	12/12/17
		Percent Solids:	n/a
Project:	Surface Water		

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	2.2 B	10	1.3	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Barium [a]	159 B	200	1.0	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Cadmium [a]	0.20 U	5.0	0.20	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Chromium [a]	1.0 U	10	1.0	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Lead [a]	1.1 U	5.0	1.1	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Mercury [a]	0.030 U	0.50	0.030	ug/l	1	12/18/17	12/18/17	AFL	SW846 7470A [2]	SW846 7470A [4]
Selenium [a]	3.3 B	10	2.9	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Silver [a]	0.70 U	10	0.70	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: F:MA14562
(2) Instrument QC Batch: F:MA14565
(3) Prep QC Batch: F:MP33117
(4) Prep QC Batch: F:MP33123

(a) Analysis performed at SGS Accutest, Orlando, FL.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SEEP 8		
Lab Sample ID:	TD13523-2	**Date Sampled:**	12/11/17
Matrix:	AQ - Ground Water	**Date Received:**	12/12/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Surface Water		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01243042.D	1	12/19/17 01:14	EM	n/a	n/a	VX3471
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

EPA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	0.050	0.010	mg/l	
71-43-2	Benzene	ND	0.0010	0.00030	mg/l	
108-90-7	Chlorobenzene	ND	0.0010	0.00030	mg/l	
75-15-0	Carbon disulfide	ND	0.0050	0.00075	mg/l	
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethylene	ND	0.0010	0.00030	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00030	mg/l	
75-09-2	Methylene chloride	ND	0.0050	0.0013	mg/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00030	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00030	mg/l	
127-18-4	Tetrachloroethylene	ND	0.0010	0.00030	mg/l	
108-88-3	Toluene	ND	0.0010	0.00030	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00030	mg/l	
1330-20-7	Xylene (total)	ND	0.0030	0.00065	mg/l	
	m,p-Xylene	ND	0.0020	0.00044	mg/l	
95-47-6	o-Xylene	ND	0.0010	0.00030	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-122%
17060-07-0	1,2-Dichloroethane-D4	102%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	102%		72-126%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SEEP 8		
Lab Sample ID:	TD13523-2	**Date Sampled:**	12/11/17
Matrix:	AQ - Ground Water	**Date Received:**	12/12/17
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Surface Water		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J189844.D	1	12/14/17 19:32	SC	12/14/17 10:00	OP45194	EJ2666
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

EPA 8270 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	0.020	0.0017	mg/l	
87-86-5	Pentachlorophenol	ND	0.025	0.0032	mg/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.0050	0.0019	mg/l	
91-57-6	2-Methylnaphthalene	ND	0.0050	0.0016	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	26%		10-66%
4165-62-2	Phenol-d5	17%		10-63%
118-79-6	2,4,6-Tribromophenol	73%		32-128%
4165-60-0	Nitrobenzene-d5	68%		29-115%
321-60-8	2-Fluorobiphenyl	67%		34-113%
1718-51-0	Terphenyl-d14	64%		23-138%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SEEP 8		
Lab Sample ID:	TD13523-2	**Date Sampled:**	12/11/17
Matrix:	AQ - Ground Water	**Date Received:**	12/12/17
		Percent Solids:	n/a
Project:	Surface Water		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	1.8 B	10	1.3	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Barium [a]	170 B	200	1.0	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Cadmium [a]	0.20 U	5.0	0.20	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Calcium [a]	91900	1000	50	ug/l	1	12/18/17	12/18/17	AFL	SW846 6010C [3]	SW846 3010A [6]
Chromium [a]	1.0 U	10	1.0	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Lead [a]	1.1 U	5.0	1.1	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Magnesium [a]	17000	5000	35	ug/l	1	12/18/17	12/18/17	AFL	SW846 6010C [3]	SW846 3010A [6]
Mercury [a]	0.030 U	0.50	0.030	ug/l	1	12/18/17	12/18/17	AFL	SW846 7470A [2]	SW846 7470A [5]
Selenium [a]	2.9 U	10	2.9	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Silver [a]	0.70 U	10	0.70	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]

(1) Instrument QC Batch: F:MA14562
(2) Instrument QC Batch: F:MA14565
(3) Instrument QC Batch: F:MA14570
(4) Prep QC Batch: F:MP33117
(5) Prep QC Batch: F:MP33123
(6) Prep QC Batch: F:MP33127

(a) Analysis performed at SGS Accutest, Orlando, FL.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SEEP 8		
Lab Sample ID:	TD13523-2	**Date Sampled:**	12/11/17
Matrix:	AQ - Ground Water	**Date Received:**	12/12/17
		Percent Solids:	n/a
Project:	Surface Water		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Hardness, Total [a]	299	23	0.27	mg/l	1	12/18/17 15:55	AFL	SM2340 B-11
Hardness, Total as CaCO3 [b]	299	23	0.27	mg/l	1	12/18/17 15:55	AFL	SM19 2340B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)
(b) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118) Analysis performed at SGS Accutest, Orlando, FL.

RL = Reporting Limit
MDL = Method Detection Limit
U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	SEEP 8		
Lab Sample ID:	TD13523-2A	**Date Sampled:**	12/11/17
Matrix:	AQ - Ground Water	**Date Received:**	12/12/17
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	Surface Water		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3M73445.D	1	01/12/18 12:39	ANJ	12/15/17 00:35	N:OP8684	N:E3M3528
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN Special List by SIM

CAS No.	Compound	Result	RL	MDL	Units	Q
218-01-9	Chrysene	ND	0.00010	0.000026	mg/l	
91-20-3	Naphthalene	ND	0.00010	0.000029	mg/l	
85-01-8	Phenanthrene	ND	0.00010	0.000023	mg/l	
129-00-0	Pyrene	ND	0.00010	0.000019	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	96%		29-124%
321-60-8	2-Fluorobiphenyl	76%		23-122%
1718-51-0	Terphenyl-d14	92%		22-130%

(a) Analysis performed at SGS Dayton, NJ.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SEEP 8		
Lab Sample ID:	TD13523-2F	**Date Sampled:**	12/11/17
Matrix:	AQ - Groundwater Filtered	**Date Received:**	12/12/17
		Percent Solids:	n/a
Project:	Surface Water		

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	1.6 B	10	1.3	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Barium [a]	163 B	200	1.0	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Cadmium [a]	0.20 U	5.0	0.20	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Chromium [a]	1.0 U	10	1.0	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Lead [a]	1.1 U	5.0	1.1	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Mercury [a]	0.030 U	0.50	0.030	ug/l	1	12/18/17	12/18/17	AFL	SW846 7470A [2]	SW846 7470A [4]
Selenium [a]	2.9 U	10	2.9	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Silver [a]	0.70 U	10	0.70	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: F:MA14562
(2) Instrument QC Batch: F:MA14565
(3) Prep QC Batch: F:MP33117
(4) Prep QC Batch: F:MP33123

(a) Analysis performed at SGS Accutest, Orlando, FL.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	UPSTREAM		
Lab Sample ID:	TD13523-3	**Date Sampled:**	12/11/17
Matrix:	AQ - Ground Water	**Date Received:**	12/12/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Surface Water		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01243043.D	1	12/19/17 01:41	EM	n/a	n/a	VX3471
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

EPA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	0.050	0.010	mg/l	
71-43-2	Benzene	ND	0.0010	0.00030	mg/l	
108-90-7	Chlorobenzene	ND	0.0010	0.00030	mg/l	
75-15-0	Carbon disulfide	ND	0.0050	0.00075	mg/l	
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethylene	ND	0.0010	0.00030	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00030	mg/l	
75-09-2	Methylene chloride	ND	0.0050	0.0013	mg/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00030	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00030	mg/l	
127-18-4	Tetrachloroethylene	ND	0.0010	0.00030	mg/l	
108-88-3	Toluene	ND	0.0010	0.00030	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00030	mg/l	
1330-20-7	Xylene (total)	ND	0.0030	0.00065	mg/l	
	m,p-Xylene	ND	0.0020	0.00044	mg/l	
95-47-6	o-Xylene	ND	0.0010	0.00030	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		72-122%
17060-07-0	1,2-Dichloroethane-D4	105%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	102%		72-126%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	UPSTREAM		
Lab Sample ID:	TD13523-3	**Date Sampled:**	12/11/17
Matrix:	AQ - Ground Water	**Date Received:**	12/12/17
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Surface Water		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J189845.D	1	12/14/17 20:01	SC	12/14/17 10:00	OP45194	EJ2666
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

EPA 8270 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	0.020	0.0017	mg/l	
87-86-5	Pentachlorophenol	ND	0.025	0.0032	mg/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.0050	0.0019	mg/l	
91-57-6	2-Methylnaphthalene	ND	0.0050	0.0016	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	23%		10-66%
4165-62-2	Phenol-d5	15%		10-63%
118-79-6	2,4,6-Tribromophenol	78%		32-128%
4165-60-0	Nitrobenzene-d5	67%		29-115%
321-60-8	2-Fluorobiphenyl	69%		34-113%
1718-51-0	Terphenyl-d14	68%		23-138%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: UPSTREAM
Lab Sample ID: TD13523-3
Matrix: AQ - Ground Water
Project: Surface Water

Date Sampled: 12/11/17
Date Received: 12/12/17
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	1.9 B	10	1.3	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Barium [a]	166 B	200	1.0	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Cadmium [a]	0.20 U	5.0	0.20	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Calcium [a]	92000	1000	50	ug/l	1	12/18/17	12/18/17	AFL	SW846 6010C [3]	SW846 3010A [6]
Chromium [a]	1.0 U	10	1.0	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Lead [a]	1.1 U	5.0	1.1	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Magnesium [a]	17000	5000	35	ug/l	1	12/18/17	12/18/17	AFL	SW846 6010C [3]	SW846 3010A [6]
Mercury [a]	0.030 U	0.50	0.030	ug/l	1	12/18/17	12/18/17	AFL	SW846 7470A [2]	SW846 7470A [5]
Selenium [a]	2.9 U	10	2.9	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]
Silver [a]	0.70 U	10	0.70	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [4]

(1) Instrument QC Batch: F:MA14562
(2) Instrument QC Batch: F:MA14565
(3) Instrument QC Batch: F:MA14570
(4) Prep QC Batch: F:MP33117
(5) Prep QC Batch: F:MP33123
(6) Prep QC Batch: F:MP33127

(a) Analysis performed at SGS Accutest, Orlando, FL.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	UPSTREAM		
Lab Sample ID:	TD13523-3	**Date Sampled:**	12/11/17
Matrix:	AQ - Ground Water	**Date Received:**	12/12/17
		Percent Solids:	n/a
Project:	Surface Water		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Hardness, Total [a]	300	23	0.27	mg/l	1	12/18/17 16:00	AFL	SM2340 B-11
Hardness, Total as CaCO3 [b]	300	23	0.27	mg/l	1	12/18/17 16:00	AFL	SM19 2340B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)
(b) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118) Analysis performed at SGS Accutest, Orlando, FL.

RL = Reporting Limit
MDL = Method Detection Limit
U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	UPSTREAM		
Lab Sample ID:	TD13523-3A	**Date Sampled:**	12/11/17
Matrix:	AQ - Ground Water	**Date Received:**	12/12/17
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	Surface Water		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3M73446.D	1	01/12/18 13:11	ANJ	12/15/17 00:35	N:OP8684	N:E3M3528
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN Special List by SIM

CAS No.	Compound	Result	RL	MDL	Units	Q
218-01-9	Chrysene	ND	0.00010	0.000026	mg/l	
91-20-3	Naphthalene	ND	0.00010	0.000029	mg/l	
85-01-8	Phenanthrene	ND	0.00010	0.000023	mg/l	
129-00-0	Pyrene	ND	0.00010	0.000019	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	75%		29-124%
321-60-8	2-Fluorobiphenyl	63%		23-122%
1718-51-0	Terphenyl-d14	73%		22-130%

(a) Analysis performed at SGS Dayton, NJ.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: UPSTREAM
Lab Sample ID: TD13523-3F
Matrix: AQ - Groundwater Filtered
Project: Surface Water

Date Sampled: 12/11/17
Date Received: 12/12/17
Percent Solids: n/a

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	1.3 U	10	1.3	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Barium [a]	160 B	200	1.0	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Cadmium [a]	0.20 U	5.0	0.20	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Chromium [a]	1.0 U	10	1.0	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Lead [a]	1.1 U	5.0	1.1	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Mercury [a]	0.030 U	0.50	0.030	ug/l	1	12/18/17	12/18/17	AFL	SW846 7470A [2]	SW846 7470A [4]
Selenium [a]	3.8 B	10	2.9	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]
Silver [a]	0.70 U	10	0.70	ug/l	1	12/15/17	12/15/17	AFL	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: F:MA14562
(2) Instrument QC Batch: F:MA14565
(3) Prep QC Batch: F:MP33117
(4) Prep QC Batch: F:MP33123

(a) Analysis performed at SGS Accutest, Orlando, FL.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	TD13523-4	**Date Sampled:**	12/11/17
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/12/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Surface Water		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01243044.D	1	12/19/17 02:07	EM	n/a	n/a	VX3471
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

EPA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	0.050	0.010	mg/l	
71-43-2	Benzene	ND	0.0010	0.00030	mg/l	
108-90-7	Chlorobenzene	ND	0.0010	0.00030	mg/l	
75-15-0	Carbon disulfide	ND	0.0050	0.00075	mg/l	
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethylene	ND	0.0010	0.00030	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00030	mg/l	
75-09-2	Methylene chloride	ND	0.0050	0.0013	mg/l	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00030	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00030	mg/l	
127-18-4	Tetrachloroethylene	ND	0.0010	0.00030	mg/l	
108-88-3	Toluene	ND	0.0010	0.00030	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00030	mg/l	
1330-20-7	Xylene (total)	ND	0.0030	0.00065	mg/l	
	m,p-Xylene	ND	0.0020	0.00044	mg/l	
95-47-6	o-Xylene	ND	0.0010	0.00030	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		72-122%
17060-07-0	1,2-Dichloroethane-D4	102%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	102%		72-126%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SGS ACCUTEST

CHAIN OF CUSTODY

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

2 Coolers

PAGE 1 OF 1

FED-EX Tracking #

Bottle Order Control #

Accutest Quote #

Accutest Job # TD13523

Client / Reporting Information

Company Name: CB&I

Street Address: 5800 West 29th Street North

City: Wichita State: KS Zip: 67205

Project Contact: Phil Osborn E-mail: jaquelyn.wilson@aptim.com; Phil.Osborn@cbi.com; aptim.com

Phone # Fax #

Sampler(s) Name(s): Jacquee Wilson Phone #

Project Information

Project Name: Surface Water

Street

City State

Project #

Client Purchase Order #

Project Manager

Billing Information (if different from Report to)

Company Name

Street Address

City State Zip

Attention:

Requested Analyses

Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAc/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	VOC 8260 Special List	As, Ba, Cd, Cr, Pb, Hg, Se, Ag by 6010	**Dissolved As, Ba, Cd, Cr, Pb, Hg, Se, Ag by 6010	SVOC 8270 Special List	SIM 8270 Special List	Phenanthrene by SIM 8270 (sub to NJ)	Chrysene by SIM 8270 (sub to NJ)	Hardness	Matrix Codes
1	Seep 7	12-11-17	1100	JW	SW	9	3			1		5							X	X	X	X	X	X	X	X	
2	Seep 8	12-11-17	1110	JW	SW	9	3			1		5							X	X	X	X	X	X	X	X	
3	Upstream	12-11-17	1125	JW	SW	9	3			1		5							X	X	X	X	X	X	X	X	
~~Dup~~					~~SW~~	~~9~~	~~3~~			~~1~~		~~5~~							~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	
4	Trip Blank																		X								

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank

LAB USE ONLY

Turnaround Time (Business days)

- Standard
- 5 Day *RUSH*
- 4 Day *RUSH*
- 3 Day *RUSH*
- 2 Day *RUSH*
- 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- Commercial "A" (Level 1)
- Commercial "B" (Level 2)
- FULT1 (Level 3+4)
- REDT1 (Level 3+4)
- Commercial "C"
- TRRP
- EDD Format
- Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

8270SL = Bis(2-ethylhexylphthalate), 2-Methylnaphthalene, Benzoic Acid, Pentachlorophenol
SIM SL = Naphthalene, Pyrene
** Dissolved Metals to be filtered in LAB

Metals go to FLORIDA!

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Jacquee Wilson	12-11-17 / 1600	FedEx	FedEx		
2						12/12/17 1000
3						
4						
5						

Custody Seal # ☐ Intact ☐ Not intact

Preserved where applicable ☑ On Ice ☑ Cooler Temp. 1.6

SGS ACCUTEST

COOLER TEMP FORM

TC# TD13523

Delivered by (circle one): FedEx/UPS (circled) ALGC Driver Client

Date: 12-12-17

Client: CB&I

Cooler Number:

Thermometer ID: IR-9 CF, °C 0.0 Corrected Temp, °C 1.4

SAMPLES CONTAINED IN COOLER 3

(2) LA6
(1) SULNP
(1) SULSLB
(3) ULH

FedEx RK# 7314 4445 3621 0221
TUE - 12 DEC 10:30A
PRIORITY OVERNIGHT
XH SGRA
77036 TX-US IAH
FID 941213 11DEC17 ICTA 546C1/574C/0C8A
77036
7314 4445 3621
PRIORITY OVERNIGHT
Part # 156148-434 RRD 07/15

GULF COAST CUSTODY SEAL
INITIALS mp
11/11/17 14:00

Form: S... 10/24/2016

TD13523: Chain of Custody
Page 2 of 6

TD13523: Chain of Custody
Page 3 of 6

SGS Accutest Sample Receipt Summary

Job Number: TD13523 **Client:** CB&I **Project:** SURFACE WATER

Date / Time Received: 12/12/2017 10:00:00 AM **Delivery Method:** **Airbill #'s:** 731444453621,731444453610

No. Coolers: 2 **Therm ID:** IR9; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (1.6/1.6); #2: (2.1/2.1);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:			
3. Cooler media:	Ice (Bag)		

Quality Control Preservation	Y	or	N	N/A	WTB	STB
1. Trip Blank present / cooler:	☑		☐	☐	☑	☐
2. Trip Blank listed on COC:	☑		☐	☐		
3. Samples preserved properly:	☑		☐			
4. VOCs headspace free:	☑		☐	☐		

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Sample Receipt Log

Job #: TD13523 **Date / Time Received:** 12/12/2017 10:00:00 AM **Initials:** DS

Client:

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
2	TD13523-1	LAG	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR9	2.1	0	2.1
2	TD13523-1	LAG	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR9	2.1	0	2.1
2	TD13523-1	LAG	3	4S	N/P	Note #2 - Preservative check not applicable.	IR9	2.1	0	2.1
2	TD13523-1	LAG	4	4S	N/P	Note #2 - Preservative check not applicable.	IR9	2.1	0	2.1
2	TD13523-1	500ml	5	SUB	N/P	Note #2 - Preservative check not applicable.	IR9	2.1	0	2.1
2	TD13523-1	500ml	6	SUB	HNO3	pH < 2	IR9	2.1	0	2.1
2	TD13523-1	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.1	0	2.1
2	TD13523-1	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.1	0	2.1
2	TD13523-1	40ml	9	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.1	0	2.1
2	TD13523-2	LAG	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR9	2.1	0	2.1
2	TD13523-2	LAG	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR9	2.1	0	2.1
2	TD13523-2	LAG	3	4S	N/P	Note #2 - Preservative check not applicable.	IR9	2.1	0	2.1
2	TD13523-2	LAG	4	4S	N/P	Note #2 - Preservative check not applicable.	IR9	2.1	0	2.1
2	TD13523-2	500ml	5	SUB	N/P	Note #2 - Preservative check not applicable.	IR9	2.1	0	2.1
2	TD13523-2	500ml	6	SUB	HNO3	pH < 2	IR9	2.1	0	2.1
2	TD13523-2	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.1	0	2.1
2	TD13523-2	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.1	0	2.1
2	TD13523-2	40ml	9	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.1	0	2.1
1	TD13523-3	LAG	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR9	1.6	0	1.6
1	TD13523-3	LAG	2	SUB	N/P	Note #2 - Preservative check not applicable.	IR9	1.6	0	1.6
1	TD13523-3	LAG	3	4S	N/P	Note #2 - Preservative check not applicable.	IR9	1.6	0	1.6
1	TD13523-3	LAG	4	4S	N/P	Note #2 - Preservative check not applicable.	IR9	1.6	0	1.6
1	TD13523-3	500ml	5	SUB	N/P	Note #2 - Preservative check not applicable.	IR9	1.6	0	1.6

Sample Receipt Log

Job #: TD13523 **Date / Time Received:** 12/12/2017 10:00:00 AM **Initials:** DS

Client:

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD13523-3	500ml	6	SUB	HNO3	pH < 2	IR9	1.6	0	1.6
1	TD13523-3	40ml	7	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.6	0	1.6
1	TD13523-3	40ml	8	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.6	0	1.6
1	TD13523-3	40ml	9	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.6	0	1.6
2	TD13523-4	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.1	0	2.1
2	TD13523-4	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.1	0	2.1

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD13523
Account: SHAWKSWI APTIM
Project: Surface Water

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX3471-MB	X01243026.D	1	12/18/17	EM	n/a	n/a	VX3471

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD13523-1, TD13523-2, TD13523-3, TD13523-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.75	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.3	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.30	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.65	ug/l	
	m,p-Xylene	ND	2.0	0.44	ug/l	
95-47-6	o-Xylene	ND	1.0	0.30	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	105%	72-122%
17060-07-0	1,2-Dichloroethane-D4	102%	68-124%
2037-26-5	Toluene-D8	103%	80-119%
460-00-4	4-Bromofluorobenzene	100%	72-126%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD13523
Account: SHAWKSWI APTIM
Project: Surface Water

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX3471-BS	X01243023.D	1	12/18/17	EM	n/a	n/a	VX3471
VX3471-BSD [a]	X01243024.D	1	12/18/17	EM	n/a	n/a	VX3471

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD13523-1, TD13523-2, TD13523-3, TD13523-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	125	100	80	114	91	13	46-129/30
71-43-2	Benzene	25	22.4	90	24.1	96	7	68-119/30
108-90-7	Chlorobenzene	25	22.4	90	24.0	96	7	74-120/30
75-15-0	Carbon disulfide	25	23.6	94	25.0	100	6	55-140/30
75-34-3	1,1-Dichloroethane	25	25.2	101	27.0	108	7	72-121/30
75-35-4	1,1-Dichloroethylene	25	25.6	102	27.1	108	6	67-140/30
100-41-4	Ethylbenzene	25	22.6	90	24.3	97	7	71-117/30
75-09-2	Methylene chloride	25	23.4	94	25.2	101	7	60-125/30
1634-04-4	Methyl Tert Butyl Ether	25	22.4	90	24.0	96	7	65-119/30
71-55-6	1,1,1-Trichloroethane	25	23.6	94	25.5	102	8	72-129/30
127-18-4	Tetrachloroethylene	25	23.5	94	25.0	100	6	72-132/30
108-88-3	Toluene	25	22.2	89	23.9	96	7	73-119/30
75-01-4	Vinyl chloride	25	22.0	88	21.2	85	4	54-126/30
1330-20-7	Xylene (total)	75	67.8	90	72.6	97	7	74-119/30
	m,p-Xylene	50	45.9	92	49.1	98	7	74-119/30
95-47-6	o-Xylene	25	22.0	88	23.5	94	7	73-121/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	103%	106%	72-122%
17060-07-0	1,2-Dichloroethane-D4	99%	99%	68-124%
2037-26-5	Toluene-D8	102%	102%	80-119%
460-00-4	4-Bromofluorobenzene	100%	100%	72-126%

(a) Insufficient sample available for MS/MSD.

* = Outside of Control Limits.

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD13523
Account: SHAWKSWI APTIM
Project: Surface Water

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP45194-MB	O24244.D	1	12/14/17	GJ	12/14/17	OP45194	EO1356

The QC reported here applies to the following samples: **Method:** SW846 8270D

TD13523-1, TD13523-2, TD13523-3

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	20	1.7	ug/l	
87-86-5	Pentachlorophenol	ND	25	3.2	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.6	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	26%	10-66%
4165-62-2	Phenol-d5	16%	10-63%
118-79-6	2,4,6-Tribromophenol	71%	32-128%
4165-60-0	Nitrobenzene-d5	67%	29-115%
321-60-8	2-Fluorobiphenyl	66%	34-113%
1718-51-0	Terphenyl-d14	75%	23-138%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD13523
Account: SHAWKSWI APTIM
Project: Surface Water

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP45194-BS	O24241.D	1	12/14/17	GJ	12/14/17	OP45194	EO1356
OP45194-BSD [a]	O24242.D	1	12/14/17	GJ	12/14/17	OP45194	EO1356

The QC reported here applies to the following samples: **Method:** SW846 8270D

TD13523-1, TD13523-2, TD13523-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	100	15.5	16	15.9	16	3	10-91/30
87-86-5	Pentachlorophenol	50	51.9	104	49.6	99	5	28-116/30
117-81-7	bis(2-Ethylhexyl)phthalate	50	44.0	88	43.8	88	0	50-123/30
91-57-6	2-Methylnaphthalene	50	38.3	77	39.4	79	3	36-104/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	35%	34%	10-66%
4165-62-2	Phenol-d5	23%	23%	10-63%
118-79-6	2,4,6-Tribromophenol	105%	90%	32-128%
4165-60-0	Nitrobenzene-d5	79%	79%	29-115%
321-60-8	2-Fluorobiphenyl	81%	82%	34-113%
1718-51-0	Terphenyl-d14	93%	93%	23-138%

(a) Insufficient sample for MS/MSD.

* = Outside of Control Limits.

Misc. Forms

Custody Documents and Other Forms

(SGS Dayton, NJ)

Includes the following where applicable:

- Chain of Custody

SGS ACCUTEST

AQ

CHAIN OF CUSTODY

10165 Harwin Drive, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking # 5642 4621 5412	Bottle Order Control #
SGS Accutest Quote #	SGS Accutest Job TD13523

Client / Reporting Information	Project Information	
Company Name: SGS Accutest	Project Name: Surface Water	
Street Address: 10165 Harwin Drive	Street	Billing Information (If different from Report to)
City: Houston State: TX Zip: 77036	City State	Company Name
Project Contact E-mail: sylvia.garza@sgs.com	Project #	Street Address
Phone #: 713-271-4700 Fax #	Client Purchase Order #	City State Zip
Sampler(s) Name(s) Phone	Project Manager	Attention:

Requested Analysis (see TEST CODE sheet): B8270SIMSL

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB-Equipment Blank, RB- Rinse Blank, TB-Trip Blank

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	B8270SIMSL	LAB USE ONLY
1A	SEEP 7		12/11/17	11:00:00 AM		AQ	1					X				X	E67
2A	SEEP 8		12/11/17	11:10:00 AM		AQ	1					X				X	TX
3A	UPSTREAM		12/11/17	11:25:00 AM		AQ	1					X				X	

INITIAL ASSESSMENT 2 AB
LABEL VERIFICATION

NJ

Turnaround Time (Business days)
- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [x] other Due 12/22/2017

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [x] Other COMMB

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions
Ship One Liter amber to NJ, BUBBLE BAG TWICE, WATCH HOLD TIME, LIMITED VOLUME!!!
SC: Chrysene, Naphthalene phenanthrene + Pyrene

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	12/12/17 930	1 FX	2 FX	12-13-17 930	2 [signature]
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice X Cooler Temp. 1.1 C (EP)

7.1

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TD13523: Chain of Custody
Page 1 of 2
SGS Dayton, NJ

TD13523

SGS Accutest

Report of Analysis

Client Sample ID:	SEEP 7		
Lab Sample ID:	TD6679-1A	Date Sampled:	07/20/17
Matrix:	AQ - Ground Water	Date Received:	07/24/17
Method:	SW846 8270D BY SIM SW846 3510C	Percent Solids:	n/a
Project:	Surface Water		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3P61091.D	1	07/28/17 11:39	ANJ	07/27/17 08:30	N:OP4791A	N:E3P2874
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN Special List by SIM

CAS No.	Compound	Result	RL	MDL	Units	Q
218-01-9	Chrysene	ND	0.00010	0.000026	mg/l	
91-20-3	Naphthalene	ND	0.00010	0.000029	mg/l	
85-01-8	Phenanthrene	ND	0.00010	0.000023	mg/l	
129-00-0	Pyrene	ND	0.00010	0.000019	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	78%		29-124%
321-60-8	2-Fluorobiphenyl	77%		23-122%
1718-51-0	Terphenyl-d14	84%		22-130%

(a) Analysis performed at SGS Accutest, Dayton, NJ.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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TD13523: Chain of Custody
Page 2 of 2

MS Semi-volatiles

QC Data Summaries

(SGS Dayton, NJ)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD13523
Account: ALGC SGS Houston, TX
Project: SHAWKSWI: Surface Water

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8684-MB1	3M73177.D	1	12/27/17	NAP	12/15/17	OP8684	E3M3512

The QC reported here applies to the following samples: **Method:** SW846 8270D BY SIM

TD13523-1A, TD13523-2A, TD13523-3A

CAS No.	Compound	Result	RL	MDL	Units	Q
218-01-9	Chrysene	ND	0.10	0.026	ug/l	
91-20-3	Naphthalene	ND	0.10	0.029	ug/l	
85-01-8	Phenanthrene	ND	0.10	0.023	ug/l	
129-00-0	Pyrene	ND	0.10	0.019	ug/l	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	71%	29-124%
321-60-8	2-Fluorobiphenyl	59%	23-122%
1718-51-0	Terphenyl-d14	89%	22-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD13523
Account: ALGC SGS Houston, TX
Project: SHAWKSWI: Surface Water

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8684-BS12	3M73178.D	1	12/27/17	NAP	12/15/17	OP8684	E3M3512
OP8684-BSD12	3M73179.D	1	12/27/17	NAP	12/15/17	OP8684	E3M3512

The QC reported here applies to the following samples: **Method:** SW846 8270D BY SIM

TD13523-1A, TD13523-2A, TD13523-3A

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
218-01-9	Chrysene	1	0.587	59	0.618	62	5	43-119/33
91-20-3	Naphthalene	1	0.622	62	0.547	55	13	30-114/40
85-01-8	Phenanthrene	1	0.638	64	0.636	64	0	45-125/31
129-00-0	Pyrene	1	0.638	64	0.636	64	0	48-125/29

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	76%	66%	29-124%
321-60-8	2-Fluorobiphenyl	53%	45%	23-122%
1718-51-0	Terphenyl-d14	87%	92%	22-130%

* = Outside of Control Limits.

Misc. Forms

Custody Documents and Other Forms

(SGS Orlando, FL)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS ACCUTEST

10165 Harwin Drive, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #:
Bottle Order Control #:
SGS Accutest Quote #:
SGS Accutest Job #: TD13523

Client / Reporting Information

Company Name: SGS Accutest
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: sylvia.garza@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: Surface Water
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	AG,AS,BA,CD,CR,FILTERMET,HG,PB,SE (Lab Filter)	AG,AS,BA,CD,CR,HG,PB,SE	LAB USE ONLY
1	SEEP 7		12/11/17	11:00:00 AM		AQ	1			X							X	
1F	SEEP 7		12/11/17	11:00:00 AM		AQ	1					X				X		
2	SEEP 8		12/11/17	11:10:00 AM		AQ	1			X							X	
2F	SEEP 8		12/11/17	11:10:00 AM		AQ	1					X				X		
3	UPSTREAM		12/11/17	11:25:00 AM		AQ	1			X							X	
3F	UPSTREAM		12/11/17	11:25:00 AM		AQ	1					X				X		

Turnaround Time (Business days)

Approved By (SGS Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 12/22/2017

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other COMMB

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

SHIP METALS TO FL- HNO3 and LAB TO FILTER DISS METALS (unpre)

FL

930

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		12/12/17 1900	1	2		2 12/13/17
3			3	4		4
5			5			

Custody Seal # ☐ Intact ☐ Not Intact | Preserved where applicable ☐ | On Ice ☐ | Cooler Temp. 3.0

SGS Accutest Sample Receipt Summary

Job Number: TD13523 **Client:** ALGC **Project:** SURFACE WATER

Date / Time Received: 12/13/2017 9:30:00 AM **Delivery Method:** FED EX **Airbill #'s:** 564246215434

Therm ID: IR 1; **Therm CF:** 0.4; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (2.6);

Cooler Temps (Corrected) °C: Cooler 1: (3.0);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☐	☑
2. Trip Blank listed on COC	☐		☐	☑

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SHAYLAP Date: 12/13/2017 9:30:00 A Reviewer: _____ Date: _____

9.1

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TD13523: Chain of Custody
Page 2 of 2

Metals Analysis

QC Data Summaries

(SGS Orlando, FL)

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33117
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:				12/15/17		12/15/17	
Metal	RL	IDL	MDL	MB raw	MB final	MB raw	MB final
Aluminum	200	14	14				
Antimony	6.0	1	1				
Arsenic	10	1.3	1.3	-1.5	<10	-2.0	<10
Barium	200	1	1	-0.20	<200	-0.10	<200
Beryllium	4.0	.2	.2				
Cadmium	5.0	.2	.2	-0.10	<5.0	-0.10	<5.0
Calcium	1000	50	50				
Chromium	10	1	1	0.10	<10	0.20	<10
Cobalt	50	.2	.2				
Copper	25	1	1				
Iron	300	17	17				
Lead	5.0	1	1.1	0.50	<5.0	0.70	<5.0
Magnesium	5000	35	35				
Manganese	15	.5	1				
Molybdenum	50	.3	.3				
Nickel	40	.4	.4				
Potassium	10000	200	200				
Selenium	10	2.4	2.9	1.3	<10	0.0	<10
Silver	10	.7	.7	-0.50	<10	-0.20	<10
Sodium	10000	500	500				
Strontium	10	.5	.5				
Thallium	10	1.1	1.4				
Tin	50	.9	1				
Titanium	10	.5	1				
Vanadium	50	.5	.6				
Zinc	20	3	4.4				

Associated samples MP33117: TD13523-1, TD13523-2, TD13523-3, TD13523-1F, TD13523-2F, TD13523-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33117
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:			12/15/17					12/15/17	
Metal	TD13523-1F Original	DUP	RPD	QC Limits	TD13523-1F Original	MS	Spikelot MPFLICP2	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic	2.2	0.0	200.0(a)	0-20	2.2	2060	2000	102.9	80-120
Barium	159	161	1.3	0-20	159	2210	2000	102.6	80-120
Beryllium									
Cadmium	0.0	0.0	NC	0-20	0.0	51.0	50	102.0	80-120
Calcium	anr								
Chromium	0.0	0.0	NC	0-20	0.0	207	200	103.5	80-120
Cobalt									
Copper									
Iron	anr								
Lead	0.0	0.0	NC	0-20	0.0	495	500	99.0	80-120
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel									
Potassium									
Selenium	3.3	0.0	200.0(a)	0-20	3.3	2020	2000	100.8	80-120
Silver	0.0	0.0	NC	0-20	0.0	50.6	50	101.2	80-120
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc									

Associated samples MP33117: TD13523-1, TD13523-2, TD13523-3, TD13523-1F, TD13523-2F, TD13523-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33117
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/15/17

Metal	TD13523-1F Original	MSD	Spikelot MPFLICP2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	2.2	2070	2000	103.4	0.5	20
Barium	159	2200	2000	102.1	0.5	20
Beryllium						
Cadmium	0.0	51.4	50	102.8	0.8	20
Calcium	anr					
Chromium	0.0	208	200	104.0	0.5	20
Cobalt						
Copper						
Iron	anr					
Lead	0.0	499	500	99.8	0.8	20
Magnesium	anr					
Manganese	anr					
Molybdenum						
Nickel						
Potassium						
Selenium	3.3	2020	2000	100.8	0.0	20
Silver	0.0	51.4	50	102.8	1.6	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP33117: TD13523-1, TD13523-2, TD13523-3, TD13523-1F, TD13523-2F, TD13523-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33117
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/15/17

Metal	BSP Result	Spikelot MPFLICP2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	1970	2000	98.5	80-120
Barium	2070	2000	103.5	80-120
Beryllium				
Cadmium	50.6	50	101.2	80-120
Calcium	anr			
Chromium	207	200	103.5	80-120
Cobalt				
Copper				
Iron	anr			
Lead	491	500	98.2	80-120
Magnesium	anr			
Manganese	anr			
Molybdenum				
Nickel				
Potassium				
Selenium	1950	2000	97.5	80-120
Silver	49.7	50	99.4	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP33117: TD13523-1, TD13523-2, TD13523-3, TD13523-1F, TD13523-2F, TD13523-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33117
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/15/17

Metal	TD13523-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	2.20	0.00	100.0(a)	0-10
Barium	159	160	1.0	0-10
Beryllium				
Cadmium	0.00	0.00	NC	0-10
Calcium	anr			
Chromium	0.00	0.00	NC	0-10
Cobalt				
Copper				
Iron	anr			
Lead	0.00	0.00	NC	0-10
Magnesium	anr			
Manganese	anr			
Molybdenum				
Nickel				
Potassium				
Selenium	3.30	0.00	100.0(a)	0-10
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP33117: TD13523-1, TD13523-2, TD13523-3, TD13523-1F, TD13523-2F, TD13523-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33117
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/15/17

Metal	Sample ml	Final ml	TD13523-1F Raw	TD13523-1F Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic	9.8	10	2.2	2.156	108.1	0.2	5	100	105.9	80-120
Barium	9.8	10	158.7	155.526	413.7	.2	12.5	250	103.3	80-120
Beryllium										
Cadmium	9.8	10			50.9	0.2	2.5	50	101.8	80-120
Calcium										
Chromium	9.8	10			52.2	0.2	2.5	50	104.4	80-120
Cobalt										
Copper										
Iron										
Lead	9.8	10			47.7	0.2	2.5	50	95.4	80-120
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium	9.8	10	3.3	3.234	99.2	0.2	5	100	96.0	80-120
Silver	9.8	10			51.3	0.2	2.5	50	102.6	80-120
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP33117: TD13523-1, TD13523-2, TD13523-3, TD13523-1F, TD13523-2F, TD13523-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33123 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date:					12/18/17		12/18/17
Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Mercury	0.50	.03	.03	-0.040	<0.50	-0.051	<0.50

Associated samples MP33123: TD13523-1, TD13523-2, TD13523-3, TD13523-1F, TD13523-2F, TD13523-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33123
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 12/18/17 12/18/17

Metal	FA49951-3 Original	DUP	RPD	QC Limits	FA49951-3 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0	0.0	NC	0-20	0.0	3.0	3	100.0	80-120

Associated samples MP33123: TD13523-1, TD13523-2, TD13523-3, TD13523-1F, TD13523-2F, TD13523-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33123 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/18/17

Metal	FA49951-3 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.0	3	100.0	0.0	20

Associated samples MP33123: TD13523-1, TD13523-2, TD13523-3, TD13523-1F, TD13523-2F, TD13523-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33123
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 12/18/17

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	2.8	3	93.3	80-120

Associated samples MP33123: TD13523-1, TD13523-2, TD13523-3, TD13523-1F, TD13523-2F, TD13523-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33123
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 12/18/17

Metal	FA49951-3 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.00	0.00	NC	0-10

Associated samples MP33123: TD13523-1, TD13523-2, TD13523-3, TD13523-1F, TD13523-2F, TD13523-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33127
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/18/17

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	14	14		
Antimony	6.0	1	1		
Arsenic	10	1.3	1.3		
Barium	200	1	1		
Beryllium	4.0	.2	.2		
Cadmium	5.0	.2	.2		
Calcium	1000	50	50	-3.7	<1000
Chromium	10	1	1		
Cobalt	50	.2	.2		
Copper	25	1	1		
Iron	300	17	17		
Lead	5.0	1	1.1		
Magnesium	5000	35	35	-30	<5000
Manganese	15	.5	1		
Molybdenum	50	.3	.3		
Nickel	40	.4	.4		
Potassium	10000	200	200		
Selenium	10	2.4	2.9		
Silver	10	.7	.7		
Sodium	10000	500	500		
Strontium	10	.5	.5		
Thallium	10	1.1	1.4		
Tin	50	.9	1		
Titanium	10	.5	1		
Vanadium	50	.5	.6		
Zinc	20	3	4.4		

Associated samples MP33127: TD13523-1, TD13523-2, TD13523-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33127
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:			12/18/17					12/18/17	
Metal	FA50231-1 Original	DUP	RPD	QC Limits	FA50231-1 Original	MS	Spikelot MPFLICP2	% Rec	QC Limits
Aluminum									
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	90200	88900	1.5	0-20	90200	111000	25000	83.2	80-120
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	3090	3030	2.0	0-20	3090	27100	25000	96.0	80-120
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium									
Selenium	anr								
Silver	anr								
Sodium									
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	anr								

Associated samples MP33127: TD13523-1, TD13523-2, TD13523-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33127
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/18/17

Metal	FA50231-1 Original	MSD	Spikelot MPFLICP2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Cadmium	anr					
Calcium	90200	115000	25000	99.2	3.5	20
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron	anr					
Lead	anr					
Magnesium	3090	27800	25000	98.8	2.6	20
Manganese	anr					
Molybdenum	anr					
Nickel	anr					
Potassium						
Selenium	anr					
Silver	anr					
Sodium						
Strontium						
Thallium	anr					
Tin						
Titanium						
Vanadium	anr					
Zinc	anr					

Associated samples MP33127: TD13523-1, TD13523-2, TD13523-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33127
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/18/17

Metal	BSP Result	Spikelot MPFLICP2	% Rec	QC Limits
Aluminum				
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Cadmium	anr			
Calcium	25400	25000	101.6	80-120
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	anr			
Magnesium	25100	25000	100.4	80-120
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium	anr			
Zinc	anr			

Associated samples MP33127: TD13523-1, TD13523-2, TD13523-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33127
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/18/17

Metal	FA50231-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Cadmium	anr			
Calcium	90200	96700	7.2	0-10
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	anr			
Magnesium	3090	3280	6.2	0-10
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium	anr			
Zinc	anr			

Associated samples MP33127: TD13523-1, TD13523-2, TD13523-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: TD13523
Account: ALGC - SGS Houston, TX
Project: SHAWKSWI: Surface Water

QC Batch ID: MP33127
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/18/17

Metal	Sample ml	Final ml	FA50231-1 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium	9.8	10	90200	88396	93950	0.2	250	5000	111.1	80-120
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium	9.8	10	3088	3026.24	8368	0.2	250	5000	106.8	80-120
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP33127: TD13523-1, TD13523-2, TD13523-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

10450 Stancliff Rd. Suite 210
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June 25, 2018

Phil Osborn
Aptim Environmental & Infrastructure
2872 N Ridge Rd, Suite 102B
Wichita, KS 67205

Work Order: **HS18060720**

Laboratory Results for: **William FAR Surface Water**

Dear Phil,

ALS Environmental received 4 sample(s) on Jun 15, 2018 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
RJ Modashia
Project Manager

ALS Group Houston, Corp Date: 25-Jun-18

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
Work Order: HS18060720

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS18060720-01	Former Seep 7	Water		14-Jun-2018 14:00	15-Jun-2018 08:30	☐
HS18060720-02	Former Seep 8	Water		14-Jun-2018 14:15	15-Jun-2018 08:30	☐
HS18060720-03	Up Stream	Water		14-Jun-2018 14:30	15-Jun-2018 08:30	☐
HS18060720-04	Trip Blank	Water	ALS-060618-11	14-Jun-2018 00:00	15-Jun-2018 08:30	☐

Client: Aptim Environmental & Infrastructure **CASE NARRATIVE**
Project: William FAR Surface Water
Work Order: HS18060720

GCMS Semivolatiles by Method SW8270

Batch ID: 129502

Sample ID: HS18060737-11MS

- MS and MSD are for an unrelated sample

GCMS Volatiles by Method SW8260

Batch ID: R318550

Sample ID: HS18060812-04MS

- MS and MSD are for an unrelated sample

Metals by Method M2340 B

Batch ID: R318574

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method SW6020

Batch ID: 129619

Sample ID: HS18060719-01MSD

- MSD is for an unrelated sample

Batch ID: 129533

Sample ID: HS18060736-08MS

- MS/MSD and DUPs are for an unrelated sample

Metals by Method SW7470

Batch ID: 129501,129552

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
Sample ID: Former Seep 7
Collection Date: 14-Jun-2018 14:00

ANALYTICAL REPORT
WorkOrder:HS18060720
Lab ID:HS18060720-01
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,1,1-Trichloroethane	U		0.00020	0.0010	mg/L	1	24-Jun-2018 15:41
1,1-Dichloroethane	U		0.00020	0.0010	mg/L	1	24-Jun-2018 15:41
1,1-Dichloroethene	U		0.00020	0.0010	mg/L	1	24-Jun-2018 15:41
Acetone	U		0.0020	0.0020	mg/L	1	24-Jun-2018 15:41
Benzene	U		0.00020	0.0010	mg/L	1	24-Jun-2018 15:41
Carbon disulfide	U		0.00060	0.0020	mg/L	1	24-Jun-2018 15:41
Chlorobenzene	U		0.00030	0.0010	mg/L	1	24-Jun-2018 15:41
Ethylbenzene	U		0.00030	0.0010	mg/L	1	24-Jun-2018 15:41
m,p-Xylene	U		0.00050	0.0020	mg/L	1	24-Jun-2018 15:41
Methyl tert-butyl ether	U		0.00020	0.0010	mg/L	1	24-Jun-2018 15:41
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jun-2018 15:41
o-Xylene	U		0.00030	0.0010	mg/L	1	24-Jun-2018 15:41
Tetrachloroethene	U		0.00030	0.0010	mg/L	1	24-Jun-2018 15:41
Toluene	U		0.00020	0.0010	mg/L	1	24-Jun-2018 15:41
Vinyl chloride	U		0.00020	0.0010	mg/L	1	24-Jun-2018 15:41
Xylenes, Total	U		0.00030	0.0010	mg/L	1	24-Jun-2018 15:41
Surr: 1,2-Dichloroethane-d4	*92.8*			*70-126*	*%REC*	*1*	*24-Jun-2018 15:41*
Surr: 4-Bromofluorobenzene	*103*			*81-113*	*%REC*	*1*	*24-Jun-2018 15:41*
Surr: Dibromofluoromethane	*91.4*			*77-123*	*%REC*	*1*	*24-Jun-2018 15:41*
Surr: Toluene-d8	*103*			*82-127*	*%REC*	*1*	*24-Jun-2018 15:41*
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3510 / 18-Jun-2018		Analyst: GEY
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	20-Jun-2018 12:52
Benzoic acid	**0.00038**		**0.000022**	**0.00020**	**mg/L**	1	20-Jun-2018 12:52
Bis(2-ethylhexyl)phthalate	**0.0029**		**0.000037**	**0.00020**	**mg/L**	1	20-Jun-2018 12:52
Chrysene	U		0.000021	0.00010	mg/L	1	20-Jun-2018 12:52
Naphthalene	**0.000027**	J	**0.000020**	**0.00010**	**mg/L**	1	20-Jun-2018 12:52
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	20-Jun-2018 12:52
Phenanthrene	U		0.000021	0.00010	mg/L	1	20-Jun-2018 12:52
Pyrene	U		0.000019	0.00010	mg/L	1	20-Jun-2018 12:52
Surr: 2,4,6-Tribromophenol	*85.0*			*34-129*	*%REC*	*1*	*20-Jun-2018 12:52*
Surr: 2-Fluorobiphenyl	*60.7*			*40-125*	*%REC*	*1*	*20-Jun-2018 12:52*
Surr: 2-Fluorophenol	*44.9*			*20-120*	*%REC*	*1*	*20-Jun-2018 12:52*
Surr: 4-Terphenyl-d14	*87.6*			*40-135*	*%REC*	*1*	*20-Jun-2018 12:52*
Surr: Nitrobenzene-d5	*53.0*			*41-120*	*%REC*	*1*	*20-Jun-2018 12:52*
Surr: Phenol-d6	*55.0*			*20-120*	*%REC*	*1*	*20-Jun-2018 12:52*
HARDNESS, TOTAL AS CACO3 BY SM2340B		**Method:M2340 B**					Analyst: DQ
Hardness (As CaCO3)	**222**		**2.00**	**2.00**	**mg/L**	1	25-Jun-2018 14:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group Houston, Corp Date: 25-Jun-18

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
Sample ID: Former Seep 7
Collection Date: 14-Jun-2018 14:00

ANALYTICAL REPORT
WorkOrder:HS18060720
Lab ID:HS18060720-01
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 19-Jun-2018		Analyst: JDE
Arsenic	**0.00626**		**0.000400**	**0.00200**	**mg/L**	1	20-Jun-2018 13:16
Barium	**0.158**		**0.00190**	**0.00400**	**mg/L**	1	20-Jun-2018 13:16
Cadmium	U		0.000200	0.00200	mg/L	1	20-Jun-2018 13:16
Calcium	**70.8**		**0.0340**	**0.500**	**mg/L**	1	20-Jun-2018 13:16
Chromium	U		0.000400	0.00400	mg/L	1	20-Jun-2018 13:16
Lead	**0.000945**	J	**0.000600**	**0.00200**	**mg/L**	1	20-Jun-2018 13:16
Magnesium	**11.0**		**0.0100**	**0.200**	**mg/L**	1	20-Jun-2018 13:16
Selenium	**0.00214**		**0.00110**	**0.00200**	**mg/L**	1	20-Jun-2018 13:16
Silver	U		0.000200	0.00200	mg/L	1	20-Jun-2018 13:16
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 20-Jun-2018		Analyst: JDE
Arsenic	**6.02**		**0.400**	**2.00**	**ug/L**	1	21-Jun-2018 00:25
Barium	**152**		**1.90**	**4.00**	**ug/L**	1	21-Jun-2018 00:25
Cadmium	U		0.200	2.00	ug/L	1	21-Jun-2018 00:25
Chromium	U		0.400	4.00	ug/L	1	21-Jun-2018 00:25
Lead	U		0.600	2.00	ug/L	1	21-Jun-2018 00:25
Selenium	**3.78**		**1.10**	**2.00**	**ug/L**	1	21-Jun-2018 00:25
Silver	U		0.200	2.00	ug/L	1	21-Jun-2018 00:25
MERCURY BY SW7470A	**Method:SW7470**				Prep:SW7470 / 19-Jun-2018		Analyst: JBA
Mercury	**0.0000300**	J	**0.0000300**	**0.000200**	**mg/L**	1	19-Jun-2018 14:36
DISSOLVED MERCURY BY SW7470A	**Method:SW7470 (dissolved)**				Prep:SW7470 / 18-Jun-2018		Analyst: JBA
Mercury	U		0.0300	0.200	ug/L	1	19-Jun-2018 11:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
Sample ID: Former Seep 8
Collection Date: 14-Jun-2018 14:15

ANALYTICAL REPORT
WorkOrder:HS18060720
Lab ID:HS18060720-02
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,1,1-Trichloroethane	U		0.00020	0.0010	mg/L	1	24-Jun-2018 16:05
1,1-Dichloroethane	U		0.00020	0.0010	mg/L	1	24-Jun-2018 16:05
1,1-Dichloroethene	U		0.00020	0.0010	mg/L	1	24-Jun-2018 16:05
Acetone	U		0.0020	0.0020	mg/L	1	24-Jun-2018 16:05
Benzene	U		0.00020	0.0010	mg/L	1	24-Jun-2018 16:05
Carbon disulfide	U		0.00060	0.0020	mg/L	1	24-Jun-2018 16:05
Chlorobenzene	U		0.00030	0.0010	mg/L	1	24-Jun-2018 16:05
Ethylbenzene	U		0.00030	0.0010	mg/L	1	24-Jun-2018 16:05
m,p-Xylene	U		0.00050	0.0020	mg/L	1	24-Jun-2018 16:05
Methyl tert-butyl ether	U		0.00020	0.0010	mg/L	1	24-Jun-2018 16:05
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jun-2018 16:05
o-Xylene	U		0.00030	0.0010	mg/L	1	24-Jun-2018 16:05
Tetrachloroethene	U		0.00030	0.0010	mg/L	1	24-Jun-2018 16:05
Toluene	U		0.00020	0.0010	mg/L	1	24-Jun-2018 16:05
Vinyl chloride	U		0.00020	0.0010	mg/L	1	24-Jun-2018 16:05
Xylenes, Total	U		0.00030	0.0010	mg/L	1	24-Jun-2018 16:05
Surr: 1,2-Dichloroethane-d4	*93.2*			*70-126*	*%REC*	*1*	*24-Jun-2018 16:05*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*24-Jun-2018 16:05*
Surr: Dibromofluoromethane	*91.3*			*77-123*	*%REC*	*1*	*24-Jun-2018 16:05*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*24-Jun-2018 16:05*
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3510 / 18-Jun-2018		Analyst: GEY
2-Methylnaphthalene	**0.000033**	J	**0.000019**	**0.00010**	**mg/L**	1	20-Jun-2018 13:12
Benzoic acid	**0.00052**		**0.000022**	**0.00020**	**mg/L**	1	20-Jun-2018 13:12
Bis(2-ethylhexyl)phthalate	**0.000078**	J	**0.000037**	**0.00020**	**mg/L**	1	20-Jun-2018 13:12
Chrysene	U		0.000021	0.00010	mg/L	1	20-Jun-2018 13:12
Naphthalene	**0.000051**	J	**0.000020**	**0.00010**	**mg/L**	1	20-Jun-2018 13:12
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	20-Jun-2018 13:12
Phenanthrene	U		0.000021	0.00010	mg/L	1	20-Jun-2018 13:12
Pyrene	U		0.000019	0.00010	mg/L	1	20-Jun-2018 13:12
Surr: 2,4,6-Tribromophenol	*83.0*			*34-129*	*%REC*	*1*	*20-Jun-2018 13:12*
Surr: 2-Fluorobiphenyl	*65.4*			*40-125*	*%REC*	*1*	*20-Jun-2018 13:12*
Surr: 2-Fluorophenol	*47.7*			*20-120*	*%REC*	*1*	*20-Jun-2018 13:12*
Surr: 4-Terphenyl-d14	*89.1*			*40-135*	*%REC*	*1*	*20-Jun-2018 13:12*
Surr: Nitrobenzene-d5	*57.1*			*41-120*	*%REC*	*1*	*20-Jun-2018 13:12*
Surr: Phenol-d6	*61.4*			*20-120*	*%REC*	*1*	*20-Jun-2018 13:12*
HARDNESS, TOTAL AS CACO3 BY SM2340B		**Method:M2340 B**					Analyst: DQ
Hardness (As CaCO3)	**222**		**2.00**	**2.00**	**mg/L**	1	25-Jun-2018 14:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group Houston, Corp Date: 25-Jun-18

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
Sample ID: Former Seep 8
Collection Date: 14-Jun-2018 14:15

ANALYTICAL REPORT
WorkOrder:HS18060720
Lab ID:HS18060720-02
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 19-Jun-2018		Analyst: JDE
Arsenic	**0.00738**		**0.000400**	**0.00200**	**mg/L**	1	20-Jun-2018 13:18
Barium	**0.158**		**0.00190**	**0.00400**	**mg/L**	1	20-Jun-2018 13:18
Cadmium	U		0.000200	0.00200	mg/L	1	20-Jun-2018 13:18
Calcium	**71.0**		**0.0340**	**0.500**	**mg/L**	1	20-Jun-2018 13:18
Chromium	U		0.000400	0.00400	mg/L	1	20-Jun-2018 13:18
Lead	**0.000890**	J	**0.000600**	**0.00200**	**mg/L**	1	20-Jun-2018 13:18
Magnesium	**10.8**		**0.0100**	**0.200**	**mg/L**	1	20-Jun-2018 13:18
Selenium	**0.00210**		**0.00110**	**0.00200**	**mg/L**	1	20-Jun-2018 13:18
Silver	U		0.000200	0.00200	mg/L	1	20-Jun-2018 13:18
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 20-Jun-2018		Analyst: JDE
Arsenic	**6.78**		**0.400**	**2.00**	**ug/L**	1	21-Jun-2018 00:27
Barium	**155**		**1.90**	**4.00**	**ug/L**	1	21-Jun-2018 00:27
Cadmium	U		0.200	2.00	ug/L	1	21-Jun-2018 00:27
Chromium	U		0.400	4.00	ug/L	1	21-Jun-2018 00:27
Lead	U		0.600	2.00	ug/L	1	21-Jun-2018 00:27
Selenium	**3.41**		**1.10**	**2.00**	**ug/L**	1	21-Jun-2018 00:27
Silver	U		0.200	2.00	ug/L	1	21-Jun-2018 00:27
MERCURY BY SW7470A	**Method:SW7470**				Prep:SW7470 / 19-Jun-2018		Analyst: JBA
Mercury	U		0.0000300	0.000200	mg/L	1	19-Jun-2018 14:38
DISSOLVED MERCURY BY SW7470A	**Method:SW7470 (dissolved)**				Prep:SW7470 / 18-Jun-2018		Analyst: JBA
Mercury	U		0.0300	0.200	ug/L	1	19-Jun-2018 11:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
Sample ID: Up Stream
Collection Date: 14-Jun-2018 14:30

ANALYTICAL REPORT
WorkOrder:HS18060720
Lab ID:HS18060720-03
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,1,1-Trichloroethane		U	0.00020	0.0010	mg/L	1	24-Jun-2018 16:30
1,1-Dichloroethane		U	0.00020	0.0010	mg/L	1	24-Jun-2018 16:30
1,1-Dichloroethene		U	0.00020	0.0010	mg/L	1	24-Jun-2018 16:30
Acetone		U	0.0020	0.0020	mg/L	1	24-Jun-2018 16:30
Benzene		U	0.00020	0.0010	mg/L	1	24-Jun-2018 16:30
Carbon disulfide		U	0.00060	0.0020	mg/L	1	24-Jun-2018 16:30
Chlorobenzene		U	0.00030	0.0010	mg/L	1	24-Jun-2018 16:30
Ethylbenzene		U	0.00030	0.0010	mg/L	1	24-Jun-2018 16:30
m,p-Xylene		U	0.00050	0.0020	mg/L	1	24-Jun-2018 16:30
Methyl tert-butyl ether		U	0.00020	0.0010	mg/L	1	24-Jun-2018 16:30
Methylene chloride		U	0.0010	0.0020	mg/L	1	24-Jun-2018 16:30
o-Xylene		U	0.00030	0.0010	mg/L	1	24-Jun-2018 16:30
Tetrachloroethene		U	0.00030	0.0010	mg/L	1	24-Jun-2018 16:30
Toluene		U	0.00020	0.0010	mg/L	1	24-Jun-2018 16:30
Vinyl chloride		U	0.00020	0.0010	mg/L	1	24-Jun-2018 16:30
Xylenes, Total		U	0.00030	0.0010	mg/L	1	24-Jun-2018 16:30
Surr: 1,2-Dichloroethane-d4	*92.4*			*70-126*	*%REC*	*1*	*24-Jun-2018 16:30*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*24-Jun-2018 16:30*
Surr: Dibromofluoromethane	*91.3*			*77-123*	*%REC*	*1*	*24-Jun-2018 16:30*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*24-Jun-2018 16:30*
LOW-LEVEL SEMIVOLATILES		**Method:SW8270**			Prep:SW3510 / 18-Jun-2018		Analyst: GEY
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	20-Jun-2018 13:32
Benzoic acid	**0.00025**		**0.000022**	**0.00020**	**mg/L**	1	20-Jun-2018 13:32
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	20-Jun-2018 13:32
Chrysene		U	0.000021	0.00010	mg/L	1	20-Jun-2018 13:32
Naphthalene		U	0.000020	0.00010	mg/L	1	20-Jun-2018 13:32
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	20-Jun-2018 13:32
Phenanthrene		U	0.000021	0.00010	mg/L	1	20-Jun-2018 13:32
Pyrene		U	0.000019	0.00010	mg/L	1	20-Jun-2018 13:32
Surr: 2,4,6-Tribromophenol	*92.0*			*34-129*	*%REC*	*1*	*20-Jun-2018 13:32*
Surr: 2-Fluorobiphenyl	*68.7*			*40-125*	*%REC*	*1*	*20-Jun-2018 13:32*
Surr: 2-Fluorophenol	*56.0*			*20-120*	*%REC*	*1*	*20-Jun-2018 13:32*
Surr: 4-Terphenyl-d14	*86.6*			*40-135*	*%REC*	*1*	*20-Jun-2018 13:32*
Surr: Nitrobenzene-d5	*58.7*			*41-120*	*%REC*	*1*	*20-Jun-2018 13:32*
Surr: Phenol-d6	*63.9*			*20-120*	*%REC*	*1*	*20-Jun-2018 13:32*
HARDNESS, TOTAL AS CACO3 BY SM2340B		**Method:M2340 B**					Analyst: DQ
Hardness (As CaCO3)	**220**		**2.00**	**2.00**	**mg/L**	1	25-Jun-2018 14:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group Houston, Corp Date: 25-Jun-18

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
Sample ID: Up Stream
Collection Date: 14-Jun-2018 14:30

ANALYTICAL REPORT
WorkOrder:HS18060720
Lab ID:HS18060720-03
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 19-Jun-2018		Analyst: JDE
Arsenic	**0.00612**		**0.000400**	**0.00200**	**mg/L**	1	20-Jun-2018 13:20
Barium	**0.153**		**0.00190**	**0.00400**	**mg/L**	1	20-Jun-2018 13:20
Cadmium	U		0.000200	0.00200	mg/L	1	20-Jun-2018 13:20
Calcium	**70.2**		**0.0340**	**0.500**	**mg/L**	1	20-Jun-2018 13:20
Chromium	**0.000507**	J	**0.000400**	**0.00400**	**mg/L**	1	20-Jun-2018 13:20
Lead	**0.000991**	J	**0.000600**	**0.00200**	**mg/L**	1	20-Jun-2018 13:20
Magnesium	**10.8**		**0.0100**	**0.200**	**mg/L**	1	20-Jun-2018 13:20
Selenium	**0.00190**	J	**0.00110**	**0.00200**	**mg/L**	1	20-Jun-2018 13:20
Silver	U		0.000200	0.00200	mg/L	1	20-Jun-2018 13:20
DISSOLVED METALS BY SW6020A	**Method:SW6020 (dissolved)**				Prep:SW3010A / 20-Jun-2018		Analyst: JDE
Arsenic	**5.92**		**0.400**	**2.00**	**ug/L**	1	21-Jun-2018 00:33
Barium	**159**		**1.90**	**4.00**	**ug/L**	1	21-Jun-2018 00:33
Cadmium	U		0.200	2.00	ug/L	1	21-Jun-2018 00:33
Chromium	U		0.400	4.00	ug/L	1	21-Jun-2018 00:33
Lead	U		0.600	2.00	ug/L	1	21-Jun-2018 00:33
Selenium	**3.62**		**1.10**	**2.00**	**ug/L**	1	21-Jun-2018 00:33
Silver	U		0.200	2.00	ug/L	1	21-Jun-2018 00:33
MERCURY BY SW7470A	**Method:SW7470**				Prep:SW7470 / 19-Jun-2018		Analyst: JBA
Mercury	**0.0000310**	J	**0.0000300**	**0.000200**	**mg/L**	1	19-Jun-2018 14:43
DISSOLVED MERCURY BY SW7470A	**Method:SW7470 (dissolved)**				Prep:SW7470 / 18-Jun-2018		Analyst: JBA
Mercury	**0.0330**	J	**0.0300**	**0.200**	**ug/L**	1	19-Jun-2018 11:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group Houston, Corp Date: 25-Jun-18

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
Sample ID: Trip Blank
Collection Date: 14-Jun-2018 00:00

ANALYTICAL REPORT
WorkOrder:HS18060720
Lab ID:HS18060720-04
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,1,1-Trichloroethane		U	0.00020	0.0010	mg/L	1	24-Jun-2018 15:16
1,1-Dichloroethane		U	0.00020	0.0010	mg/L	1	24-Jun-2018 15:16
1,1-Dichloroethene		U	0.00020	0.0010	mg/L	1	24-Jun-2018 15:16
Acetone		U	0.0020	0.0020	mg/L	1	24-Jun-2018 15:16
Benzene		U	0.00020	0.0010	mg/L	1	24-Jun-2018 15:16
Carbon disulfide		U	0.00060	0.0020	mg/L	1	24-Jun-2018 15:16
Chlorobenzene		U	0.00030	0.0010	mg/L	1	24-Jun-2018 15:16
Ethylbenzene		U	0.00030	0.0010	mg/L	1	24-Jun-2018 15:16
m,p-Xylene		U	0.00050	0.0020	mg/L	1	24-Jun-2018 15:16
Methyl tert-butyl ether		U	0.00020	0.0010	mg/L	1	24-Jun-2018 15:16
Methylene chloride		U	0.0010	0.0020	mg/L	1	24-Jun-2018 15:16
o-Xylene		U	0.00030	0.0010	mg/L	1	24-Jun-2018 15:16
Tetrachloroethene		U	0.00030	0.0010	mg/L	1	24-Jun-2018 15:16
Toluene		U	0.00020	0.0010	mg/L	1	24-Jun-2018 15:16
Vinyl chloride		U	0.00020	0.0010	mg/L	1	24-Jun-2018 15:16
Xylenes, Total		U	0.00030	0.0010	mg/L	1	24-Jun-2018 15:16
Surr: 1,2-Dichloroethane-d4	*93.4*			*70-126*	*%REC*	*1*	*24-Jun-2018 15:16*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*24-Jun-2018 15:16*
Surr: Dibromofluoromethane	*91.4*			*77-123*	*%REC*	*1*	*24-Jun-2018 15:16*
Surr: Toluene-d8	*103*			*82-127*	*%REC*	*1*	*24-Jun-2018 15:16*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

Batch ID: 129501 **Method:** DISSOLVED MERCURY BY SW7470A **Prep:** HG_W_DISSPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS18060720-01	1	10 (mL)	10 (mL)	1
HS18060720-02	1	10 (mL)	10 (mL)	1
HS18060720-03	1	10 (mL)	10 (mL)	1

Batch ID: 129502 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS18060720-01	1	1000	1 (mL)	0.001
HS18060720-02	1	1000	1 (mL)	0.001
HS18060720-03	1	1000	1 (mL)	0.001

Batch ID: 129533 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS18060720-01	1	10	10 (mL)	1
HS18060720-02	1	10	10 (mL)	1
HS18060720-03	1	10	10 (mL)	1

Batch ID: 129552 **Method:** MERCURY BY SW7470A **Prep:** HG_WPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS18060720-01	1	10 (mL)	10 (mL)	1
HS18060720-02	1	10 (mL)	10 (mL)	1
HS18060720-03	1	10 (mL)	10 (mL)	1

Batch ID: 129619 **Method:** DISSOLVED METALS BY SW6020A **Prep:** 3010A DISS

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS18060720-01	1	10	10 (mL)	1
HS18060720-02	1	10	10 (mL)	1
HS18060720-03	1	10	10 (mL)	1

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 129501	**Test Name :** DISSOLVED MERCURY BY SW7470A			**Matrix:** Water		
HS18060720-01	Former Seep 7	14 Jun 2018 14:00		18 Jun 2018 10:20	19 Jun 2018 11:42	1
HS18060720-02	Former Seep 8	14 Jun 2018 14:15		18 Jun 2018 10:20	19 Jun 2018 11:47	1
HS18060720-03	Up Stream	14 Jun 2018 14:30		18 Jun 2018 10:20	19 Jun 2018 11:49	1
Batch ID 129502	**Test Name :** LOW-LEVEL SEMIVOLATILES			**Matrix:** Water		
HS18060720-01	Former Seep 7	14 Jun 2018 14:00		18 Jun 2018 15:29	20 Jun 2018 12:52	1
HS18060720-02	Former Seep 8	14 Jun 2018 14:15		18 Jun 2018 15:29	20 Jun 2018 13:12	1
HS18060720-03	Up Stream	14 Jun 2018 14:30		18 Jun 2018 15:29	20 Jun 2018 13:32	1
Batch ID 129533	**Test Name :** ICP-MS METALS BY SW6020A			**Matrix:** Water		
HS18060720-01	Former Seep 7	14 Jun 2018 14:00		19 Jun 2018 09:24	20 Jun 2018 13:16	1
HS18060720-02	Former Seep 8	14 Jun 2018 14:15		19 Jun 2018 09:24	20 Jun 2018 13:18	1
HS18060720-03	Up Stream	14 Jun 2018 14:30		19 Jun 2018 09:24	20 Jun 2018 13:20	1
Batch ID 129552	**Test Name :** MERCURY BY SW7470A			**Matrix:** Water		
HS18060720-01	Former Seep 7	14 Jun 2018 14:00		19 Jun 2018 11:12	19 Jun 2018 14:36	1
HS18060720-02	Former Seep 8	14 Jun 2018 14:15		19 Jun 2018 11:12	19 Jun 2018 14:38	1
HS18060720-03	Up Stream	14 Jun 2018 14:30		19 Jun 2018 11:12	19 Jun 2018 14:43	1
Batch ID 129619	**Test Name :** DISSOLVED METALS BY SW6020A			**Matrix:** Water		
HS18060720-01	Former Seep 7	14 Jun 2018 14:00		20 Jun 2018 13:40	21 Jun 2018 00:25	1
HS18060720-02	Former Seep 8	14 Jun 2018 14:15		20 Jun 2018 13:40	21 Jun 2018 00:27	1
HS18060720-03	Up Stream	14 Jun 2018 14:30		20 Jun 2018 13:40	21 Jun 2018 00:33	1
Batch ID R318550	**Test Name :** LOW LEVEL VOLATILES BY SW8260C			**Matrix:** Water		
HS18060720-01	Former Seep 7	14 Jun 2018 14:00			24 Jun 2018 15:41	1
HS18060720-02	Former Seep 8	14 Jun 2018 14:15			24 Jun 2018 16:05	1
HS18060720-03	Up Stream	14 Jun 2018 14:30			24 Jun 2018 16:30	1
HS18060720-04	Trip Blank	14 Jun 2018 00:00			24 Jun 2018 15:16	1
Batch ID R318574	**Test Name :** HARDNESS, TOTAL AS CACO3 BY SM2340B			**Matrix:** Water		
HS18060720-01	Former Seep 7	14 Jun 2018 14:00			25 Jun 2018 14:09	1
HS18060720-02	Former Seep 8	14 Jun 2018 14:15			25 Jun 2018 14:09	1
HS18060720-03	Up Stream	14 Jun 2018 14:30			25 Jun 2018 14:09	1

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

QC BATCH REPORT

Batch ID: 129501 **Instrument: HG03** **Method: SW7470 (dissolved) (DISSOLVED)**

MBLK Sample ID: **MBLK-129501** Units: **mg/L** Analysis Date: **19-Jun-2018 11:33**
Client ID: Run ID: **HG03_318209** SeqNo: **4614967** PrepDate: **18-Jun-2018** DF: **1**

Analyte	Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury		U	0.000200								

LCS Sample ID: **LCS-129501** Units: **mg/L** Analysis Date: **19-Jun-2018 11:38**
Client ID: Run ID: **HG03_318209** SeqNo: **4614968** PrepDate: **18-Jun-2018** DF: **1**

Analyte	Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00432		0.000200	0.005	0	86.4	80 - 120				

MS Sample ID: **HS18060720-01MS** Units: **mg/L** Analysis Date: **19-Jun-2018 11:44**
Client ID: **Former Seep 7** Run ID: **HG03_318209** SeqNo: **4614971** PrepDate: **18-Jun-2018** DF: **1**

Analyte	Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00449		0.000200	0.005	0.00002	89.4	80 - 120				

MSD Sample ID: **HS18060720-01MSD** Units: **mg/L** Analysis Date: **19-Jun-2018 11:45**
Client ID: **Former Seep 7** Run ID: **HG03_318209** SeqNo: **4614972** PrepDate: **18-Jun-2018** DF: **1**

Analyte	Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00459		0.000200	0.005	0.00002	91.4	80 - 120	0.00449	2.2	20	

The following samples were analyzed in this batch: HS18060720-01 HS18060720-02 HS18060720-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

QC BATCH REPORT

Batch ID: 129533 **Instrument: ICPMS05** **Method: SW6020**

MBLK Sample ID: **MBLK-129533** Units: **mg/L** Analysis Date: **20-Jun-2018 11:34**
Client ID: Run ID: **ICPMS05_318286** SeqNo: **4616603** PrepDate: **19-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								
Barium	U	0.00400								
Cadmium	U	0.00200								
Calcium	U	0.500								
Chromium	U	0.00400								
Lead	U	0.00200								
Magnesium	U	0.200								
Selenium	U	0.00200								
Silver	U	0.00200								

LCS Sample ID: **LCS-129533** Units: **mg/L** Analysis Date: **20-Jun-2018 11:36**
Client ID: Run ID: **ICPMS05_318286** SeqNo: **4616604** PrepDate: **19-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04699	0.00200	0.05	0	94.0	80 - 120				
Barium	0.04449	0.00400	0.05	0	89.0	80 - 120				
Cadmium	0.04653	0.00200	0.05	0	93.1	80 - 120				
Calcium	4.821	0.500	5	0	96.4	80 - 120				
Chromium	0.04846	0.00400	0.05	0	96.9	80 - 120				
Lead	0.04836	0.00200	0.05	0	96.7	80 - 120				
Magnesium	4.509	0.200	5	0	90.2	80 - 120				
Selenium	0.05011	0.00200	0.05	0	100	80 - 120				
Silver	0.04928	0.00200	0.05	0	98.6	80 - 120				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

QC BATCH REPORT

Batch ID: 129533 **Instrument: ICPMS05** **Method: SW6020**

MS Sample ID: **HS18060736-08MS** Units: **mg/L** Analysis Date: **20-Jun-2018 12:04**
Client ID: Run ID: **ICPMS05_318286** SeqNo: **4617326** PrepDate: **19-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05044	0.00200	0.05	0.003101	94.7	80 - 120				
Barium	0.08645	0.00400	0.05	0.04167	89.6	80 - 120				
Cadmium	0.04528	0.00200	0.05	0.000088	90.4	80 - 120				
Calcium	137.6	0.500	5	133.7	79.0	80 - 120				SO
Chromium	0.04791	0.00400	0.05	0.001804	92.2	80 - 120				
Lead	0.04421	0.00200	0.05	0.000891	86.6	80 - 120				
Magnesium	50.47	0.200	5	46.68	75.9	80 - 120				SO
Selenium	0.0947	0.00200	0.05	0.05112	87.2	80 - 120				
Silver	0.04367	0.00200	0.05	0.00013	87.1	80 - 120				

MSD Sample ID: **HS18060736-08MSD** Units: **mg/L** Analysis Date: **20-Jun-2018 12:06**
Client ID: Run ID: **ICPMS05_318286** SeqNo: **4617327** PrepDate: **19-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05075	0.00200	0.05	0.003101	95.3	80 - 120	0.05044	0.611	20	
Barium	0.08851	0.00400	0.05	0.04167	93.7	80 - 120	0.08645	2.36	20	
Cadmium	0.04684	0.00200	0.05	0.000088	93.5	80 - 120	0.04528	3.38	20	
Calcium	136.9	0.500	5	133.7	63.7	80 - 120	137.6	0.555	20	SO
Chromium	0.04989	0.00400	0.05	0.001804	96.2	80 - 120	0.04791	4.04	20	
Lead	0.04467	0.00200	0.05	0.000891	87.6	80 - 120	0.04421	1.05	20	
Magnesium	48.77	0.200	5	46.68	41.8	80 - 120	50.47	3.43	20	SO
Selenium	0.09754	0.00200	0.05	0.05112	92.8	80 - 120	0.0947	2.95	20	
Silver	0.04439	0.00200	0.05	0.00013	88.5	80 - 120	0.04367	1.63	20	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

QC BATCH REPORT

Batch ID: 129533 **Instrument: ICPMS05** **Method: SW6020**

PDS Sample ID: **HS18060736-08PDS** Units: **mg/L** Analysis Date: **20-Jun-2018 12:08**
Client ID: Run ID: **ICPMS05_318286** SeqNo: **4617328** PrepDate: **19-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.104	0.00200	0.1	0.003101	101	75 - 125				
Barium	0.1395	0.00400	0.1	0.04167	97.8	75 - 125				
Cadmium	0.09913	0.00200	0.1	0	99.1	75 - 125				
Calcium	136.4	0.500	10	133.7	27.1	75 - 125				SO
Chromium	0.09891	0.00400	0.1	0.001804	97.1	75 - 125				
Lead	0.09594	0.00200	0.1	0.000891	95.1	75 - 125				
Magnesium	52.27	0.200	10	46.68	55.9	75 - 125				SO
Selenium	0.1515	0.00200	0.1	0.05112	100	75 - 125				
Silver	0.09234	0.00200	0.1	0	92.3	75 - 125				

SD Sample ID: **HS18060736-08SD** Units: **mg/L** Analysis Date: **20-Jun-2018 12:02**
Client ID: Run ID: **ICPMS05_318286** SeqNo: **4617325** PrepDate: **19-Jun-2018** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.0037	0.0100					0.003101	0	10	J
Barium	0.04093	0.0200					0.04167	1.76	10	
Cadmium	U	0.0100					0.000088	0	10	
Calcium	131.8	2.50					133.7	1.39	10	
Chromium	U	0.0200					0.001804	0	10	
Lead	U	0.0100					0.000891	0	10	
Magnesium	47.42	1.00					46.68	1.59	10	
Silver	U	0.0100					0.00013	0	10	

The following samples were analyzed in this batch: HS18060720-01 HS18060720-02 HS18060720-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

QC BATCH REPORT

Batch ID: 129552 **Instrument: HG03** **Method: SW7470**

MBLK Sample ID: **MBLK-129552** Units: **mg/L** Analysis Date: **19-Jun-2018 14:22**
Client ID: Run ID: **HG03_318209** SeqNo: **4615528** PrepDate: **19-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.000039	0.000200								J

LCS Sample ID: **LCS-129552** Units: **mg/L** Analysis Date: **19-Jun-2018 14:24**
Client ID: Run ID: **HG03_318209** SeqNo: **4615529** PrepDate: **19-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00457	0.000200	0.005	0	91.4	80 - 120				

MS Sample ID: **HS18060737-11MS** Units: **mg/L** Analysis Date: **19-Jun-2018 14:28**
Client ID: Run ID: **HG03_318209** SeqNo: **4615531** PrepDate: **19-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00452	0.000200	0.005	0.00001	90.2	75 - 125				

MSD Sample ID: **HS18060737-11MSD** Units: **mg/L** Analysis Date: **19-Jun-2018 14:29**
Client ID: Run ID: **HG03_318209** SeqNo: **4615532** PrepDate: **19-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00448	0.000200	0.005	0.00001	89.4	75 - 125	0.00452	0.889	20	

The following samples were analyzed in this batch: HS18060720-01 HS18060720-02 HS18060720-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

QC BATCH REPORT

Batch ID: 129619 **Instrument: ICPMS05** **Method: SW6020 (dissolved) (DISSOLVED)**

MBLK Sample ID: **MBLK-129619** Units: **mg/L** Analysis Date: **21-Jun-2018 00:11**
Client ID: Run ID: **ICPMS05_318286** SeqNo: **4618621** PrepDate: **20-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								
Barium	U	0.00400								
Cadmium	U	0.00200								
Chromium	U	0.00400								
Lead	U	0.00200								
Selenium	U	0.00200								
Silver	U	0.00200								

LCS Sample ID: **LCS-129619** Units: **mg/L** Analysis Date: **21-Jun-2018 00:13**
Client ID: Run ID: **ICPMS05_318286** SeqNo: **4618622** PrepDate: **20-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0466	0.00200	0.05	0	93.2	80 - 120				
Barium	0.04698	0.00400	0.05	0	94.0	80 - 120				
Cadmium	0.04725	0.00200	0.05	0	94.5	80 - 120				
Chromium	0.04741	0.00400	0.05	0	94.8	80 - 120				
Lead	0.04892	0.00200	0.05	0	97.8	80 - 120				
Selenium	0.04837	0.00200	0.05	0	96.7	80 - 120				
Silver	0.04519	0.00200	0.05	0	90.4	80 - 120				

MS Sample ID: **HS18060719-01MS** Units: **mg/L** Analysis Date: **21-Jun-2018 00:19**
Client ID: Run ID: **ICPMS05_318286** SeqNo: **4618625** PrepDate: **20-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.06533	0.00200	0.05	0.02113	88.4	75 - 125				
Barium	0.1843	0.00400	0.05	0.1465	75.7	75 - 125				
Cadmium	0.04617	0.00200	0.05	0	92.3	75 - 125				
Chromium	0.04634	0.00400	0.05	0	92.7	75 - 125				
Lead	0.04183	0.00200	0.05	0	83.7	75 - 125				
Selenium	0.04935	0.00200	0.05	0.001489	95.7	75 - 125				
Silver	0.04141	0.00200	0.05	0	82.8	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

QC BATCH REPORT

Batch ID: 129619 **Instrument: ICPMS05** **Method: SW6020 (dissolved) (DISSOLVED)**

MSD Sample ID: **HS18060719-01MSD** Units: **mg/L** Analysis Date: **21-Jun-2018 00:21**
Client ID: Run ID: **ICPMS05_318286** SeqNo: **4618626** PrepDate: **20-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.06548	0.00200	0.05	0.02113	88.7	75 - 125	0.06533	0.242	20	
Barium	0.1811	0.00400	0.05	0.1465	69.2	75 - 125	0.1843	1.79	20	S
Cadmium	0.04604	0.00200	0.05	0	92.1	75 - 125	0.04617	0.291	20	
Chromium	0.04676	0.00400	0.05	0	93.5	75 - 125	0.04634	0.913	20	
Lead	0.04154	0.00200	0.05	0	83.1	75 - 125	0.04183	0.703	20	
Selenium	0.0496	0.00200	0.05	0.001489	96.2	75 - 125	0.04935	0.507	20	
Silver	0.04222	0.00200	0.05	0	84.4	75 - 125	0.04141	1.94	20	

PDS Sample ID: **HS18060719-01PDS** Units: **mg/L** Analysis Date: **21-Jun-2018 00:23**
Client ID: Run ID: **ICPMS05_318286** SeqNo: **4618627** PrepDate: **20-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1064	0.00200	0.1	0.02113	85.2	75 - 125				
Cadmium	0.08577	0.00200	0.1	0.000017	85.8	75 - 125				
Chromium	0.08689	0.00400	0.1	0.000204	86.7	75 - 125				
Lead	0.07653	0.00200	0.1	0.000106	76.4	75 - 125				
Selenium	0.09148	0.00200	0.1	0.001489	90.0	75 - 125				
Silver	0.07731	0.00200	0.1	0.000042	77.3	75 - 125				

PDS Sample ID: **HS18060719-01PDS** Units: **mg/L** Analysis Date: **21-Jun-2018 12:39**
Client ID: Run ID: **ICPMS05_318393** SeqNo: **4619098** PrepDate: **20-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.228	0.00400	0.1	0.1433	84.6	75 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

QC BATCH REPORT

Batch ID: 129619 **Instrument: ICPMS05** **Method: SW6020 (dissolved) (DISSOLVED)**

SD Sample ID: **HS18060719-01SD** Units: **mg/L** Analysis Date: **21-Jun-2018 12:37**
Client ID: Run ID: **ICPMS05_318393** SeqNo: **4619097** PrepDate: **20-Jun-2018** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.01846	0.0100					0.01998	7.6	10	
Barium	0.1354	0.0200					0.1433	5.51	10	
Cadmium	U	0.0100					0.00006	0	10	
Chromium	U	0.0200					0.000094	0	10	
Lead	U	0.0100					0.000148	0	10	
Selenium	U	0.0100					0.001817	0	10	
Silver	U	0.0100					0.000096	0	10	

SD Sample ID: **HS18060719-01SD** Units: **mg/L** Analysis Date: **21-Jun-2018 00:17**
Client ID: Run ID: **ICPMS05_318286** SeqNo: **4618624** PrepDate: **20-Jun-2018** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Cadmium	U	0.0100					0.000017	0	10	
Chromium	U	0.0200					0.000204	0	10	
Lead	U	0.0100					0.000106	0	10	
Selenium	U	0.0100					0.001489	0	10	
Silver	U	0.0100					0.000042	0	10	

The following samples were analyzed in this batch: HS18060720-01 HS18060720-02 HS18060720-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

QC BATCH REPORT

Batch ID: 129502 **Instrument: SV-7** **Method: SW8270**

MBLK Sample ID: **MBLK-129502** Units: **ug/L** Analysis Date: **20-Jun-2018 11:29**
Client ID: Run ID: **SV-7_318172** SeqNo: **4621616** PrepDate: **18-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	0.10								
Benzoic acid	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Naphthalene	U	0.10								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*4.94*	*0.20*	*5*	*0*	*98.8*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.042*	*0.20*	*5*	*0*	*80.8*	*40 - 125*				
Surr: 2-Fluorophenol	*3.469*	*0.20*	*5*	*0*	*69.4*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.064*	*0.20*	*5*	*0*	*101*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.564*	*0.20*	*5*	*0*	*71.3*	*41 - 120*				
Surr: Phenol-d6	*3.813*	*0.20*	*5*	*0*	*76.3*	*20 - 120*				

LCS Sample ID: **LCS-129502** Units: **ug/L** Analysis Date: **20-Jun-2018 11:09**
Client ID: Run ID: **SV-7_318172** SeqNo: **4621615** PrepDate: **18-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	4.473	0.10	5	0	89.5	50 - 120				
Benzoic acid	2.901	0.20	5	0	58.0	10 - 110				
Bis(2-ethylhexyl)phthalate	4.19	0.20	5	0	83.8	40 - 139				
Chrysene	4.288	0.10	5	0	85.8	43 - 120				
Naphthalene	4.25	0.10	5	0	85.0	45 - 120				
Pentachlorophenol	3.86	0.20	5	0	77.2	19 - 121				
Phenanthrene	4.613	0.10	5	0	92.3	45 - 121				
Pyrene	3.942	0.10	5	0	78.8	40 - 130				
Surr: 2,4,6-Tribromophenol	*5.073*	*0.20*	*5*	*0*	*101*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.083*	*0.20*	*5*	*0*	*81.7*	*40 - 125*				
Surr: 2-Fluorophenol	*3.37*	*0.20*	*5*	*0*	*67.4*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.068*	*0.20*	*5*	*0*	*101*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.578*	*0.20*	*5*	*0*	*71.6*	*41 - 120*				
Surr: Phenol-d6	*3.944*	*0.20*	*5*	*0*	*78.9*	*20 - 120*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

QC BATCH REPORT

Batch ID: 129502 **Instrument: SV-7** **Method: SW8270**

MS Sample ID: **HS18060737-11MS** Units: **ug/L** Analysis Date: **20-Jun-2018 17:38**
Client ID: Run ID: **SV-7_318172** SeqNo: **4621635** PrepDate: **18-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	2.268	0.10	5	0	45.4	50 - 120				S
Benzoic acid	0.7087	0.20	5	0	14.2	10 - 110				
Bis(2-ethylhexyl)phthalate	3.621	0.20	5	0.04882	71.4	40 - 139				
Chrysene	3.446	0.10	5	0	68.9	43 - 120				
Naphthalene	2.039	0.10	5	0	40.8	45 - 120				S
Pentachlorophenol	1.598	0.20	5	0	32.0	19 - 121				
Phenanthrene	3.287	0.10	5	0	65.7	45 - 121				
Pyrene	3.244	0.10	5	0	64.9	40 - 130				
Surr: 2,4,6-Tribromophenol	*3.421*	*0.20*	*5*	*0*	*68.4*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*2.108*	*0.20*	*5*	*0*	*42.2*	*40 - 125*				
Surr: 2-Fluorophenol	*1.45*	*0.20*	*5*	*0*	*29.0*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.095*	*0.20*	*5*	*0*	*81.9*	*40 - 135*				
Surr: Nitrobenzene-d5	*2.227*	*0.20*	*5*	*0*	*44.5*	*41 - 120*				
Surr: Phenol-d6	*1.916*	*0.20*	*5*	*0*	*38.3*	*20 - 120*				

MSD Sample ID: **HS18060737-11MSD** Units: **ug/L** Analysis Date: **20-Jun-2018 17:58**
Client ID: Run ID: **SV-7_318172** SeqNo: **4621636** PrepDate: **18-Jun-2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	2.498	0.10	5	0	50.0	50 - 120	2.268	9.67	20	S
Benzoic acid	0.7996	0.20	5	0	16.0	10 - 110	0.7087	12.1	20	
Bis(2-ethylhexyl)phthalate	3.282	0.20	5	0.04882	64.7	40 - 139	3.621	9.83	20	
Chrysene	3.218	0.10	5	0	64.4	43 - 120	3.446	6.84	20	
Naphthalene	2.252	0.10	5	0	45.0	45 - 120	2.039	9.94	20	
Pentachlorophenol	1.898	0.20	5	0	38.0	19 - 121	1.598	17.2	20	
Phenanthrene	3.166	0.10	5	0	63.3	45 - 121	3.287	3.75	20	
Pyrene	2.93	0.10	5	0	58.6	40 - 130	3.244	10.2	20	
Surr: 2,4,6-Tribromophenol	*3.401*	*0.20*	*5*	*0*	*68.0*	*34 - 129*	*3.421*	*0.565*	*20*	
Surr: 2-Fluorobiphenyl	*2.379*	*0.20*	*5*	*0*	*47.6*	*40 - 125*	*2.108*	*12.1*	*20*	
Surr: 2-Fluorophenol	*1.839*	*0.20*	*5*	*0*	*36.8*	*20 - 120*	*1.45*	*23.7*	*20*	R
Surr: 4-Terphenyl-d14	*3.729*	*0.20*	*5*	*0*	*74.6*	*40 - 135*	*4.095*	*9.34*	*20*	
Surr: Nitrobenzene-d5	*2.219*	*0.20*	*5*	*0*	*44.4*	*41 - 120*	*2.227*	*0.345*	*20*	
Surr: Phenol-d6	*2.13*	*0.20*	*5*	*0*	*42.6*	*20 - 120*	*1.916*	*10.6*	*20*	

The following samples were analyzed in this batch: HS18060720-01 HS18060720-02 HS18060720-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

QC BATCH REPORT

Batch ID: R318550 **Instrument: VOA6** **Method: SW8260**

MBLK Sample ID: **VBLKW-180624** Units: **ug/L** Analysis Date: **24-Jun-2018 11:35**
Client ID: Run ID: **VOA6_318550** SeqNo: **4623010** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	1.0								
1,1-Dichloroethane	U	1.0								
1,1-Dichloroethene	U	1.0								
Acetone	U	2.0								
Benzene	U	1.0								
Carbon disulfide	U	2.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
m,p-Xylene	U	2.0								
Methyl tert-butyl ether	U	1.0								
Methylene chloride	U	2.0								
o-Xylene	U	1.0								
Tetrachloroethene	U	1.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*46.27*	*1.0*	*50*	*0*	*92.5*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*49.17*	*1.0*	*50*	*0*	*98.3*	*82 - 115*				
Surr: Dibromofluoromethane	*46*	*1.0*	*50*	*0*	*92.0*	*73 - 126*				
Surr: Toluene-d8	*50.68*	*1.0*	*50*	*0*	*101*	*81 - 120*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

QC BATCH REPORT

Batch ID: R318550 **Instrument: VOA6** **Method: SW8260**

LCS Sample ID: **VLCSW-180624** Units: **ug/L** Analysis Date: **24-Jun-2018 10:14**
Client ID: Run ID: **VOA6_318550** SeqNo: **4623009** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	48.13	1.0	50	0	96.3	70 - 130				
1,1-Dichloroethane	50.28	1.0	50	0	101	71 - 122				
1,1-Dichloroethene	46.47	1.0	50	0	92.9	70 - 130				
Acetone	99.31	2.0	100	0	99.3	70 - 130				
Benzene	45.72	1.0	50	0	91.4	74 - 120				
Carbon disulfide	88.78	2.0	100	0	88.8	70 - 130				
Chlorobenzene	47.77	1.0	50	0	95.5	76 - 113				
Ethylbenzene	48.65	1.0	50	0	97.3	77 - 117				
m,p-Xylene	94.79	2.0	100	0	94.8	77 - 122				
Methyl tert-butyl ether	42.63	1.0	50	0	85.3	70 - 130				
Methylene chloride	48.17	2.0	50	0	96.3	70 - 127				
o-Xylene	48.16	1.0	50	0	96.3	75 - 119				
Tetrachloroethene	47.36	1.0	50	0	94.7	76 - 119				
Toluene	48.26	1.0	50	0	96.5	77 - 118				
Vinyl chloride	47.38	1.0	50	0	94.8	70 - 130				
Xylenes, Total	143	1.0	150	0	95.3	75 - 122				
Surr: 1,2-Dichloroethane-d4	*46*	*1.0*	*50*	*0*	*92.0*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*49.56*	*1.0*	*50*	*0*	*99.1*	*82 - 115*				
Surr: Dibromofluoromethane	*45.75*	*1.0*	*50*	*0*	*91.5*	*73 - 126*				
Surr: Toluene-d8	*50.77*	*1.0*	*50*	*0*	*102*	*81 - 120*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

QC BATCH REPORT

Batch ID: R318550 **Instrument: VOA6** **Method: SW8260**

MS Sample ID: **HS18060812-04MS** Units: **ug/L** Analysis Date: **24-Jun-2018 13:38**
Client ID: Run ID: **VOA6_318550** SeqNo: **4623015** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	41.01	1.0	50	0	82.0	70 - 130				
1,1-Dichloroethane	45.33	1.0	50	0	90.7	70 - 127				
1,1-Dichloroethene	38.49	1.0	50	0	77.0	70 - 130				
Acetone	100.7	2.0	100	10.57	90.2	70 - 130				
Benzene	40.87	1.0	50	0	81.7	70 - 127				
Carbon disulfide	68.05	2.0	100	0	68.0	70 - 130				S
Chlorobenzene	44.5	1.0	50	0	89.0	70 - 114				
Ethylbenzene	43.91	1.0	50	0	87.8	70 - 124				
m,p-Xylene	85.63	2.0	100	0	85.6	70 - 130				
Methyl tert-butyl ether	48.95	1.0	50	0	97.9	70 - 130				
Methylene chloride	45.23	2.0	50	0	90.5	70 - 128				
o-Xylene	44.16	1.0	50	0	88.3	70 - 124				
Tetrachloroethene	41.03	1.0	50	0	82.1	70 - 130				
Toluene	44.15	1.0	50	0	88.3	70 - 123				
Vinyl chloride	32.61	1.0	50	0	65.2	70 - 130				S
Xylenes, Total	129.8	1.0	150	0	86.5	70 - 130				
Surr: 1,2-Dichloroethane-d4	*45.43*	*1.0*	*50*	*0*	*90.9*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.64*	*1.0*	*50*	*0*	*99.3*	*81 - 113*				
Surr: Dibromofluoromethane	*45.15*	*1.0*	*50*	*0*	*90.3*	*77 - 123*				
Surr: Toluene-d8	*50.95*	*1.0*	*50*	*0*	*102*	*82 - 127*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: HS18060720

QC BATCH REPORT

Batch ID: R318550 **Instrument: VOA6** **Method: SW8260**

MSD Sample ID: **HS18060812-04MSD** Units: **ug/L** Analysis Date: **24-Jun-2018 14:02**
Client ID: Run ID: **VOA6_318550** SeqNo: **4623016** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1-Trichloroethane	41.31	1.0	50	0	82.6	70 - 130	41.01	0.727	20	
1,1-Dichloroethane	44.79	1.0	50	0	89.6	70 - 127	45.33	1.2	20	
1,1-Dichloroethene	38.35	1.0	50	0	76.7	70 - 130	38.49	0.363	20	
Acetone	100.2	2.0	100	10.57	89.6	70 - 130	100.7	0.564	20	
Benzene	41.25	1.0	50	0	82.5	70 - 127	40.87	0.918	20	
Carbon disulfide	68.22	2.0	100	0	68.2	70 - 130	68.05	0.249	20	S
Chlorobenzene	43.8	1.0	50	0	87.6	70 - 114	44.5	1.6	20	
Ethylbenzene	43.59	1.0	50	0	87.2	70 - 124	43.91	0.724	20	
m,p-Xylene	84.74	2.0	100	0	84.7	70 - 130	85.63	1.05	20	
Methyl tert-butyl ether	46.22	1.0	50	0	92.4	70 - 130	48.95	5.73	20	
Methylene chloride	44.54	2.0	50	0	89.1	70 - 128	45.23	1.52	20	
o-Xylene	43.68	1.0	50	0	87.4	70 - 124	44.16	1.11	20	
Tetrachloroethene	39.88	1.0	50	0	79.8	70 - 130	41.03	2.85	20	
Toluene	43.87	1.0	50	0	87.7	70 - 123	44.15	0.622	20	
Vinyl chloride	32.99	1.0	50	0	66.0	70 - 130	32.61	1.14	20	S
Xylenes, Total	128.4	1.0	150	0	85.6	70 - 130	129.8	1.07	20	
Surr: 1,2-Dichloroethane-d4	*46.01*	*1.0*	*50*	*0*	*92.0*	*70 - 126*	*45.43*	*1.25*	*20*	
Surr: 4-Bromofluorobenzene	*50.59*	*1.0*	*50*	*0*	*101*	*81 - 113*	*49.64*	*1.88*	*20*	
Surr: Dibromofluoromethane	*46.34*	*1.0*	*50*	*0*	*92.7*	*77 - 123*	*45.15*	*2.59*	*20*	
Surr: Toluene-d8	*50.58*	*1.0*	*50*	*0*	*101*	*82 - 127*	*50.95*	*0.717*	*20*	

The following samples were analyzed in this batch: HS18060720-01 HS18060720-02 HS18060720-03 HS18060720-04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
WorkOrder: **HS18060720**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
California	2919 2016-2018	31-Jul-2018
Oklahoma	2017-088	31-Aug-2018
North Carolina	624-2018	31-Dec-2018
Louisiana	03087 2017-2018	30-Jun-2018
Arkansas	88-0356	27-Mar-2019
Kansas	E-10352 2017-218	31-Jul-2018
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193	30-Apr-2019

Client: Aptim Environmental & Infrastructure
Project: William FAR Surface Water
Work Order: HS18060720

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS18060720-01	Former Seep 7	Login	6/15/2018 1:01:43 PM	RPM	EXT081
HS18060720-01	Former Seep 7	Login	6/15/2018 1:01:43 PM	RPM	MET067
HS18060720-01	Former Seep 7	Login	6/15/2018 1:01:43 PM	RPM	MET067
HS18060720-01	Former Seep 7	Login	6/15/2018 1:01:43 PM	RPM	VOA097
HS18060720-02	Former Seep 8	Login	6/15/2018 1:01:43 PM	RPM	EXT081
HS18060720-02	Former Seep 8	Login	6/15/2018 1:01:43 PM	RPM	MET067
HS18060720-02	Former Seep 8	Login	6/15/2018 1:01:43 PM	RPM	MET067
HS18060720-02	Former Seep 8	Login	6/15/2018 1:01:43 PM	RPM	VOA097
HS18060720-03	Up Stream	Login	6/15/2018 1:01:44 PM	RPM	EXT081
HS18060720-03	Up Stream	Login	6/15/2018 1:01:44 PM	RPM	MET067
HS18060720-03	Up Stream	Login	6/15/2018 1:01:44 PM	RPM	MET067
HS18060720-03	Up Stream	Login	6/15/2018 1:01:44 PM	RPM	VOA097
HS18060720-04	Trip Blank	Login	6/15/2018 1:01:44 PM	RPM	VOA097

Date: 25-Jun-18

Sample Receipt Checklist

Client Name: CBI-Wichita
Work Order: HS18060720
Date/Time Received: **15-Jun-2018 08:30**
Received by: **RPG**

Checklist completed by: *Pablo Marinez* eSignature — 15-Jun-2018 Date
Reviewed by: *RJ Modashia* eSignature — 15-Jun-2018 Date

Matrices: **WATER**
Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.5C/2.1C UC/C	IR # 30	
Cooler(s)/Kit(s):	43770		
Date/Time sample(s) sent to storage:	6/15/2018 13:10		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page _____ of _____

COC ID: 182244

HS18060720

Aptim Environmental & Infrastructure
William FAR Surface Water

ALS Project Manager:

Customer Information		Project Information			
Purchase Order		Project Name	William FAR Surface Water	A	8260_LL_W (VOC 8260 Select List)
Work Order		Project Number		B	8270_LOW_W (Willams FAR sel list)
Company Name	Aptim Environmental & Infrastruct	Bill To Company	Aptim Environmental and Infrastru	C	ICP_DISS (RCRA 8 Metals (Add Hg))
Send Report To	Phil Osborn	Invoice Attn	AP	D	ICP_TW (RCRA 8 Metals (Add Hg))
Address	2872 N Ridge Rd, Suite 102B	Address	7330 W 33rd St. North Sute 106	E	
				F	
City/State/Zip	Wichita, KS 67205	City/State/Zip	Wichita KS 67205	G	
Phone	(316) 220-8020	Phone		H	
Fax		Fax		I	
e-Mail Address	phil.osborn@aptim.com	e-Mail Address	accountspayable@aptim.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Former Seep 7	6-14-18	1400	SW	1,2	7	X	X	X	X							
2	Former Seep 8	6-14-18	1415	SW	|	7	X	X	X	X							
3	Up stream	6-14-18	1430	SW	|	7	X	X	X	X							
4	Trip Blank						X										
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Phil Osborn

Shipment Method: UPS 9529 9598

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other _____

Results Due Date:

Relinquished by: Date: 6-14-18 Time: 1630 Received by:

Relinquished by: Date: Time: Received by (Laboratory): RG 6/15/18 08:30

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: CBI William FAR

Cooler ID	Cooler Temp.
	01C.
43770	2.5°
	#30
	cif-0.4°

QC Package: (Check One Box Below)

- [ ] Level II Std QC
- [X] Level III Std QC/Raw Data
- [ ] Level IV SW846/CLP
- [ ] Other
- [ ] TRRP Checklist
- [ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

43770

CUSTODY SEAL
Date: 6/14/18 Time: 4:00
Name:
Company: ALS

Seal Broken By:
Date: 06/15/18

43770 JUN 15 2018

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656

43770

REF: WILLIAM FAR SURFACE WATER – RJ

RMA:

FedEx Express

FedEx
TRK# 0221 4380 9529 9598

FRI – 15 JUN 10:30A
PRIORITY OVERNIGHT

AB SGRA

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