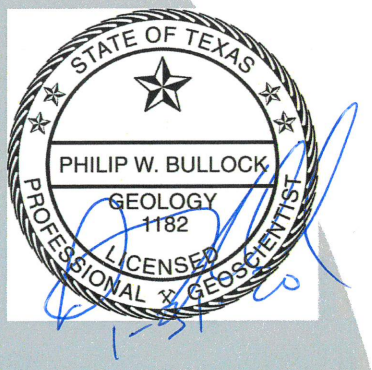
Annual Groundwater Monitoring and Corrective Action Report

Texas Municipal Power Agency
Gibbons Creek Steam Electric Station
Anderson, Texas
Project # 6706190003



Prepared for:

Texas Municipal Power Agency
12824 FM 244 Road, Anderson, Texas 77830

January 31, 2020

Executive Summary

The Texas Municipal Power Agency (TMPA) Gibbons Creek Steam Electric Station (GCSES) is located at 12824 FM 244 Road, Anderson, Texas 77830 (**Figure 1.1**). The GCSES is a single unit, 470 megawatts (MW net) coal-fired power plant which was retired from the ERCOT System on October 30, 2019.

At the GCSES, one Coal Combustion Residuals (CCR) landfill identified as the Site F Landfill (SFL), and two CCR surface impoundments, the Scrubber Sludge Pond (SSP) and Ash Ponds (AP), are subject to regulation under 40 CFR 257 Subpart D. The locations of the CCR units are shown on **Figure 1.2**.

Assessment monitoring was initiated in March 2018 at the site. Assessment monitoring was continued in 2019 in accordance with § 40 CFR 257.95. A summary of Appendix III constituents with initial SSI over background levels is presented in **Table 2.2**. As documented in an Alternate Source Determination (ASD) evaluation, potential SSIs identified for Appendix IV constituents are attributed to an alternate source under the CCR rule. Therefore, no corrective action measures are required, and groundwater monitoring under the assessment monitoring program will continue.

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List of Acronyms

amsl- above mean sea level
AP- Ash Ponds
ASD- Alternate Source Determination
bgs- below ground surface
CCR- Coal Combustion Residuals
CFR- Code of Federal Regulations
ft.- feet
GCSES- Gibbons Creek Steam Electric Station
MW- megawatt
SFL- Site F Landfill
SSI- statistically significant increase
SSP- Scrubber Sludge Pond
TMPA- Texas Municipal Power Agency
TOC- top-of-casing

1.0 Introduction

The Texas Municipal Power Agency (TMPA) Gibbons Creek Steam Electric Station (GCSES) is located at 12824 FM 244 Road, Anderson, Texas 77830 (**Figure 1.1**). The GCSES is a single unit, 470 megawatts (MW net) coal-fired power plant. The GCSES initially operated by burning lignite from the adjacent Gibbons Creek Lignite Mine in 1982. In 1996, the GCSES converted to Powder River Basin coal and the lignite mine was closed. The GCSES was retired from the ERCOT System on October 30, 2019. [1]

At the GCSES, one Coal Combustion Residuals (CCR) landfill identified as the Site F Landfill (SFL), and two CCR surface impoundments, the Scrubber Sludge Pond (SSP) and Ash Ponds (AP), are subject to regulation under 40 CFR 257 Subpart D. The locations of the CCR units are shown on **Figure 1.2**.

The SFL, located northeast of the power generating plant, was constructed in 1990, is approximately 114 acres and received solid CCR generated by the GCSES. The SSP was constructed in 1982 and began receiving CCR in 1982. The SSP is approximately 7.4 acres in size and 20 feet (ft.) deep. The AP consists of three interconnected ponds that began operating with the start-up of the GCSES in 1982. Each pond is approximately 260 ft. wide, 1,800 ft. long and 20 ft. deep.

This annual groundwater and corrective action report has been prepared to meet the requirements of 40 CFR 257.90(e). There are no corrective action programs for CCR units underway at the facility; therefore, only the status of the groundwater monitoring program is summarized. This report covers the period January 1, 2019, through December 31, 2019.

This report contains a discussion of the groundwater monitoring networks for the CCR units, summarizes the groundwater monitoring events, presents groundwater analytical results, and discusses groundwater flow directions and rates at the CCR units. This report also presents a discussion of the statistical evaluations completed as of the end of 2019.

2.0 Groundwater Monitoring

2.1 Monitoring Networks

The groundwater monitoring system at the GCSES is comprised of monitoring wells that are utilized for both water level measurements and groundwater sampling, and piezometers which are utilized for water level measurements only. As required by § 40 CFR 257.91, the groundwater monitoring system is comprised of three monitoring networks located in the SFL, SSP, and AP CCR units. Each network has a minimum of one upgradient and three downgradient wells in order to monitor the upgradient (background) and downgradient groundwater quality in the uppermost aquifer in each of these units.

Monitoring well and piezometer locations and construction details for groundwater monitoring networks at the CCR units are summarized in **Table 2.1**. The monitoring well networks are exhibited on **Figures 2.1** and **2.2**.

2.1.1 Site F Landfill Groundwater Monitoring Network

The SFL is underlain by stratified, heterogeneous layers of clays, silts, and sands with varying thicknesses. Sandstone was observed at some boring locations as well. The uppermost aquifer is considered confined to semi-confined and generally encountered at depths of 15 to 35 ft. below ground surface (bgs). The elevations of screened intervals in monitoring wells completed in the uppermost aquifer range from

1 The applicable dates in this section have been updated for the 2019 Report

approximately 250 feet to 220 ft. above mean sea level (amsl). The screened intervals are generally completed in silty sands with intervals of clayey sands and silts.

The general groundwater flow direction inferred from site data obtained prior to the installation of the CCR groundwater monitoring network was primarily northeast to southwest. Downgradient wells were placed at the unit boundary based on this information. The SFL monitoring network is illustrated in **Figure 2.1** and described as follows.

- Background Monitoring Well: MNW-18
- Downgradient Boundary Monitoring Wells: SFL MW-2, SFL MW-3, SFL MW-4, SFL MW-5, SFL MW-6, SFL MW-7, and MNW-15
- Piezometers (water levels only): MNW-11, MNW-17, MNW-16

2.1.2 Scrubber Sludge Pond Groundwater Monitoring Network

The SSP is underlain by interbedded silty and sandy clays, clay, clayey sands, and silty sand. Hard sandstone intervals are intermittently present, as are thin layers of lignite or lignitic silts. The uppermost aquifer is considered confined to semi-confined, and generally encountered at depths of 30 to 40 ft. bgs. The elevation of monitoring well screened intervals in the uppermost aquifer ranges from approximately 240 ft. amsl to 220 ft. amsl. The screened intervals are generally completed in silty sands and sandy clay.

The general groundwater flow direction at the SSP based on site data at the time of the monitoring well network installation indicated that a groundwater divide exists between the SSP and the adjacent AP. The general groundwater flow direction from northeast to southwest across the SSP was used to locate downgradient wells on the unit boundary. The SSP monitoring network is illustrated in **Figure 2.2** and described as follows:

- Background Monitoring Well: SSP/AP MW-1 (used as background for both the AP and SSP networks)
- Downgradient Boundary Monitoring Wells: SSP MW-2, SSP MW-3, SSP MW-4

2.1.3 Ash Ponds Groundwater Monitoring Network

The subsurface stratigraphic units at the AP are similar to those found beneath the adjacent SSP and groundwater is also considered confined to semi-confined, and generally encountered at depths of 30 to 40 ft. bgs. The screened intervals are generally completed in silty sands and sandy clay.

The general groundwater flow direction at the AP based on site data at the time of the monitoring well network installation indicated general groundwater flow direction from west to east across the AP. This information was used to locate downgradient wells on the unit boundary. The AP monitoring network is illustrated in **Figure 2.2** and described, as follows:

- Background Monitoring Well: SSP/AP MW-1 (used as background for both the AP and SSP networks)
- Downgradient Boundary Monitoring Wells: AP MW-1D, AP MW-3, AP MW-4, AP MW-5
- Piezometers (water levels only): AP PZ-1, AP PZ-2, AP PZ-3, AP PZ-4

3.0 Groundwater Monitoring Events Summary

3.1 Monitoring Program Status

An assessment monitoring program was implemented at the site in accordance with 40 CFR § 257 after a statistical evaluation of Appendix III constituents based on sampling results. A summary of the Appendix III constituents with SSIs is presented in **Table 2.2**.

The first assessment monitoring event was conducted in March 2018. Pursuant to 40 CFR § 257.95(b), groundwater was analyzed for all Appendix IV constituents in the first sampling event conducted after establishment of the assessment monitoring program. A statistical evaluation conducted for the Appendix IV constituents concluded that the data indicated initial statistically significant increases (SSIs) above Groundwater Protection Standards (GWPS) at the SFL, SSP, and AP CCR units. In accordance with 40 CFR 257.95(g)(3)(ii), an evaluation of alternate sources that caused the increases in Appendix IV constituents in downgradient wells was undertaken. The alternative source determination (ASD) evaluation concluded that the potential SSIs for Appendix IV constituents exceeding the GWPS were attributed to natural variation in groundwater quality, therefore, assessment monitoring was continued and corrective measures were not implemented. The ASD is included in **Appendix A**.

3.2 Monitoring Events

Assessment groundwater monitoring events were completed in January 2019 and June 2019. Groundwater monitoring was completed in accordance with the methods and procedures documented in the Field Sampling Plan dated October 16, 2017. The well locations relative to each CCR unit, the number of samples collected, and the sample collection dates are summarized in **Table 3.1**. Field data sheets completed during the 2019 sampling events are included in **Appendix B**. Laboratory analytical reports can be found in **Appendix C**.

3.2.1 January 2019 Event

The January 2019 groundwater monitoring event was an assessment monitoring event and was completed from January 14 to January 16, 2019. Water levels were measured in all monitoring wells on January 14, 2019, and groundwater samples were collected on January 15 and 16, 2019. Groundwater samples were collected from monitoring wells at the SFL, SSP and AP CCR units. The groundwater samples were analyzed for all Appendix III and those Appendix IV constituents that were detected at each CCR unit during the March 2018 monitoring event.

Appendix IV constituents detected at each CCR unit include:

- SFL: Boron, Beryllium, Cadmium, Cobalt, Lead, Lithium, Mercury, Thallium, Radium
- AP: Arsenic, Boron, Beryllium, Cadmium, Cobalt, Lithium, Molybdenum, Radium
- SSP: Arsenic, Boron, Beryllium, Cadmium, Cobalt, Lead, Lithium, Thallium, Radium

3.2.2 June 2019 Event

The June 2019 groundwater monitoring event was an assessment monitoring event and was completed between June 24, 2019 and June 28, 2019. Water levels were measured in all monitoring wells on June 24, 2019, and groundwater samples were collected between June 25, 2019 and June 28, 2019. Groundwater samples were collected from monitoring wells at the SFL, SSP and AP CCR units. The groundwater samples were analyzed for all Appendix III constituents and those Appendix IV constituents that were previously detected at each CCR unit.

Appendix IV constituents detected at each CCR unit include:

- SFL: Boron, Beryllium, Cadmium, Cobalt, Lead, Lithium, Mercury, Thallium, Radium
- AP: Arsenic, Boron, Beryllium, Cadmium, Cobalt, Lithium, Mercury, Molybdenum, Radium
- SSP: Boron, Beryllium, Cadmium, Cobalt, Lead, Lithium, Thallium, Radium

4.0 Groundwater Monitoring Data Summary

4.1 Groundwater Flow

As required by CCR regulations, water levels were measured in monitoring wells prior to the collection of groundwater samples. Water levels were also measured in all monitoring network piezometers. The measured water levels were subtracted from surveyed top-of-casing (TOC) elevations to develop potentiometric surface elevation maps for the CCR units. These maps were used to interpret groundwater flow directions and gradients. Information for groundwater gradients and hydraulic conductivity of subsurface geologic units was used to calculate groundwater flow rates using the following formula:

$V = Ki\phi$

Where:

V = average linear velocity (ft./day)

K = hydraulic conductivity (ft./day)

i = hydraulic gradient (ft./ft.)

ϕ = effective porosity (%)

4.1.1 Site F Landfill

Groundwater level measurements for the SFL monitoring wells are included in **Table 4.1**. These measurements were completed on January 14, 2019 and June 24, 2019. Potentiometric surface maps for these sampling events are included as **Figures 4.1** and **4.2**, respectively.

Groundwater flow patterns are similar for the two dates with a general groundwater flow gradient from northeast to southwest. Additional flow directions to the northwest and southeast in the vicinity of the landfill are observed due to an apparent groundwater divide that trends from northeast to southwest.

The average linear velocity of groundwater flow at the SFL is 0.0019 ft./day, or 0.69 ft./year. Groundwater flow velocity was determined using an estimated hydraulic conductivity value of 0.028 ft./day based on observed grain sizes in the screened intervals, a calculated hydraulic gradient of 0.017 ft./ft., and an estimated effective porosity of 25%.

4.1.2 Scrubber Sludge Pond

Groundwater level measurements for the SSP monitoring wells are included in **Table 4.1**. These measurements were completed on January 14, 2019 and June 24, 2019. Potentiometric surface maps for these sampling events are included as **Figures 4.3** and **4.4**, respectively. Groundwater elevations were generally consistent during the monitoring events. Groundwater levels varied by less than one foot in most wells.

Based on the potentiometric surface maps, the groundwater flow direction in the vicinity of the SSP is southwest.

The average linear velocity of groundwater flow at the SSP is 0.001 ft./day, or 0.488 ft./year. Groundwater flow velocity was determined using an estimated hydraulic conductivity value of 0.028 ft./day, the calculated hydraulic gradient of 0.012 ft./ft. and an estimated effective porosity of 25%.

4.1.3 Ash Ponds

Groundwater level measurements for the AP monitoring wells are included in **Table 4.1**. These measurements were completed on January 14, 2019 and June 24, 2019. Potentiometric surface maps for these sampling events are included as **Figures 4.3** and **4.4**, respectively. Groundwater elevations were

generally consistent during the monitoring events. Groundwater levels varied by less than one foot in most wells.

The groundwater flow direction within the AP is generally east with a north-easterly flow direction at the north end of the AP. The average linear velocity of groundwater flow to the east at the AP is 0.002 ft./day, or 0.77 ft./year. The groundwater flow in the eastern direction was calculated using an estimated hydraulic conductivity value of 0.028 ft./day, a hydraulic gradient of 0.019 ft./ft. and an estimated effective porosity of 25%.

The average linear groundwater velocity to the north at the Ash Ponds is 0.002 ft./day, or 0.83 ft./year. The calculated groundwater flow rate is based on an estimated hydraulic conductivity value of 0.028 ft./day, a hydraulic gradient of 0.020 ft./ft. and an estimated effective porosity of 25%.

4.2 Groundwater Quality

Groundwater analytical data for the SFL, SSP, and AP monitoring networks were tabulated and compared to the applicable GWPS. The analytical results are documented in **Tables 4.2**, **4.3**, and **4.4**, respectively. Laboratory analytical results for all sampling events are included in **Appendix C.**

Tables

Table 2.1
Well Construction Details
2019 Annual Report
TMPA Gibbons Creek Steam Electric Station
Anderson, Texas

Well	Latitude	Longitude	Date Completed	Well Construction	Well Diameter (in.)	Borehole Diameter (in.)	Land Surface Elevation (ft. amsl)	Measuring Point Elevation (ft. amsl)	Total Well Depth (ft. btoc)	Total Well Depth (ft. bgs)	Total Borehole Depth (ft. bgs)	Total Depth (elevation)	Screen Interval (ft. bgs)		Screen Interval (elevation)	
													Top	Bottom	Top	Bottom
AP MW-1*	30.6165530	-96.0752718	March 15, 2016	Schedule 40 PVC	2	8	268.94	271.56	24.9	22.3	35.0	246.7	18.0	23.0	250.9	245.9
AP MW-1D	30.6165174	-96.0752711	May 24, 2016	Schedule 40 PVC	2	8 5/8	269.02	272.04	43.0	40.0	40.0	229.0	34.5	39.5	234.5	229.5
AP MW-2*	30.6117311	-96.0774686	March 15, 2016	Schedule 40 PVC	2	8	272.12	274.97	20.0	17.2	17.0	255.0	12.0	17.0	260.1	255.1
AP MW-3	30.6167889	-96.0771818	May 25, 2016	Schedule 40 PVC	2	8 5/8	271.46	274.68	43.4	40.2	40.0	231.3	34.5	39.5	237.0	232.0
AP MW-4	30.6132983	-96.0756298	June 1, 2016	Schedule 40 PVC	2	8 5/8	270.93	274.16	52.8	49.6	50.0	221.4	44.5	49.5	226.4	221.4
AP MW-5	30.6146331	-96.0755231	June 1, 2016	Schedule 40 PVC	2	8 5/8	271.16	274.13	43.1	40.1	40.0	231.0	30.5	35.5	240.7	235.7
AP MW-6*	30.6141386	-96.0782529	May 5, 2017	Schedule 40 PVC	2	8 5/8	274.74	277.95	48.1	44.9	50.0	229.9	41.0	46.0	233.7	228.7
AP PZ-1*	30.6182640	-96.0794951	May 24, 2016	Schedule 40 PVC	2	8 5/8	262.70	265.67	29.4	26.4	35.0	236.3	21.0	26.0	241.7	236.7
AP PZ-2*	30.6185732	-96.0776726	May 24, 2016	Schedule 40 PVC	2	8 5/8	271.71	274.91	43.2	40.0	40.0	231.7	34.5	39.5	237.2	232.2
AP PZ-3*	30.6171808	-96.0759308	May 25, 2016	Schedule 40 PVC	2	8 5/8	255.76	259.11	43.1	39.7	40.0	216.0	34.5	39.5	221.3	216.3
AP PZ-4*	30.6117662	-96.0782772	June 2, 2016	Schedule 40 PVC	2	8 5/8	271.39	273.65	45.3	43.0	45.0	228.4	38.5	43.5	232.9	227.9
SSP MW-1*	30.6134908	-96.0808291	March 14, 2016	Schedule 40 PVC	2	8	277.84	281.18	31.7	28.4	30.0	249.5	23.0	28.0	254.8	249.8
SSP MW-2	30.6123593	-96.0811678	June 2, 2016	Schedule 40 PVC	2	8 5/8	280.62	283.66	46.9	43.9	45.0	236.8	38.5	43.5	242.1	237.1
SSP MW-3	30.6111827	-96.0810465	June 3, 2016	Schedule 40 PVC	2	8 5/8	280.95	283.97	48.2	45.2	45.0	235.8	39.5	44.5	241.5	236.5
SSP MW-4	30.6111383	-96.0800662	June 3, 2016	Schedule 40 PVC	2	8 5/8	280.86	283.86	51.5	48.5	50.0	232.3	43.0	48.0	237.9	232.9
SSP/AP MW-1	30.6134773	-96.0796706	May 26, 2016	Schedule 40 PVC	2	8 5/8	269.33	272.53	43.2	40.0	40.0	229.3	29.5	39.5	239.8	229.8
SFL MW-1	30.6419462	-96.0664578	March 15, 2016	Schedule 40 PVC	2	8	298.90	301.80	22.8	19.9	22.0	279.0	15.0	20.0	283.9	278.9
SFL MW-2	30.6365083	-96.0708606	March 16, 2016	Schedule 40 PVC	2	8	265.69	268.31	23.6	21.0	50.0	244.7	16.0	21.0	249.7	244.7
SFL MW-3	30.6343762	-96.0674286	May 25, 2016	Schedule 40 PVC	2	8 5/8	271.65	275.00	28.2	24.9	25.0	246.8	19.5	24.5	252.2	247.2
SFL MW-4	30.6347602	-96.0692742	May 31, 2016	Schedule 40 PVC	2	8 5/8	266.46	269.53	42.7	39.6	40.0	226.8	34.5	39.5	232.0	227.0
SFL MW-5	30.6372882	-96.0708798	May 23, 2016	Schedule 40 PVC	2	8 5/8	273.33	276.25	24.3	21.4	25.0	251.9	16.0	21.0	257.3	252.3
SFL MW-6	30.6390171	-96.0708725	May 23, 2016	Schedule 40 PVC	2	8 5/8	283.49	286.66	23.1	19.9	20.0	263.6	14.5	19.5	269.0	264.0
SFL MW-7	30.6352604	-96.0656015	May 3, 2017	Schedule 40 PVC	2	8 5/8	264.83	264.63	58.1	58.3	55.0	206.5	50.0	55.0	214.8	209.8
MNW-11*	30.6366283	-96.0743996	February 26, 1988	Schedule 40 PVC	2	4 1/2	268.12	267.95	47.3	47.5	48.0	220.7	42.5	47.5	225.7	220.7
MNW-15	30.6359157	-96.0637736	February 23, 1988	Schedule 40 PVC	2	4 1/2	257.536	257.331	27.0	27.2	27.7	230.3	22.2	27.2	235.3	230.3
MNW-16*	30.6401477	-96.0743440	February 25, 1988	Schedule 40 PVC	4	7	263.333	263.191	40.4	40.5	41.0	222.8	35.5	40.5	227.8	222.8
MNW-17*	30.6440024	-96.0682061	February 17, 1988	Schedule 40 PVC	4	7	293.864	293.724	50.2	50.4	50.9	243.5	45.4	50.4	248.5	243.5
MNW-18	30.6450488	-96.0620193	February 18, 1988	Schedule 40 PVC	4	7	270.912	270.755	51.0	51.2	51.7	219.7	46.2	51.2	224.7	219.7

Notes and Definitions:

*Water level monitoring only, not used in groundwater quality monitoring
ft. amsl - feet above mean sea level
ft. bgs - feet below ground surface
ft. btoc - feet below top of casing
in. - inches

Table 2.2
Summary of Appendix III Constituents with Initial SSIs Above Background
2019 Annual Report
TMPA Gibbons Creek Steam Electric Station
Anderson, Texas

Unit	Downgradient Monitoring Well	Constituents
SFL	SFL MW-2	Boron, Chloride, TDS
	SFL MW-3	Boron, Chloride, TDS
	SFL MW-4	Boron, Chloride
	SFL MW-5	Boron, Calcium, Chloride, TDS
	SFL MW-6	Boron, Calcium, Chloride, TDS
	SFL MW-7	Boron, Calcium, Chloride, TDS
	MNW-15	Boron, Chloride
SSP	SSP MW-2	Calcium, Chloride, TDS
	SSP MW-3	Boron, Chloride
	SSP MW-4	Boron, Chloride
AP	AP MW-1D	Boron
	AP MW-3	Boron
	AP MW-5	Boron

Notes and Definitions

AP - Ash Ponds
SFL - Site F Landfill
SSI - Statistically Significant Increase
SSP - Scrubber Sludge Pond
TDS - Total Dissolved Solids
TMPA- Texas Municipal Power Agency

Table 3.1 Groundwater Sampling Summary
2019 Annual Report
TMPA Gibbons Creek Steam Electric Station
Anderson, Texas

Unit	Well	Location	Monitoring Program	Number of Samples Collected*	Sample Collection Dates	
SFL	MNW-18	Upgradient	Assessment	2	1/16/2019	6/26/2019
	SFL MW-2	Downgradient	Assessment	2	1/16/2019	6/26/2019
	SFL MW-3	Downgradient	Assessment	2	1/16/2019	6/26/2019
	SFL MW-4	Downgradient	Assessment	2	1/16/2019	6/26/2019
	SFL MW-5	Downgradient	Assessment	2	1/16/2019	6/26/2019
	SFL MW-6	Downgradient	Assessment	2	1/16/2019	6/28/2019
	SFL MW-7	Downgradient	Assessment	2	1/16/2019	6/26/2019
	MNW-15	Downgradient	Assessment	2	1/16/2019	6/26/2019
SSP	SSP/AP MW-1	Upgradient	Assessment	2	1/15/2019	6/27/2019
	SSP MW-2	Downgradient	Assessment	2	1/15/2019	6/28/2019
	SSP MW-3	Downgradient	Assessment	2	1/15/2019	6/27/2019
	SSP MW-4	Downgradient	Assessment	2	1/15/2019	6/27/2019
AP	SSP/AP MW-1	Upgradient	Assessment	2	1/15/2019	6/27/2019
	SSP/AP MW1	Upgradient	Assessment	2	1/15/2019	6/27/2019
	AP MW-1D	Downgradient	Assessment	2	1/15/2019	6/25/2019
	AP MW-3	Downgradient	Assessment	2	1/15/2019	6/25/2019
	AP MW-4	Downgradient	Assessment	2	1/15/2019	6/27/2019
	AP MW-5	Downgradient	Assessment	2	1/15/2019	6/25/2019

Notes and Definitions

* Does not include duplicate samples collected for Quality Assessment.

AP - Ash Ponds

SFL - Site F Landfill

SSP - Scrubber Sludge Pond

Table 4.1
Groundwater Elevation Summary
2019 Annual Report
TMPA Gibbons Creek Steam Electric Station
Anderson, Texas

Unit	Well	Date	Depth to Water (ft. btoc)	MP Elevation (ft. amsl)	Water Level Elevation (ft. amsl)
SFL	MNW-11	1/14/2019	19.45	268.115	248.67
		6/24/2019	20.87	268.115	247.25
	MNW-15	1/14/2019	3.81	257.536	253.73
		6/24/2019	4.02	257.536	253.52
	MNW-16	1/14/2019	11.94	263.333	251.39
		6/24/2019	12.49	263.333	250.84
	MNW-17	1/14/2019	34.82	293.864	259.04
		6/24/2019	43.85	293.864	250.01*
	MNW-18	1/14/2019	5.63	270.912	265.28
		6/24/2019	8.37	270.912	262.54
	SFL MW-2	1/14/2019	10.81	268.31	257.50
		6/24/2019	10.11	268.31	258.20
	SFL MW-3	1/14/2019	17.00	275.00	258.00
		6/24/2019	16.39	275.00	258.61
	SFL MW-4	1/14/2019	14.60	269.53	254.93
		6/24/2019	14.21	269.53	255.32
	SFL MW-5	1/14/2019	15.80	276.25	260.45
		6/24/2019	15.03	276.25	261.22
	SFL MW-6	1/14/2019	18.49	286.66	268.17
		6/24/2019	17.31	286.66	269.35
	SFL MW-7	1/14/2019	12.64	264.831	252.19
		6/24/2019	13.17	264.831	251.66
SSP	SSP/AP MW-1	1/14/2019	7.80	272.53	264.73
		6/24/2019	7.32	272.53	265.21
	SSP MW-2	1/14/2019	21.82	283.66	261.84
		6/24/2019	21.18	283.66	262.48
	SSP MW-3	1/14/2019	26.44	283.97	257.53
		6/24/2019	26.35	283.97	257.62
	SSP MW-4	1/14/2019	23.82	283.86	260.04
		6/24/2019	23.87	283.86	259.99
AP	SSP/AP MW-1	1/14/2019	7.80	272.53	264.73
		6/24/2019	7.32	272.53	265.21
	AP MW-1D	1/14/2019	14.10	272.04	257.94
		6/24/2019	14.14	272.04	257.90
	AP MW-3	1/14/2019	10.68	274.68	264.00
		6/24/2019	10.64	274.68	264.04
	AP MW-4	1/14/2019	13.16	274.16	261.00
		6/24/2019	13.10	274.16	261.06
	AP MW-5	1/14/2019	11.38	274.13	262.75
		6/24/2019	11.27	274.13	262.86
	AP MW-6	1/14/2019	16.33	277.95	261.62*
		6/24/2019	16.19	277.95	261.76*
	AP PZ-1	1/14/2019	5.62	265.67	260.05
		6/24/2019	6.39	265.67	259.28
	AP PZ-2	1/14/2019	17.15	274.91	257.76
		6/24/2019	17.19	274.91	257.72
	AP PZ-3	1/14/2019	4.65	259.11	254.46
		6/24/2019	4.59	259.11	254.52
	AP PZ-4	1/14/2019	8.86	273.65	264.79
		6/24/2019	9.54	273.65	264.11

Notes and Definitions

* Inconsistent measurement, not used
AP - Ash Ponds
ft. amsl - feet above mean sea level
ft. btoc - feet below top of casing
MN or MNW - Monitoring Well
MP - measuring point
PZ - piezometer
SFL - Site F Landfill
SSP - Scrubber Sludge Pond
TMPA - Texas Municipal Power Agency

Table 4.2
Site F Landfill Analytical Results
2019 Annual Report
TMPA Gibbons Creek Steam Electric Station
Anderson, Texas

		Sample			MNW-18		SFL MW-2		SFL MW-3		SFL MW-4		SFL MW-5		SFL MW-6		SFL MW-7		MNW-15	
		Collection Date			1/16/2019	6/26/2019	1/16/2019	6/26/2019	1/16/2019	6/26/2019	1/16/2019	6/26/2019	1/16/2019	6/26/2019	1/16/2019	6/28/2019	1/16/2019	6/26/2019	1/16/2019	6/26/2019
		Laboratory Report No.			490-166987-1	180-92069-1	490-166987-1	180-92069-1	490-166987-1	180-92069-1	490-166987-1	180-92069-1	490-166987-1	180-92069-1	490-166987-1	180-92094-2	490-166987-1	180-92069-1	490-166987-1	180-92069-1
		Laboratory Report No.[2]			490-166987-2	180-92069-1	490-166987-2	180-92069-2	490-166987-2	180-92069-2	490-166987-2	180-92069-2	490-166987-2	180-92069-2	490-166987-2	180-92069-2	490-166987-2	180-92069-2	490-166987-2	180-92069-2
	Constituent of Concern	Units	CAS	GWPS																
40 CFR 257, Appendix III	Boron	mg/L	7440-42-8	background	<2.00 ^	0.297	<2.00 ^	0.515 F2	3.06 ^	3.85	<2.00 ^	0.702	4.08 ^	6.04	<2.00 ^	0.290	<2.00 ^	0.879	8.56 ^	9.64
	Calcium	mg/L	7440-70-2	background	316	104	585	937 F2	520	661	714	801	715	857	824	800	523	588	244	272
	Chloride	mg/L	16887-00-6	background	504	146	2450	3140	1140	1090	1640	1660	2880	3180	3490	3240	2580	2700	667	578
	Fluoride	mg/L	16984-48-8	4.00	2.01	<0.250	3.06	<1.00	1.49	<1.00	1.70	<1.00	5.89	<1.00	8.72	<1.00	2.62	<1.00	1.04	0.718
	pH[1]	S.U.	--	background	6.94	6.56	6.69	6.54	3.90	3.82	6.27	6.15	4.64	4.40	4.07	3.91	6.69	6.79	3.70	3.44
	Sulfate	mg/L	18785-72-3	background	1720	520	1480	1720	2460	2100	2220	2080	2070	2100	2500	1870	694	630	1310	1210
	Total Dissolved Solids	mg/L	--	background	3750	1270	6090	7630	5240	4,480	6170	5,310	7300	6890	8850	7040	6090	5410	3030	2690
40 CFR 257, Appendix IV	Antimony	mg/L	7440-36-0	0.006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic	mg/L	7440-38-2	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Barium	mg/L	7440-39-3	2.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Beryllium	mg/L	7440-41-7	0.004	<0.00200	<0.00100	<0.00200	0.00444	0.0289	0.0334	<0.00200	<0.00100	0.00885	0.0123	0.0418	0.0496	<0.00200	<0.00100	0.0606	0.0818
	Cadmium	mg/L	7440-43-9	0.005	<0.00100	<0.00100	<0.00100	0.00268	0.00720	0.00560	<0.00100	<0.00100	0.00531	0.00511	0.00955	0.00945	<0.00100	<0.00100	0.0945	0.0269
	Chromium	mg/L	7440-47-3	0.100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cobalt	mg/L	7440-48-4	0.006	<0.00200	<0.00100	0.0103	0.0187	0.0614	0.0622	<0.00200	<0.00100	0.0492	0.0559	0.112	0.105	<0.00200	<0.00100	0.297	0.359
	Lead	mg/L	7439-92-1	0.015	<0.00200	<0.00100	<0.00200	<0.00100	0.0183	0.0178	<0.00200	<0.00100	<0.00200	0.00459	0.00549	0.0115	<0.00200	<0.00100	0.00297	<0.00100
	Lithium	mg/L	7439-93-2	0.040	0.403	0.179	0.408	0.447	<0.400	0.263	0.401	0.377	0.643	0.643	0.619	0.663	0.388	0.408	<0.400	0.0898
	Mercury	mg/L	7439-97-6	0.002	<0.000200	<0.000200	<0.000200	<0.000200	0.00176	0.00338	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000942	<0.000200
	Molybdenum	mg/L	7439-98-7	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Selenium	mg/L	7781-49-2	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Thallium	mg/L	7440-28-0	0.002	<0.000200	<0.00100	<0.000200	0.00103	0.00605	0.00450	<0.000200	<0.00100	<0.000200	0.00115	0.00315	0.002624	<0.000200	<0.00100	0.00248	<0.00100
	Radium 226	pCi/L	7440-14-4	--	1.34	<0.174	1.96	1.55	1.42	0.941	0.412	<0.174	2.70	2.24	2.28	2.53 G	0.584	<0.478	0.0901	<0.0146
	Radium 228	pCi/L	15262-20-1	--	2.38	<0.296	4.94	6.02	3.2	4.49	0.771	1.11	8.60	8.97	7.86	9.27 G	1.77	1.72	0.529	<0.275
	Radium 226 + Radium 228	pCi/L	--	5.00	3.72	0.470	6.91	7.57	4.62	5.43	1.18	1.28	11.30	11.2	10.1	11.8	2.36	2.20	0.619	<0.290

Notes and Definitions

[1] pH values were derived from the field sampling activities.
[2] Radium results included in separate lab report
- Not sampled
-- No CAS number and/or no GWPS available
^ Instrument related QC is outside acceptance limits.
AP Ash Ponds
CAS Chemical Abstracts Service Number
F2 MS/MSD RPD exceeds control limits
G The Sample MDC is greater than the requested RL.
GWPS Groundwater Protection Standards
mg/L milligrams per liter
MNW or MW Monitor Well
pCi/L picocurie per liter
S.U. standard units
SSP Scrubber Sludge Pond
TMPA Texas Municipal Power Agency

Table 4.3
Scrubber Sludge Pond Analytical Results
2019 Annual Report
TMPA Gibbons Creek Steam Electric Station
Anderson, Texas

		Sample			SSP/AP MW-1		SSP MW-2		SSP MW-3		SSP MW-4	
		Collection Date			1/15/2019	6/27/2019	1/15/2019	6/28/2019	1/15/2019	6/27/2019	1/15/2019	6/27/2019
		Laboratory Report No.			490-166987-1	180-92094-1	490-166987-1	180-92094-1	490-166987-1	180-92094-1	490-166987-1	180-92094-1
		Laboratory Report No.[2]			490-166987-2	180-92094-2	490-166987-2	180-92094-2	490-166987-2	180-92094-2	490-166987-2	180-92094-2
	Constituent of Concern	Units	CAS	GWPS								
40 CFR 257, Appendix III	Boron	mg/L	7440-42-8	background	1.43 *^	0.811	<2.00 ^	1.14	2.47 ^	2.94	<2.00 ^	1.51
	Calcium	mg/L	7440-70-2	background	563	659	756	658	618	712	371	414
	Chloride	mg/L	16887-00-6	background	1500	1,640	2500	1,640	1770	1870	1,150	1,120
	Fluoride	mg/L	16984-48-8	4.00	<0.100	<1.00	2.56	<1.00	2.72	<1.00	2.84	<1.00
	pH[1]	S.U.	--	background	5.87	5.97	3.96	3.87	4.15	4.25	6.35	6.15
	Sulfate	mg/L	18785-72-3	background	3,070	2,980	2,030	2,300	2550	2370	1,170	1,060
	Total Dissolved Solids	mg/L	--	background	7060	7240	6,790	6,100	6,410	5780	3,790	4,040
40 CFR 257, Appendix IV	Antimony	mg/L	7440-36-0	0.006	-	-	-	-	-	-	-	-
	Arsenic	mg/L	7440-38-2	0.01	0.0041	<0.00500	0.00552	<0.00500	0.00655	<0.00500	0.00203	<0.00500
	Barium	mg/L	7440-39-3	2.00	-	-	-	-	-	-	-	-
	Beryllium	mg/L	7440-41-7	0.004	<0.00200	<0.00100	0.0475	0.0713	0.101	0.107	<0.00200	<0.00100
	Cadmium	mg/L	7440-43-9	0.005	<0.00100	<0.00100	<0.00100	0.00689	0.0877	0.0711	<0.00100	<0.00100
	Chromium	mg/L	7440-47-3	0.10	-	-	-	-	-	-	-	-
	Cobalt	mg/L	7440-48-4	0.006	<0.00200	<0.00100	0.0645	0.190	0.621	0.524	<0.00200	<0.00100
	Lead	mg/L	7439-92-1	0.015	<0.00200	<0.00100	0.00219	0.00539	0.00441	0.00440	<0.00200	<0.00100
	Lithium	mg/L	7439-93-2	0.040	1.25	1.39	0.770	0.597	0.514	0.587	0.858	0.919
	Mercury	mg/L	7439-97-6	0.002	-	-	-	-	-	-	-	-
	Molybdenum	mg/L	7439-98-7	0.10	-	-	-	-	-	-	-	-
	Selenium	mg/L	7781-49-2	0.05	-	-	-	-	-	-	-	-
	Thallium	mg/L	7440-28-0	0.002	<0.00200	<0.00100	<0.00200	0.00112	0.01120	0.00760	<0.00200	<0.00100
	Radium 226	pCi/L	7440-14-4	--	0.334	<0.216	0.540	<0.322	5.70	5.90	0.793	<0.346
	Radium 228	pCi/L	15262-20-1	--	1.47	0.856	1.73	1.3	29.7	27.5	2.03	1.68
	Radium 226 + Radium 228	pCi/L	--	5.00	1.81	1.07	2.27	1.62	35.4	33.4	2.82	2.02

Notes and Definitions

[1] pH values were derived from the field sampling activities.
[2] Radium results included in separate lab report
- Not sampled
-- No CAS number and/or no GWPS available
* pH value derived from lab data, field data not available
^ Instrument related QC is outside acceptance limits.
AP Ash Ponds
CAS Chemical Abstracts Service Number
GWPS Groundwater Protection Standards
mg/L milligrams per liter
MNW or MW Monitor Well
pCi/L picocurie per liter
S.U. standard units
SSP Scrubber Sludge Pond
TMPA Texas Municipal Power Ageny

Table 4.4
Ash Ponds Analytical Results
2019 Annual Report
TMPA Gibbons Creek Steam Electric Station
Anderson, Texas

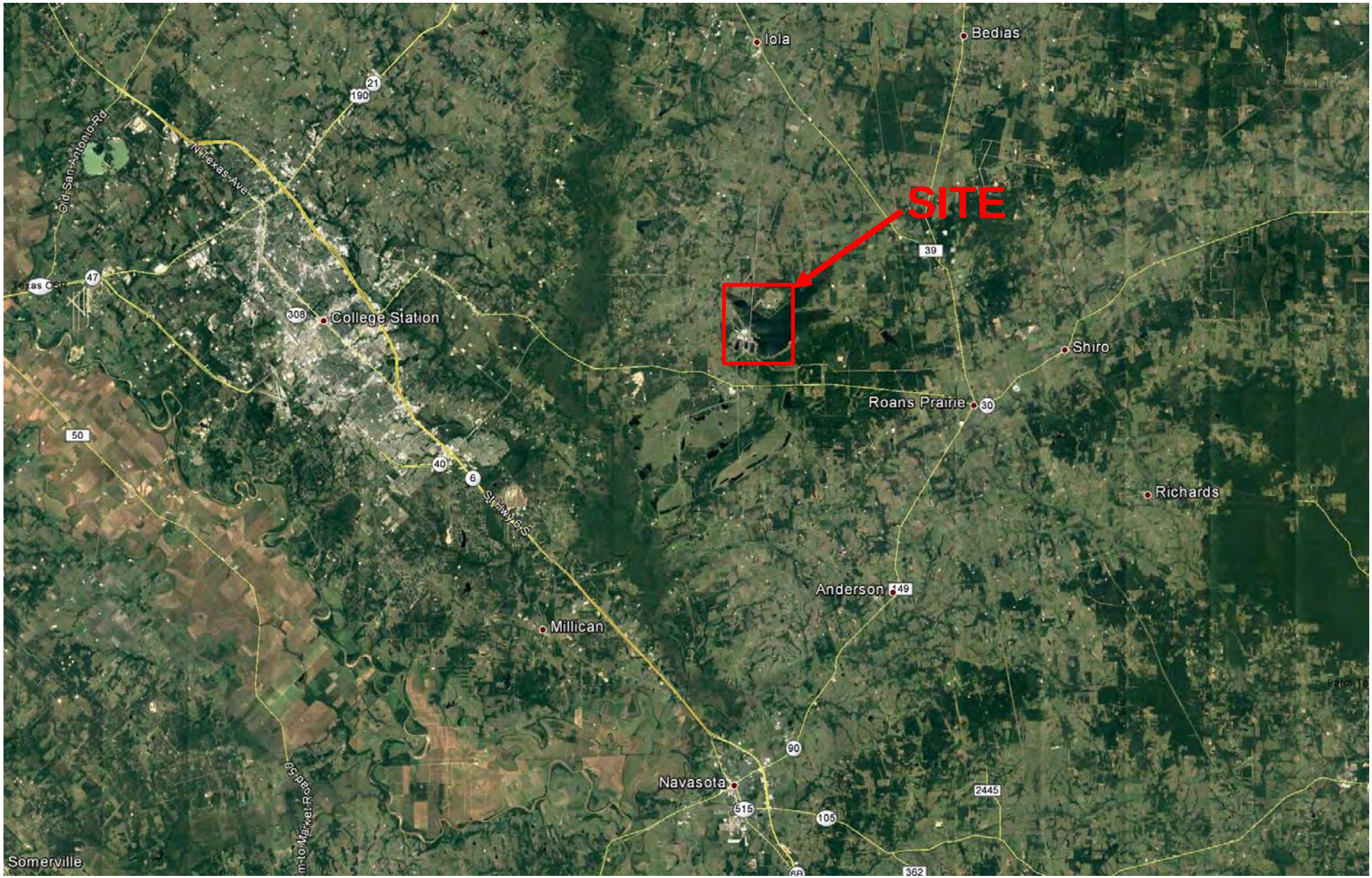
		Sample			SSP/AP MW-1		AP MW-1D		AP MW-3		AP MW-4		AP MW-5	
		Collection Date			1/15/2019	6/27/2019	1/15/2019	6/25/2019	1/15/2019	6/25/2019	1/15/2019	6/27/2019	1/15/2019	6/25/2019
		Laboratory Report No.			490-166987-1	180-92094-1	490-166987-1	180-92069-1	490-166987-1	180-92069-1	490-166987-1	180-92069-1	490-166987-1	180-92069-1
		Laboratory Report No.[2]			490-166987-2		490-166987-2	180-92069-2	490-166987-2	180-92069-2	490-166987-2	180-92069-2	490-166987-2	180-92069-2
Constituent of Concern		Units	CAS	GWPS										
40 CFR 257, Appendix III	Boron	mg/L	7440-42-8	background	1.43 *^	0.811	4.35 ^	4.84	3.49 ^	4.18	2.17 ^	2.45	3.38 ^	3.57
	Calcium	mg/L	7440-70-2	background	563	659	81.4	93.3	121	134	451	498	601 F2	369
	Chloride	mg/L	16887-00-6	background	1500	1,640	197	178	153	147	465	435	460	368
	Fluoride	mg/L	16984-48-8	4.00	<0.100	<1.00	0.904	0.532	0.223	<0.250	<0.100	<0.500	2.50	1.57
	pH[1]	S.U.	--	background	5.87	5.97	5.93	5.80	5.22	5.14	5.76	5.69	5.62	3.40
	Sulfate	mg/L	18785-72-3	background	3070	2,980	532	511	653	637	2250	2140	2590	2180
	Total Dissolved Solids	mg/L	--	background	7060	7,240	1350	1410	1360	1390	4010	4080	4600	4380
40 CFR 257, Appendix IV	Antimony	mg/L	7440-36-0	0.006	-		-	-	-	-	-	-	-	-
	Arsenic	mg/L	7440-38-2	0.01	0.0041	<0.00500	0.00884	0.00912	<0.002	<0.002	<0.002	<0.005	0.0117 F1 F2	<0.005
	Barium	mg/L	7440-39-3	2.00	-		-	-	-	-	-	-	-	-
	Beryllium	mg/L	7440-41-7	0.004	<0.00200	<0.00100	<0.00200	<0.00100	0.00269	0.00241	<0.00200	<0.00100	0.0778 F1 F2	0.0600
	Cadmium	mg/L	7440-43-9	0.005	<0.00100	<0.00100	<0.00100	<0.00100	0.00482	0.00414	<0.00100	<0.00100	0.00985	0.00583
	Chromium	mg/L	7440-47-3	0.10	-		-	-	-	-	-	-	-	-
	Cobalt	mg/L	7440-48-4	0.006	<0.00200	<0.00100	0.0164	0.0143	0.0428	0.0240	<0.00200	0.00109	0.175 F1	0.129
	Lead	mg/L	7439-92-1	0.015	<0.00200	<0.00100	-	-	-	-	-	-	-	-
	Lithium	mg/L	7439-93-2	0.040	1.25	1.39	<0.040	0.0328	<0.040	0.0461	0.800	0.781	0.446 F2	0.36
	Mercury	mg/L	7439-97-6	0.002	-		<0.000200	<0.000200	<0.000200	0.00025	<0.000200	<0.000200	<0.000200	0.000878
	Molybdenum	mg/L	7439-98-7	0.10	-		0.0174	0.0177	<0.00200	<0.00500	<0.000200	<0.00500	<0.000200	<0.00500
	Selenium	mg/L	7781-49-2	0.05	-		-	-	-	-	-	-	-	-
	Thallium	mg/L	7440-28-0	0.002	<0.00200	<0.00100	-	-	-	-	-	-	-	-
	Radium 226	pCi/L	7440-14-4	--	0.334	<0.216	0.223	0.219	0.390	0.284	0.335	0.267	0.444	0.333
	Radium 228	pCi/L	15262-20-1	--	1.47	0.856	1.49	1.44	1.70	1.79	0.423 U	0.991	1.05	0.833
	Radium 226 + Radium 228	pCi/L	--	5.00	1.81	1.07	1.71	1.66	2.09	2.07	0.759	1.26	1.49	1.17

Notes and Definitions

[1] pH values were derived from the field sampling activities.
[2] Radium results included in separate lab report
- Not sampled
-- No CAS number and/or no GWPS available
* pH value derived from lab data, field data not available
^ Instrument related QC is outside acceptance limits.

AP Ash Ponds
CAS Chemical Abstracts Service Number
F1 MS and/or MSD recovery is outside acceptance limit
F2 MS/MSD RPD exceeds control limits
GWPS Groundwater Protection Standards
mg/L milligrams per liter
MNW or MW Monitor Well
pCi/L picocurie per liter
S.U. standard units
SSP Scrubber Sludge Pond
TMPA Texas Municipal Power Ageny

Figures



P:\1 670615 Projects\6706150060 - TMPA - Gibbons Creek Mine\5500 CCR GW Monitoring\Annual GW Report\Figures\1 Site Location Map.pptx

0 5

Approximate Scale in Miles

N

SOURCE: GOOGLE EARTH

wood.

Environment & Infrastructure Solutions, Inc.

TX Engineering Firm #F-0012
TX Geoscience Firm #50184

SITE LOCATION MAP

Texas Municipal Power Agency
Gibbons Creek Steam Electric Station
Grimes County, Texas

Project No. 6706170058
Date 01/09/2020

Figure 1.1

N

0 1 mi

Approximate Scale in Miles

Source: Google Earth

wood.

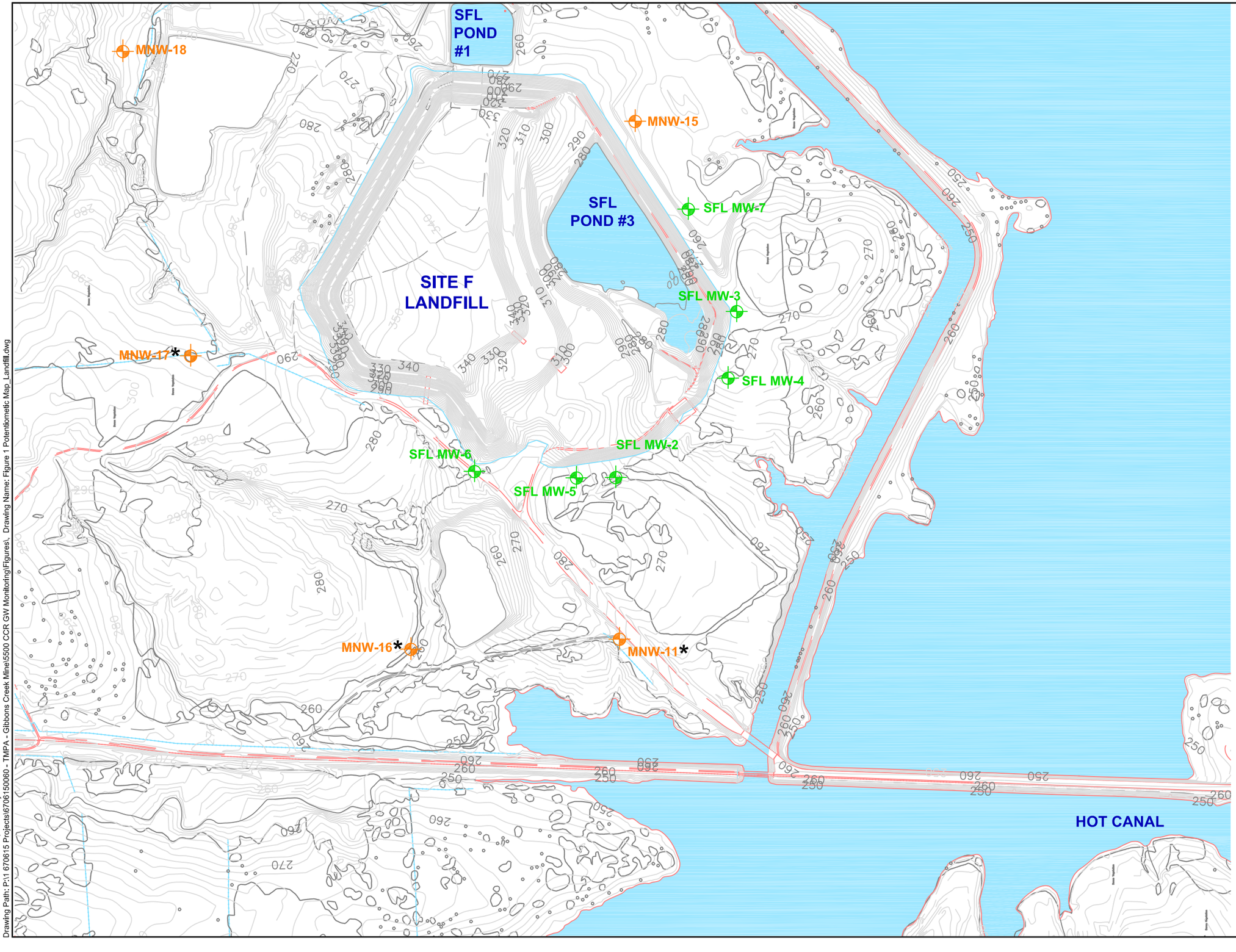
Environment & Infrastructure Solutions, Inc.

TX Engineering Firm #F-0012
TX Geoscience Firm #50184

CCR UNITS
Texas Municipal Power Agency
Gibbons Creek Steam Electric Station
Grimes County, Texas

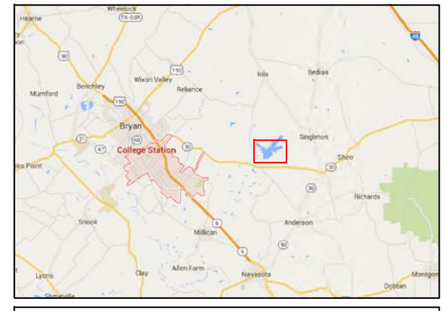
Project No. 6706150060
Date: 01/09/2020

Figure 1.2



LEGEND

- Wood Monitoring Well
- Black and Veatch Monitoring Wells
- * Welll Used for Groundwater Level Monitoring Only



0 250 500

APPROXIMATE SCALE IN FEET

SOURCE:
POTENTIOMETRIC SURFACE ELEVATION AND BASE MAP, ERM GOOGLE EARTH PRO

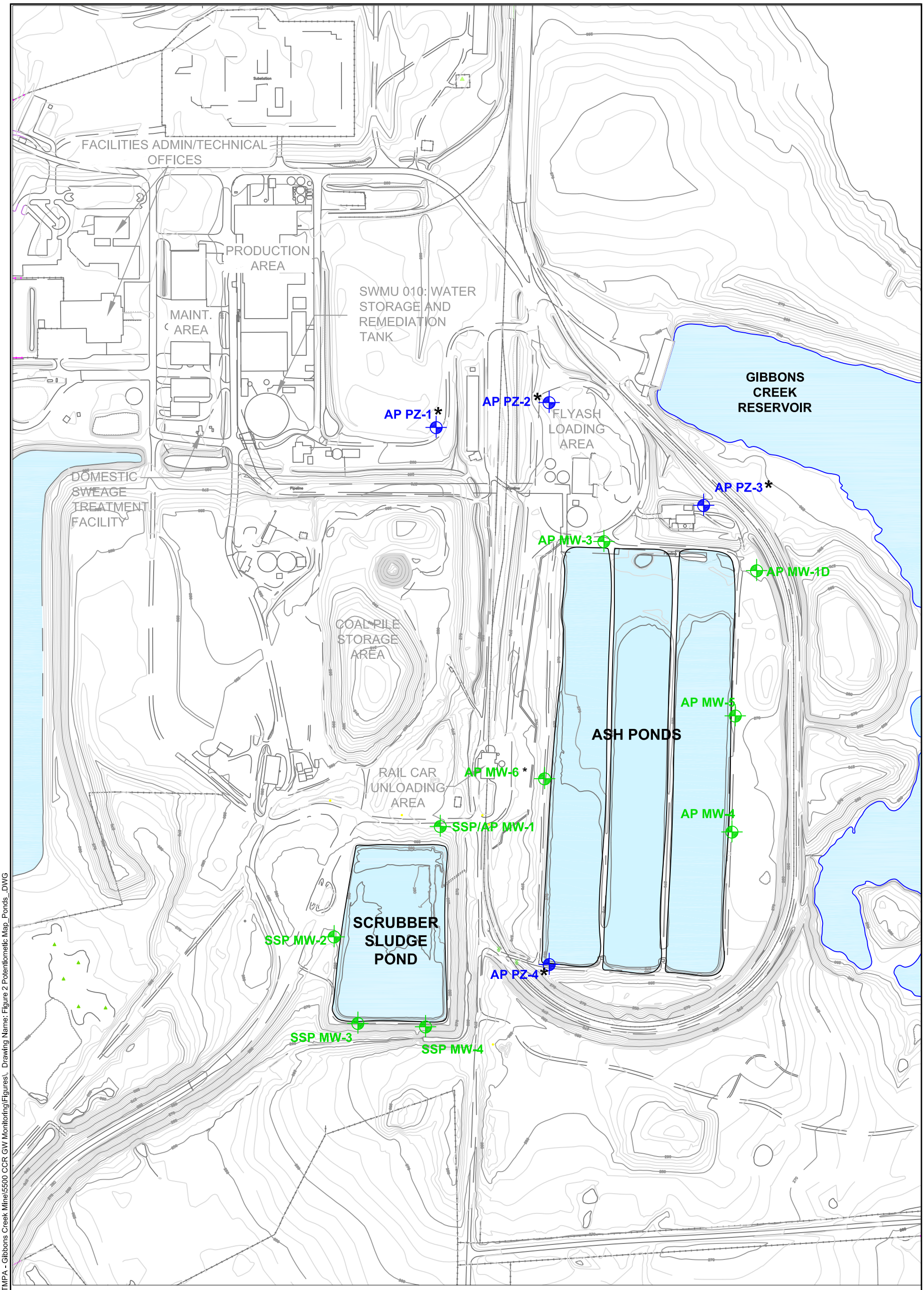
wood.
Environment & Infrastructure Solutions, Inc.
TX Engineering Firm F-0012

SITE F LANDFILL
Texas Municipal Power Agency
Gibbons Creek Steam Electric Station
Grimes County, Texas

Project No. 6706190003
Date 01/09/2020

Figure 2.1

Plot Date: 01/17/20 - 9:59am, Plotted by: susan.l.brown
Drawing Path: P:\1 6706\15 Projects\6706150060 - TMPA - Gibbons Creek Mine\5500 CCR GW Monitoring\Figures\, Drawing Name: Figure 1 Potentiometric Map_Landfill.dwg



LEGEND

- Monitoring Well
- Piezometer
- * Well Used for Groundwater Level Monitoring Only

N

0 200 400

Approximate Scale in Feet

Basemap modified from Potentiometric Surface Elevation and Base Map, ERM, Google Earth Pro

wood.

Environment & Infrastructure Solutions, Inc.

TX Engineering Firm F-0012

SCRUBBER SLUDGE POND AND ASH PONDS MONITORING WELL NETWORK

Texas Municipal Power Agency

Gibbons Creek Steam Electric Station

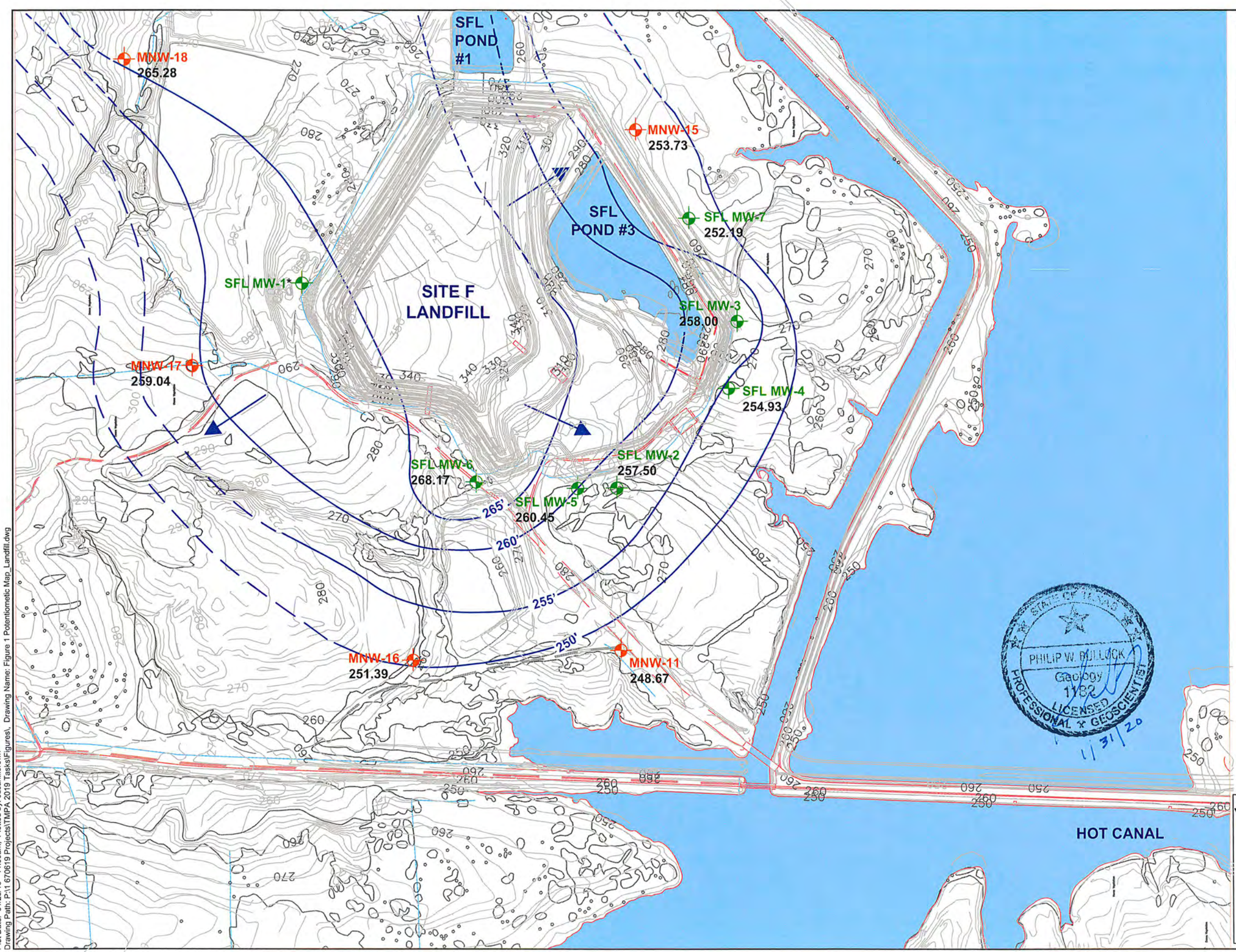
Grimes County, Texas

Project No.: 6706190003

Date01/09/2020

Figure 2.2

Plot Date: 01/09/20 - 11:02am, Plotted by: susan.l.brown
Drawing Path: P:\1 670615 Projects\6706150060 - TMPA - Gibbons Creek Mine\5500 CCR GW Monitoring\Figures\, Drawing Name: Figure 2 Potentiometic Map_Ponds_.DWG



LEGEND

- Wood Monitoring Well
- ERM Well
- 257.66 Measured Water Level (Ft. AMSL)
- Potentiometric Surface Contour in Ft. AMSL (Line Dashed Where Inferred)
- Indicates Groundwater Flow Direction
- * Water Level Not Used

0 250 500

APPROXIMATE SCALE IN FEET

SOURCE:
POTENTIOMETRIC SURFACE ELEVATION AND BASE MAP, ERM
GOOGLE EARTH PRO

wood.
Environment & Infrastructure Solutions, Inc.

TX Engineering Firm F-0012
TX Geoscience Firm #50814

SITE F LANDFILL
Groundwater Potentiometric Surface Map - January 2019
Texas Municipal Power Agency
Gibbons Creek Steam Electric Station
Grimes County, Texas

Project No. 6706190003
Date 01/23/2019

Figure 4.1

Plot Date: 01/23/19 - 11:00am, Plotted by: susan.l.brown
Drawing Path: P:\1 6706\19 Projects\TMPA 2019 Tasks\Figures\, Drawing Name: Figure 1 Potentiometic Map_Landfill.dwg

SFL POND #1

MNW-18
262.54

MNW-15
253.52

SFL POND #3

SFL MW-7
251.66

SFL MW-1*

SITE F LANDFILL

SFL MW-3
258.61

MNW-17 *

SFL MW-4
255.32

SFL MW-6
269.35

SFL MW-2
258.20

SFL MW-5
261.22

265'

260'

255'

250'

MNW-16
250.84

MNW-11
247.25

HOT CANAL

STATE OF TEXAS
PHILIP W. BULLOCK
Geology
1982
LICENSED
PROFESSIONAL GEOSCIENTIST

LEGEND

- Wood Monitoring Well
- ERM Well
- 257.66 Measured Water Level (Ft. AMSL)
- Potentiometric Surface Contour in Ft. AMSL (Line Dashed Where Inferred)
- Indicates Groundwater Flow Direction
- * Water Level Not Used

0 250 500
APPROXIMATE SCALE IN FEET

SOURCE:
POTENTIOMETRIC SURFACE ELEVATION AND BASE MAP, ERM GOOGLE EARTH PRO

wood.
Environment & Infrastructure Solutions, Inc.
TX Engineering Firm F-0012
TX Geoscience Firm #50814

SITE F LANDFILL
Monitoring Well Network
June 2019
Texas Municipal Power Agency
Gibbons Creek Steam Electric Station
Grimes County, Texas

Project No. 6706190003
Date 07/092019

Figure 4.2

Plot Date: 10/11/19 - 1:50pm, Plotted by: susan.l.brown
Drawing Path: P:\1 670619 Projects\6706190003 - TMPA 2019 Tasks\Figures\, Drawing Name: Figure 1 Potentiometric Map_Landfill.dwg

FACILITIES ADMIN/TECHNICAL OFFICES

PRODUCTION AREA

MAINT. AREA

SWMU 010: WATER STORAGE AND REMEDIATION TANK

DOMESTIC SWEAGE TREATMENT FACILITY

COAL PILE STORAGE AREA

RAIL CAR UNLOADING AREA

FLYASH LOADING AREA

GIBBONS CREEK RESERVOIR

ASH PONDS

SCRUBBER SLUDGE POND

AP PZ-1
260.05

AP PZ-2
257.76

AP PZ-3
254.46

AP PZ-4
264.79

AP MW-1*
AP MW-1D
257.94

AP MW-2 *
264'

AP MW-3
264.00

AP MW-4
261.00

AP MW-5
262.75

AP MW-6 *

SSP MW-1*

SSP/AP MW-1
264.73

SSP MW-2
261.84

SSP MW-3
257.53

SSP MW-4
260.04

262'

260'

258'

256'

254'

STATE OF TEXAS
PHILIP W. BULLOCK
Geology
1182
LICENSED
PROFESSIONAL GEOSCIENTIST
1-31-20

LEGEND

- Monitoring Well
- Piezometer
- 256.56 Measured Water Level (Ft. AMSL)
- Potentiometric Surface Contour in Ft. AMSL (Line Dashed Where Inferred)
- Indicates Groundwater Flow Direction
- * Water level not used.

N

0 200 400

Approximate Scale in Feet

Basemap modified from Potentiometric Surface Elevation and Base Map, ERM, Google Earth Pro

wood.

Environment & Infrastructure Solutions, Inc.

TX Engineering Firm F-0012
TX Geoscience Firm #50814

SCRUBBER SLUDGE POND AND ASH PONDS
Groundwater Potentiometric Surface Map - January 2019
Texas Municipal Power Agency
Gibbons Creek Steam Electric Station
Grimes County, Texas

Project No.: 6706190003
Date: 1/23/2019

Figure 4.3

Plot Date: 01/17/20 - 9:37am, Plotted by: susan.l.brown
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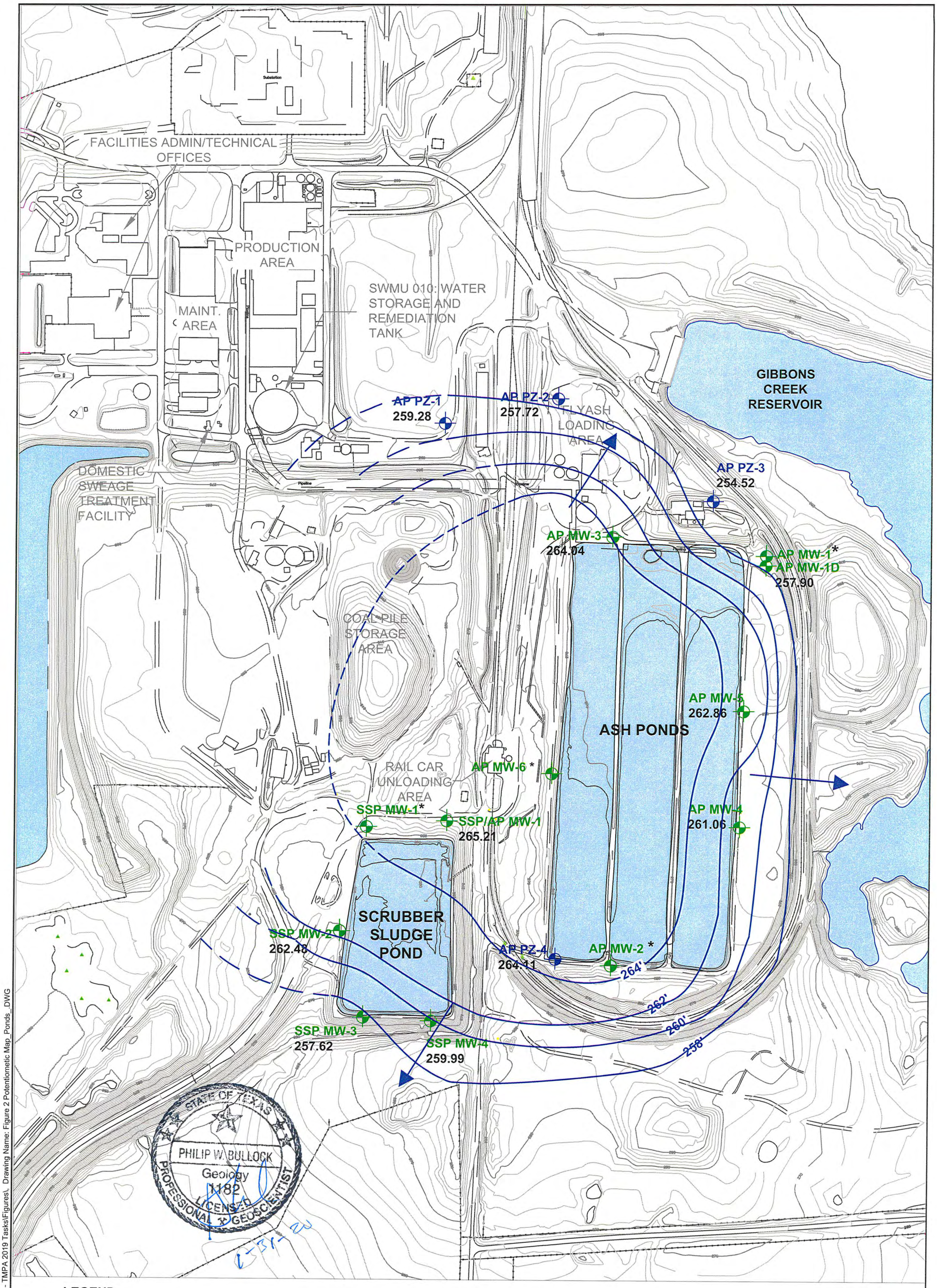


LEGEND

- Monitoring Well
- Piezometer
- 256.56 Measured Water Level (Ft. AMSL)
- Potentiometric Surface Contour in Ft. AMSL (Line Dashed Where Inferred)
- Indicates Groundwater Flow Direction
- * Water level not used.

0 200 400
Approximate Scale in Feet

Basemap modified from Potentiometric Surface Elevation and Base Map, ERM, Google Earth Pro

wood.
Environment & Infrastructure Solutions, Inc.
TX Engineering Firm F-0012
TX Geoscience Firm #50814

SCRUBBER SLUDGE POND AND ASH PONDS
Groundwater Potentiometric Surface Map - June 2019
Texas Municipal Power Agency
Gibbons Creek Steam Electric Station
Grimes County, Texas

Project No.: 6706190003
Date: 7/5/2019

Figure 4.4

Plot Date: 01/17/20 - 9:35am, Plotted by: susan.l.brown
Drawing Path: P:\1 670619 Projects\6706190003 - TMPA 2019 Tasks\Figures\, Drawing Name: Figure 2 Potentiometric Map_Ponds_.DWG

Appendix A

Alternate Source Determination

ALTERNATIVE SOURCE DETERMINATION

GIBBONS CREEK STEAM ELECTRIC STATION

GRIMES COUNTY, TEXAS

Prepared for:

Texas Municipal Power Agency
12824 FM 244
Anderson, Texas 77830

Prepared by:

Wood Environment & Infrastructure Solutions, Inc.
3755 S. Capital of Texas Hwy., Suite 375
Austin, Texas 78704

April 2019

Contents

Figures

Appendix

Alternative Source Determination

Introduction

The Texas Municipal Power Agency (TMPA) is conducting assessment monitoring at three designated Coal Combustion Residual (CCR) units at the Gibbons Creek Steam Electric Station (GCSES) located near Carlos, Grimes County, Texas. The CCR units are referred to as the Ash Ponds, Scrubber Sludge Pond, and Site F Landfill (Figure 1). A statistical analysis of groundwater data collected during assessment monitoring identified potential statistically significant increases (SSIs) for one or more Appendix IV constituents in downgradient monitoring wells at the Ash Ponds, Scrubber Sludge Pond, and Site F Landfill. The potential SSI increases are summarized in Table 1 below

Table 1
Summary of Statistical Analysis
Potential SSI Above Groundwater Protection Standards
CCR Assessment Monitoring

CCR Unit	Downgradient Well	Appendix IV Constituents
Ash Ponds	AP MW-3	Cobalt
	AP MW-5	Beryllium, Cobalt
Scrubber Sludge Pond	SSP MW-2	Beryllium, Cobalt
	SSP MW-3	Beryllium, Cadmium, Cobalt, Radium
Site F Landfill	SFL MW-3	Beryllium, Cadmium, Cobalt, Lead
	SFL MW-5	Beryllium, Cobalt, Lithium, Radium
	SFL MW-6	Beryllium, Cadmium, Cobalt, Lithium, Radium
	MNW-15	Beryllium, Cadmium, Cobalt

In accordance with 40 CFR 257.95(g)(3)(ii), an evaluation of alternate sources that caused the increases in Appendix IV constituents in downgradient wells was undertaken. This report presents the results of that evaluation.

Alternate Source Determination Evaluation

Ash Ponds

The groundwater monitoring network at the Ash Ponds is shown in Figure 2. The Appendix IV constituents detected above Groundwater Protection Standards (GWPS) in downgradient wells at the Ash Ponds CCR unit are cobalt (Co) in APMW-3 and beryllium (Be) and Co in APMW-5. A review of groundwater quality data shows that these wells also have the lowest pH values measured in the downgradient wells at the Ash Ponds. The range of pH readings measured in the Ash Ponds wells during baseline, detection and

assessment monitoring events, as reported in the 2017 and 2018 Annual Groundwater Monitoring and Corrective Action Reports are summarized in Table 2.

Table 2
Ash Ponds Monitoring Wells
Groundwater pH Ranges

Well	Location	pH (s.u.) Range
SSP/MW-1	Upgradient	5.8-6.0
AP MW-1D	Downgradient	5.4-6.1
AP MW-3	Downgradient	4.8 -5.4
AP MW-4	Downgradient	5.5-5.8
AP MW-5	Downgradient	3.4-3.7
AP MW-6	Downgradient	6.3-6.6

Beryllium and Cobalt

The solubility of metal species such as Be and Co is dependent on the pH of the groundwater. Both Be and Co are more mobile in groundwater with low pH, and the concentration of dissolved ions of both metals increases within such water quality conditions. The relationship is shown in the Eh-pH stability diagrams (Appendix - Be and Co pH-Eh Diagrams) and indicate groundwater redox conditions (for both Be and Co) at wells AP MW-3 and AP MW-5. The Eh-pH diagrams indicate that the solubility of Co would be increased in both AP MW-3 and AP MW-5, with increased solubility and higher Co concentrations in AP MW-5, which is seen the groundwater quality data. The EH-pH diagram for beryllium indicates that solubility of Be would be increased in AP MW-5 only. Again, this is supported by the groundwater quality data.

The pH within the Ash Ponds is basic, ranging from 7.5 to 8.5 or greater, based on sampling of Ash Pond outfall conducted by TMPA, in accordance with their Texas Pollutant Discharge Elimination System (TPDES) permit. Based on these sample results, the Ash Ponds are not the source of low pH water.

The low pH groundwater observed in downgradient monitoring wells is likely a result of weathering of pyrite (H_2S) in the stringers of lignite coal found throughout the underlying Jackson-Yegua Formation upon which the GCSES is constructed. Natural acid seeps resulting from dissolution of pyrite in lignite have been noted in the Gibbons Creek mine immediately adjacent to the GCSES (Horbaczewski, 2007) The weathering of pyrite releases hydrogen ions that lowers pH. Boreholes completed in the GCSES area reveal shallow lignite subject to weathering. Low pH groundwater that is derived from natural processes in the uppermost aquifer are the cause for the increased concentrations of Be and Co in downgradient wells. Therefore, we conclude that the SSIs for Be and Co are attributed to an Alternate Source under the CCR rule.

Scrubber Sludge Pond

The groundwater monitoring network at the Scrubber Sludge Pond is shown in Figure 2. The Appendix IV constituents detected above GWPS in downgradient wells at the Scrubber Sludge Pond CCR unit are Be

and Co in SSP MW-2 and Be, cadmium (Cd), Co and Radium 226+Radium 225 ($Ra_{225+226}$) in SSP MW-3. A review of groundwater quality data shows that these wells also have the lowest pH of the Scrubber Sludge Pond monitoring wells. The range of pH readings for the Scrubber Sludge Pond measured in wells during baseline, detection and assessment monitoring events, as reported in the 2017 and 2018 Annual Groundwater Monitoring and Corrective Action Reports are summarized in Table 3.

Table 3
Scrubber Sludge Pond Monitoring Wells
Groundwater pH Ranges

Well	Location	pH (s.u.) Range
SSP/AP MW-1	Upgradient	5.8-6.0
SSP MW-2	Downgradient	4.6-5.8
SSP MW-3	Downgradient	4.2-4.5
SSP MW-4	Downgradient	5.8-6.4

Beryllium and Cobalt

As discussed above, the solubility of Be and Co in groundwater is pH-dependent, and concentrations of both metals increase in low pH groundwater. The relationship is shown in the attached Eh-pH diagrams that indicate the stability of Be and Co at the groundwater redox conditions at wells SSP MW-2 and SSP MW-3.

The pH of the water in the Scrubber Sludge Pond measured during a 1983 study of the pond was 7.8, which is slightly basic, like the water in the Ash Ponds. Based on this measurement, pH in the Scrubber Sludge Pond is not considered to be a source of the acidic groundwater observed in wells SSP MW-2 and SSP MW-3, but rather a result of the same geochemical processes observed at the Ash Ponds.

The Scrubber Sludge Pond is adjacent to the Ash Ponds and boreholes completed in its vicinity also reveal shallow lignite subject to weathering. Low pH groundwater that forms from natural processes in the uppermost aquifer results in the increased concentrations of Be and Co in downgradient wells. Therefore, the SSIs for Be and Co concentrations above the GWPS is also attributed to an Alternate Source under the CCR rule.

Cadmium

The solubility of cadmium (Cd) is primarily controlled by adsorption onto iron and aluminum oxide/hydroxide mineral phases over a wide range of redox conditions. Therefore, the use of an Eh-pH stability diagrams is generally not a clear indicator for the solubility of Cd. However, a survey of geochemical literature indicates that the maximum adsorption for Cd occurs at or above pH 7.5. respectively. As the pH in groundwater drops into the acidic range, desorption occurs and the concentration of Cd in groundwater increases. A review of Cd groundwater concentrations in downgradient wells demonstrates the influence of pH on solubility. The groundwater in well SSP MW-3 has the lowest pH readings is also the only well in which there is an SSI above the GWPS for Cd.

Low pH groundwater that occurs due to natural geochemical processes in the uppermost aquifer results in the increased concentrations Cd in downgradient well SSP MW-3. Therefore, we conclude that the SSIs for Cd and Pb are attributed to an Alternate Source.

Radium

The apparent SSI for Radium ($Ra_{225+226}$) ions in SSP MW-3 can also be attributed to natural acidic groundwater conditions (pH < 5). The GCSES is built on the Jackson-Yegua Formation, which includes Tertiary age volcanic tuffs that were deposited by volcanism in Texas and New Mexico at the time of the deposition of Jackson-Yegua formation sediments. The volcanic tuffs contain radionuclides and are a source of ($Ra_{225+226}$) ions. The ($Ra_{225+226}$) ions are generally sorbed to clays and minerals at pH levels in water above 6. In the presence of acidic groundwater, ($Ra_{225+226}$) is desorbed from the clays and other minerals and enters groundwater. The desorption of ($Ra_{225+226}$) is evident when comparing the differences in pH values and ($Ra_{225+226}$) concentrations in upgradient well AP/SSP MW-1 and downgradient well SSP MW-3, as shown in Table 4 below.

Table 4
Scrubber Sludge Pond Monitoring Wells
pH and Radium Ranges

Well	Location	pH (s.u.) Range	Ra225+226 (Pci/L) Range
SSP/AP MW-1	Upgradient	5.8-6.0	<0.6-2.92
SSP MW-2	Downgradient	4.6-5.8	<1.7-14.6
SSP MW-3	Downgradient	4.2-4.5	23.2-49.8
SSP MW-4	Downgradient	5.8-6.4	2.3-6.82

Groundwater in upgradient well SSP/AP MW-1 has a pH near 6.0 and ($Ra_{225+226}$) is present at concentrations below the GWPS. The pH in groundwater observed in downgradient well SSP MW-3 is the lowest of all the Scrubber Sludge Pond wells and the ($Ra_{225+226}$) concentration is above the GWPS and is the highest reported concentration. Low pH groundwater that results from natural geochemical processes in the uppermost aquifer results in the increased concentrations of ($Ra_{225+226}$) in downgradient well SSP-MW-3. Therefore, the SSI is attributed to an Alternate Source for ($Ra_{225+226}$) concentrations above the GWPS.

Site F Landfill

The groundwater monitoring network at the Site F Landfill is shown in Figure 3. The Appendix IV constituents detected above GWPS in downgradient wells at the Site F Landfill CCR unit are summarized in Table 2 and listed below for reference.

- SFL MW3 Beryllium, Cadmium, Cobalt, Lead
- SFL MW-5 Beryllium, Cobalt, Lithium, Radium

- SFL MW-6 Beryllium, Cobalt, Cadmium, Cobalt, Lithium, Radium
- MNW-15 Beryllium, Cadmium, Cobalt

Beryllium and Cobalt

Groundwater quality data shows that the wells with potential SSIs for Be and Co also have the lowest pH for the Site F Landfill monitoring wells. The pH for the wells is generally 2 to 3 s.u. lower than wells which do not have Be and Co concentrations in groundwater detected above GWPS. The range of pH readings for groundwater in Site F Landfill wells measured during baseline, detection and assessment monitoring events, as reported in the 2017 and 2018 Annual Groundwater Monitoring and Corrective Action Reports are summarized in Table 5.

Table 5
Site F Landfill Monitoring Wells
Groundwater pH Ranges

Well	Location	pH (s.u.) Range
MNW-18	Upgradient	6.5-7.4
SFL MW-2	Downgradient	5.6-6.8
SFL MW-3	Downgradient	3.5-3.8
SFL MW-4	Downgradient	6.0-6.5
SFL MW-5	Downgradient	4.3-5.1
SFL MW-6	Downgradient	3.8-4.4
SFL MW-7	Downgradient	6.1-6.4
MNW-15	Downgradient	3.3-3.7

The pH of leachate from the Site F Landfill was measured in samples collected from two on-site piezometers in July 2003. The pH was observed to be alkaline, ranging from 8.6 to 9.7. Based on these pH measurements, the Site F Landfill does not appear to be a source of the acidic groundwater observed in downgradient wells. The low pH groundwater in these monitoring wells is a result of the same geochemical processes observed at the Ash Ponds and Scrubber Sludge Pond. The Eh-pH diagrams in the Appendix indicate the increased solubility of Be and Co at the range of groundwater redox conditions in wells SFL MW-3, MW-5, MW-6, and MW-15.

Boreholes completed near the Site F Landfill also contain shallow lignite subject to weathering. Low pH groundwater that forms from natural processes in the uppermost aquifer results in the increased concentrations of Be and Co in downgradient wells. Therefore, the SSIs for Be and Co concentrations above the GWPS are attributed to an Alternate Source under the CCR rule.

Cadmium and Lead

The solubility of lead (Pb) is primarily controlled by adsorption onto iron and aluminum oxide/hydroxide mineral phases over a wide range of redox conditions, as described above for Cd. Therefore, the use of an Eh-pH stability diagrams is generally not a clear indicator for the solubility of Pb, or Cd. However, a survey of geochemical literature indicates that the maximum adsorption for Pb and Cd occurs at or above pH 6.5

and 7.5, respectively. As the pH in groundwater drops into the acidic range, desorption occurs and the concentration of Pb and Cd in groundwater increases. A review of Cd and Pb groundwater concentrations in downgradient wells demonstrates the influence of pH on solubility. Detectable concentrations of Cd and Pb have been reported in groundwater from all downgradient wells with pH less than 5 s.u. However, the two wells with the lowest pH readings (SFL MW-3, SFL MW-6 and MNW-15) are the wells in which there is an SSI above the GWPS for Cd and/or Pb.

Low pH groundwater that occurs due to natural geochemical processes in the uppermost aquifer results in the increased concentrations Cd and Pb in downgradient well SFL MW-3 and Cd in downgradient wells SFL MW-6 and MNW-15. Therefore, we conclude that the SSIs for Cd and Pb are attributed to an Alternate Source.

Radium

The apparent SSI for ($Ra_{225+226}$) in SFL MW-5 and SFL MW-6 can also be attributed to natural acidic groundwater conditions (pH < 5) in the same manner as discussed above for well SSP MW-3. In addition, natural variability in the distribution of ($Ra_{225+226}$) in the subsurface influences whether an SSI above the ($Ra_{225+226}$) GWPS exists. A review of Table 6 indicates that ($Ra_{225+226}$) is present in groundwater in all monitoring wells at the Site F Landfill, and concentrations in upgradient well MNW-18 have been observed above the GWPS. Generally, higher ($Ra_{225+226}$) concentrations are correlated to lower pH, however, groundwater in MNW-15 has the lowest pH and contains the lowest ($Ra_{225+226}$) concentrations. This indicates that a naturally occurring source of radium is not found in the uppermost aquifer materials near MNW-15.

Table 6
Site F Landfill Monitoring Wells
Groundwater pH Ranges

Well	Location	pH (s.u.) Range	Ra225+226 (Pci/L) Range
MNW-18	Upgradient	6.5-7.4	3.5-7.6
SFL MW-2	Downgradient	5.6-6.8	6.6-20.6
SFL MW-3	Downgradient	3.5-3.8	4.4-16.6
SFL MW-4	Downgradient	6.0-6.5	0.9-6.9
SFL MW-5	**Downgradient**	**4.3-5.1**	**8.7-25.6**
SFL MW-6	**Downgradient**	**3.8-4.4**	**3.9-28.8**
SFL MW-7	Downgradient	6.1-6.4	1.9-4.4
MNW-15	Downgradient	3.3-3.7	0.3-2.1

Low pH groundwater that results from natural geochemical processes in the uppermost aquifer results in the increased concentrations of ($Ra_{225+226}$) in downgradient well SFL MW-5 and SFL MW-6. Variations in naturally occurring sources of ($Ra_{225+226}$) in the uppermost aquifer may also influence ($Ra_{225+226}$)

concentrations in groundwater at the Site F Landfill. Therefore, the SSI for ($Ra_{225+226}$) is attributed to an Alternate Source.

Lithium

Natural variations in pH and/or redox conditions in downgradient wells (SFL MW-5 and SFL MW-6) at the Site F Landfill do not support an alternative source for the potential SSI for lithium (Li) in wells, as it does for other Appendix IV constituents. A review of Eh-pH stability diagrams in the literature indicates that Li is mobile in groundwater over a wide range of redox conditions. However, a review of Li concentrations measured in monitoring wells located across the GCSES reveals that Li concentrations above the GWPS of 0.040 mg/L have been detected in every monitoring well at the site, and that concentrations above the background Li concentration of 0.49 mg/L established for upgradient well MNW-18 at the Site F Landfill are also present in monitoring wells across the site.

Table 7 summarizes the range of observed Li groundwater concentrations in site-wide groundwater monitoring wells in the upper groundwater bearing unit from wells that are either upgradient or side gradient from CCR units, or downgradient wells do not contain other Appendix IV constituents with apparent SSIs above GWPS. Groundwater quality in these wells can be assumed to be unaffected by operation of the CCR units.

Groundwater concentrations of Li in eight (8) of the 11 wells listed in Table 7 were above the background concentration of 0.49 mg/L in well SFL MNW-18. In six (6) of the 11 wells, the range of measured Li concentrations overlaps with the range of Li concentrations in wells SFL MW-5 and MW-6, the wells in which a potential SSI was noted. Based on an evaluation of natural variation in Li concentrations in the uppermost aquifer at the GCSES, we conclude that an alternate source exists for the SSI noted for Li in wells SFL MW-5 and SFL MW-6.

Table 7
Range of Lithium Concentrations
in Monitoring Wells without Appendix IV SSIs
CCR Unit Monitoring Wells

CCR Unit/Well	Location	Li Range (mg/L)
Ash Ponds		
SSP/MW-1	Upgradient	1.2-1.51
AP MW-1D	Downgradient	0.01-0.08
AP MW-4	Downgradient	0.85-1.09
AP MW-6	Downgradient	0.43-0.65
Scrubber Sludge Pond		
SSP/AP MW-1	Upgradient	1.2-1.51
SSP MW-4	Downgradient	0.78-1.02
Site F Landfill		
MNW-18	Upgradient	0.36.-0.48
SFL MW-2	Downgradient	0.33 - 0.60
SFL MW-4	Downgradient	0.34-0.58
SFL MW-5	Downgradient	0.62-0.99
SFL MW-6	Downgradient	0.56-0.93
SFL MW-7	Downgradient	0.37-0.48
Other		
MNW-16[1]	Sidegradient	1.16-1.40
MNW-17[1]	Upgradient	0.68-0.90

[1]Site F Landfill wells used for water level measurement
five groundwater samples collect in 2017

FIGURES

0 1 mi

Approximate Scale in Miles

Source: Google Earth

wood.

Environment & Infrastructure Solutions, Inc.

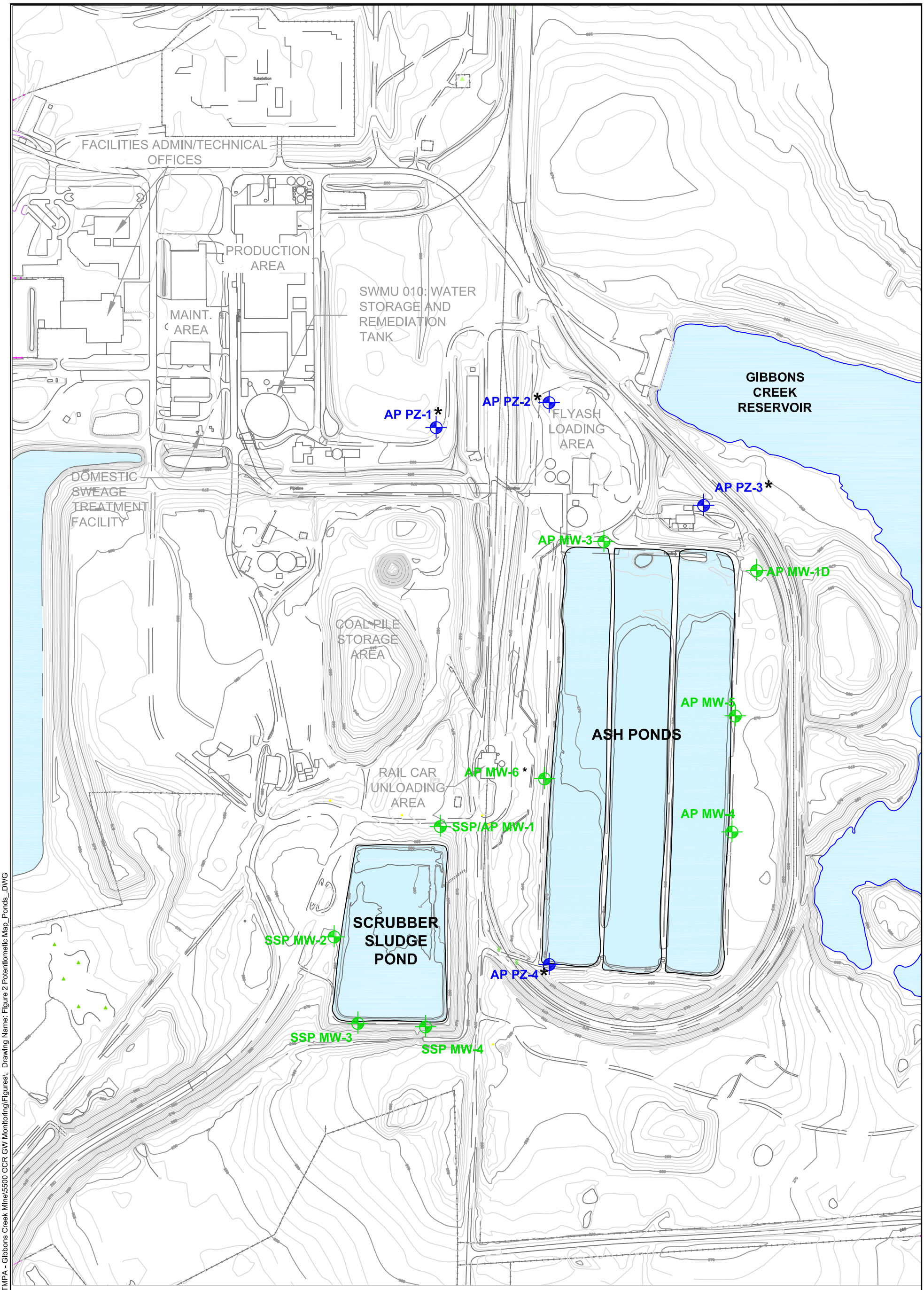
TX Engineering Firm #F-0012
TX Geoscience Firm #50184

CCR UNITS

Texas Municipal Power Agency
Gibbons Creek Steam Electric Station
Grimes County, Texas

Project No. 6706190003
Date: 1/24/2019

Figure 1



LEGEND

- Monitoring Well
- Piezometer
- * Well Used for Groundwater Level Monitoring Only

N

0 200 400

Approximate Scale in Feet

Basemap modified from Potentiometric Surface Elevation and Base Map, ERM, Google Earth Pro

wood.

Environment & Infrastructure Solutions, Inc.

TX Engineering Firm F-0012

SCRUBBER SLUDGE POND AND ASH PONDS MONITORING WELL NETWORK

Texas Municipal Power Agency

Gibbons Creek Steam Electric Station

Grimes County, Texas

Project No.: 6706190003

Date: 1/24/2019

Figure 2

Plot Date: 01/29/19 - 8:09am, Plotted by: susan.l.brown
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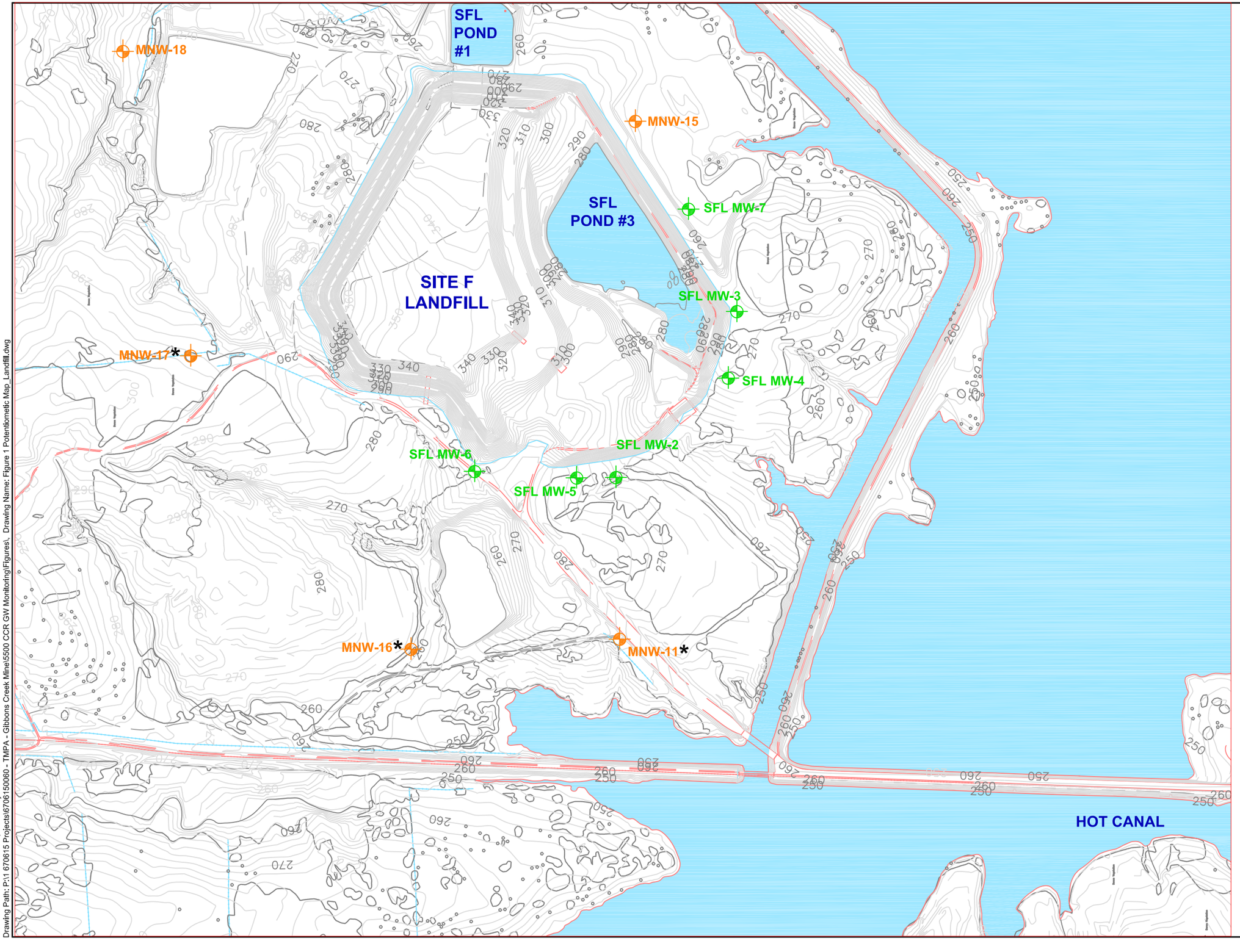
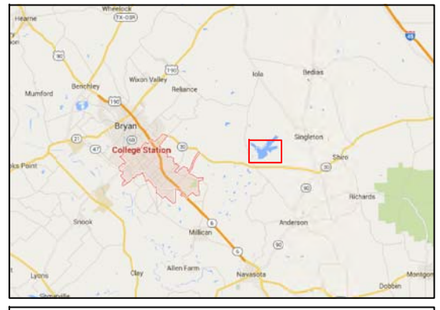


LEGEND

- Amec Foster Wheeler Monitoring Well
- Black and Veatch Monitoring Wells
- * Welll Used for Groundwater Level Monitoring Only



0 250 500

APPROXIMATE SCALE IN FEET

SOURCE:
POTENTIOMETRIC SURFACE ELEVATION AND BASE MAP, ERM GOOGLE EARTH PRO

wood.
Environment & Infrastructure Solutions, Inc.
TX Engineering Firm F-0012

SITE F LANDFILL
MONITORING WELL NETWORK
Gibbons Creek Steam Electric Station
Grimes County, Texas

Project No. 6706190003
Date 1/24/2019

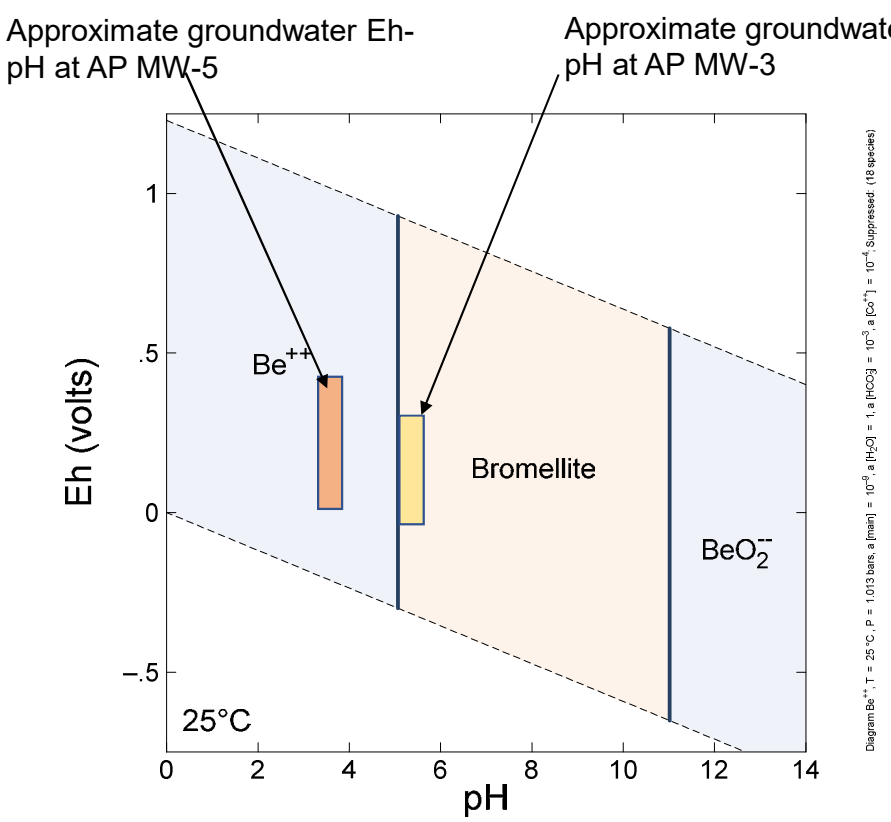
Figure 3

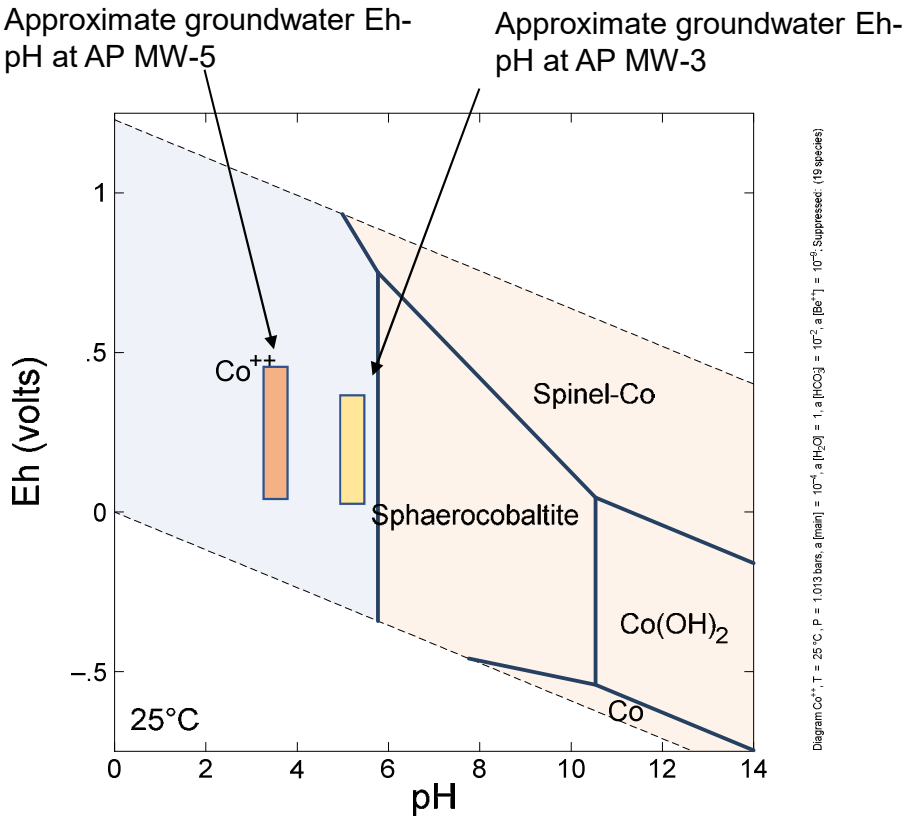
Plot Date: 01/29/19 - 8:06am, Plotted by: susan.l.brown
Drawing Path: P:\1 6706\15 Projects\6706150060 - TMPA - Gibbons Creek Mine\5500 CCR GW Monitoring\Figures\, Drawing Name: Figure 1 Potentiometric Map_Landfill.dwg

APPENDIX

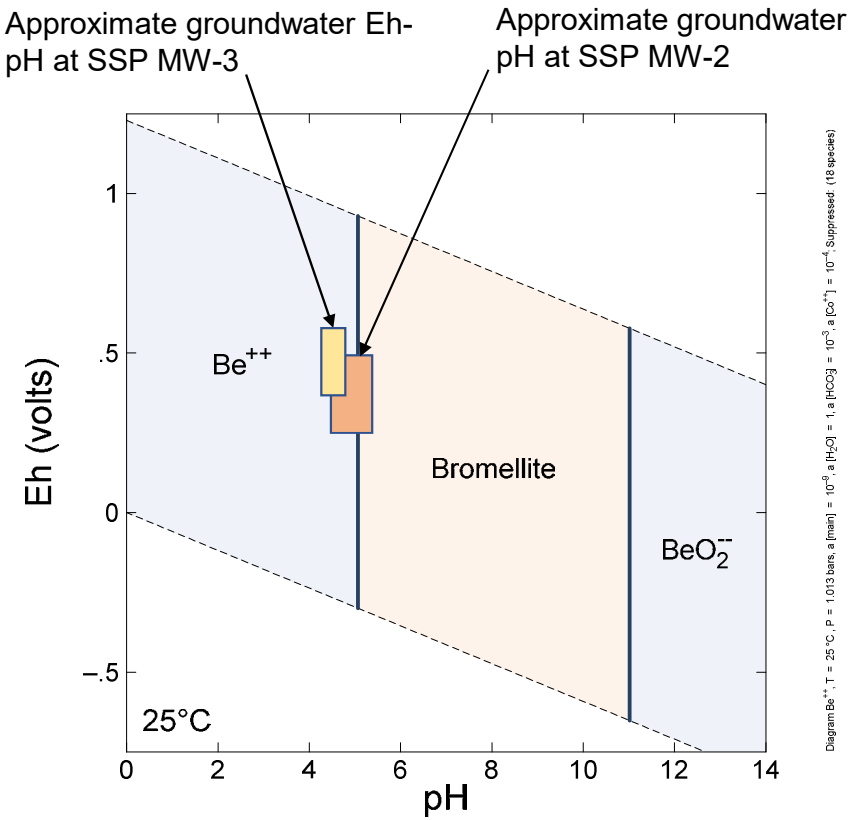
Be and Co pH-Eh Diagrams

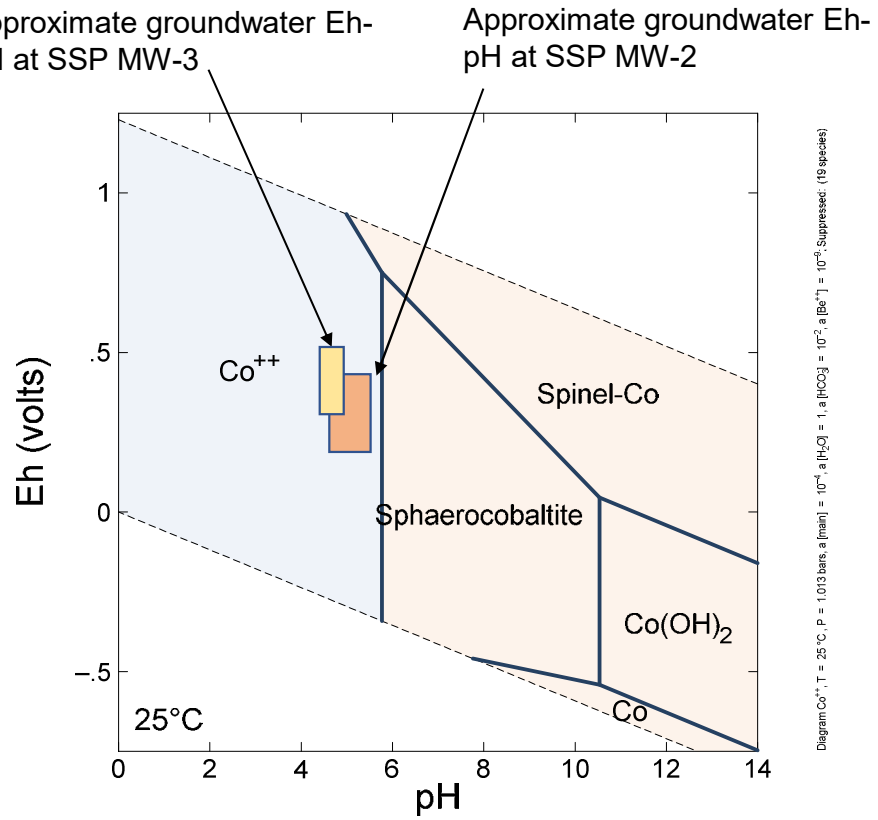
Stability Diagrams for Beryllium and Cobalt
Ash Pond Downgradient Wells
AP MW-3, AP MW-5





Stability Diagrams for Beryllium and Cobalt
Scrubber Sludge Pond Downgradient Wells
SSP MW-2, SSP MW-3





Stability Diagrams for Beryllium
Site F Landfill Downgradient Wells
SFL MW-3, SFL MW-5, SFL MW-6, MNW-15

Approximate range of groundwater Eh-pH conditions at wells with elevated beryllium.

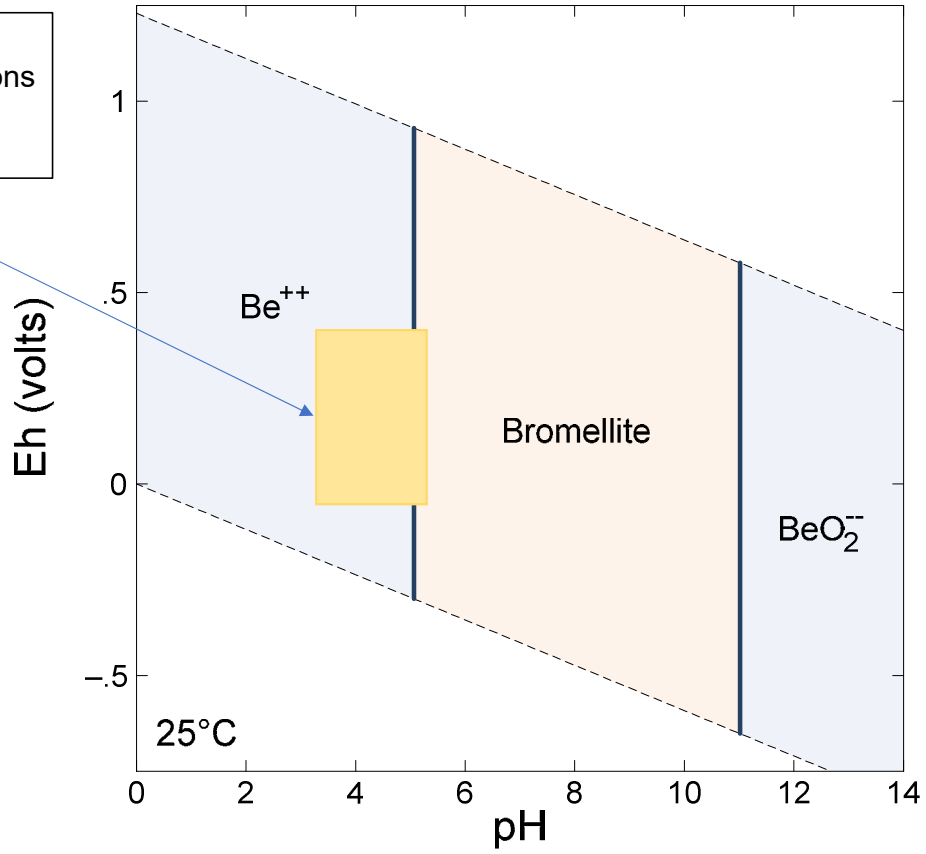
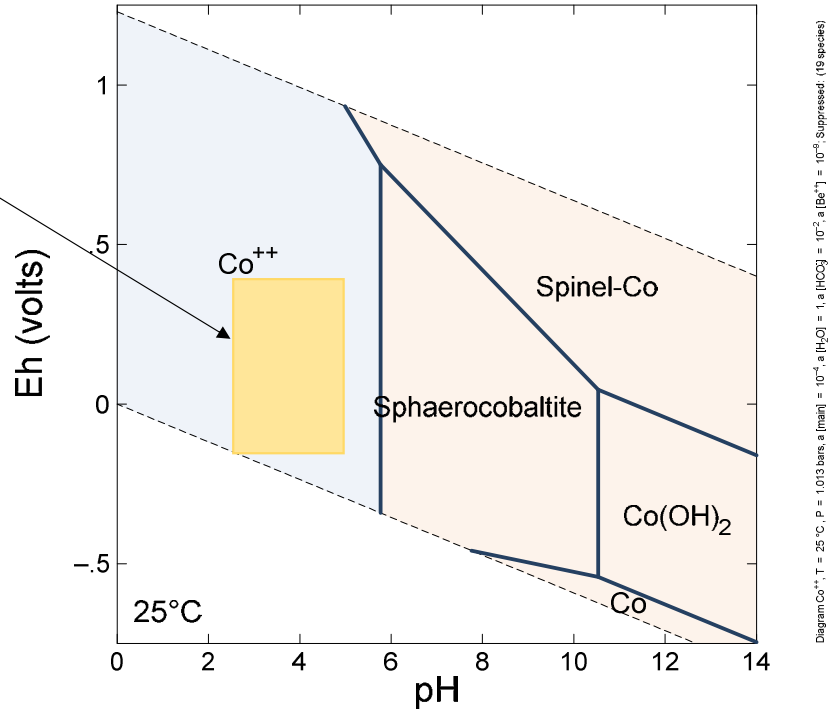


Diagram Be^{++}, T = 25 °C, P = 1.0133 bars, a [main] = 10^{-9}, a [H_2O] = 1, a [HCO_3^-] = 10^{-3}, a [Co^{++}] = 10^{-4}, Suppressed (18 species)

Stability Diagrams for Cobalt
Site F Landfill Downgradient Wells
SFL MW-3, SFL MW-5, SFL MW-6, MNW-15

Approximate range of groundwater Eh-pH conditions at wells with elevated Cobalt.



Appendix B

Field Datasheets

Water Level Monitoring Record

wood.

Project Name: TMPA - Gibbons Creek **Project and Task Number:** 60619000 3.30

Date: 01/14/19 Measured by: BA/SM Instrument Used: Solinst Model 101

Note: For your convenience, the following abbreviations may be used.

P = Pumping I = Inaccessible D = Dedicated Pump

ST = Steel Tape ES = Electric Sounder MP = Measuring Point WL = Water Level

Well No.	Time	Product Level Below MP (feet)	Water Level Below MP (feet)	Previous Product Level Below MP (feet)	Previous Water Level Below MP (feet) (06/07/18)	Remarks
AP PZ-1			5.62		7.69	
APPZ-2			17.15		18.76	
APPZ-3			4.65		4.81	
APMW-3			10.68		10.62	
AP MW-1			12.66		12.42	
AP MW-1D			14.10		13.88	
AP MW-5			11.38		11.12	
AP MW-4			13.16		13.09	
APMW-2			6.65		6.60	
AP PZ-4			8.86		8.71	
AP MW-6			16.33		16.54	
SSP/APMW-1			7.80		7.79	
SSP MW-1			14.46		15.51	
SSP MW-2			21.82		22.18	
SSP MW-3			26.44		27.59	
SSP MW-4			23.82		24.37	
MNW-11			19.45		19.97	
MNW-16			11.94		12.62	
SFL MW-6			18.49		18.57	
MNW-17			34.82		45.47	
SFL MW-1			19.43		22.05	
MNW-18			5.63		8.93	
MNW-15			3.81		4.31	
SFL MW-7			12.64		13.13	
SFL MW-3			17.00		16.92	

Water Level Monitoring Record

wood.

Project Name: TMPA - Gibbons Creek **Project and Task Number:** 6706190003.30

Date: 01/14/19 Measured by: BS/SM Instrument Used: Solinst Model 101

Note: For your convenience, the following abbreviations may be used.

P = Pumping I = Inaccessible D = Dedicated Pump

ST = Steel Tape ES = Electric Sounder MP = Measuring Point WL = Water Level

Well No.	Time	Product Level Below MP (feet)	Water Level Below MP (feet)	Previous Product Level Below MP (feet)	Previous Water Level Below MP (feet) (06/07/18)	Remarks
SFL MW-4			14.60		14.80	
SFL MW-5			15.80		15.83	
SFL MW-2			10.81		10.91	

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: APMW-1D
Sample ID: _____ Duplicate ID: _____
Sample Depth: 40.5'
Project and Task No.: 6706190003.30
Project Name: TMPA - Gibbons Creek
Date: January 15, 2019
Sampled By: BL
Method of Purging: Submersible
Method of Sampling: low flow

Initial Depth to Water: 14.04'
Depth to Water after Sampling: 14.37'
Total Depth to Well: 43.0'
Well Diameter: 2"
1 Casing/Borehole Volume: (Circle one)
4 Casing/Borehole Volumes: (Circle one)
Total Casing/Borehole Volumes Removed:

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment) NTU
1318	40.5'	200		19.60	6.05	1.62	1.02	143	5.2 Clear; no odor
1323	↓	↓		19.54	6.02	1.64	0.08	138	23.0 ↓
1328				19.69	5.98	1.66	0.00	137	17.1
1333				19.60	5.96	1.68	0.00	137	9.2
1338				19.76	5.95	1.69	0.00	138	2.4
1343				19.90	5.93	1.69	0.00	139	0.8
1348	↓	↓	≈2.0	19.96	5.93	1.69	0.00	138	0.4 ↓
		Samples Taken							

pH CALIBRATION (choose two)					Model or Unit No.:
Buffer Solution	pH 4.0	pH 7.0	pH 10.0		
Field Temperature °C					
Instrument Reading					

SPECIFIC ELECTRICAL CONDUCTANCE (SEC) – CALIBRATION				Model or Unit No.:
KCl Solution (µS/cm=µmhos/cm)	1413 at 25°C	12880 at 25°C		
Field Temperature °C				
Instrument Reading				

ORP/REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION		Notes:
Standard Solution (mV)		Altitude / Salinity %		
Field Temperature °C		Field Temperature °C		
Instrument Reading (mV)		Instrument Reading (mg/L)		
Model or Unit No.:		Model or Unit No.:		

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: AP MW-3
Sample ID: _____ Duplicate ID: _____
Sample Depth: 41.6
Project and Task No.: 6706190003.30
Project Name: TMPA - Gibbons Creek
Date: January 15, 2019
Sampled By: BS
Method of Purging: peristaltic pump
Method of Sampling: low flow

Initial Depth to Water: E-line not functioning (Pine)
Depth to Water after Sampling: N/A
Total Depth to Well: 43.4'
Well Diameter: 2"
1 Casing/Borehole Volume: _____ (Circle one)
4 Casing/Borehole Volumes: _____ (Circle one)
Total Casing/Borehole Volumes Removed: _____

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment) NTU
0919	41.6	200		18.10	5.09	1.55	0.40	222	8.6 Clear, no odor
0924	↓	↓		18.65	5.19	1.53	0.20	224	5.1 ↓
0929				19.19	5.21	1.53	0.14	246	0.0
0934				19.45	5.22	1.54	0.11	270	0.0
0939				19.36	5.21	1.54	0.08	272	0.0
0944	↓	↓	≈ 1.75	19.42	5.22	1.53	0.07	273	0.0 ↓
			Samples Taken						

pH CALIBRATION (choose two)					Model or Unit No.:
Buffer Solution	pH 4.0	pH 7.0	pH 10.0		
Field Temperature °C					
Instrument Reading					

SPECIFIC ELECTRICAL CONDUCTANCE (SEC) – CALIBRATION				Model or Unit No.:
KCl Solution (µS/cm=µmhos/cm)	1413 at 25°C	12880 at 25°C		
Field Temperature °C				
Instrument Reading				

ORP/REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION		Notes:
Standard Solution (mV)		Altitude / Salinity %		E-line rented from Pine is not functioning.
Field Temperature °C		Field Temperature °C		
Instrument Reading (mV)		Instrument Reading (mg/L)		
Model or Unit No.:		Model or Unit No.:		

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: AP MW-4
Sample ID: _____ Duplicate ID: _____
Sample Depth: ≈50.0
Project and Task No.: 6706190003.30
Project Name: TMPA-Gibbons Creek
Date: January 15, 2019
Sampled By: BA
Method of Purging: submersible
Method of Sampling: low flow

Initial Depth to Water: 13.12'
Depth to Water after Sampling: 14.11'
Total Depth to Well: 52.8'
Well Diameter: 2"
1 Casing/Borehole Volume: _____ (Circle one)
4 Casing/Borehole Volumes: _____ (Circle one)
Total Casing/Borehole Volumes Removed: _____

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment) NTU
1432	≈50.0	200		18.43	5.78	5.03	Ø.97	119	29.3 Clear; no odor
1437	↓	↓		18.06	5.77	5.00	Ø.36	107	22.9 Clear; slight sulfur odor
1442				17.74	5.77	4.99	Ø.ØØ	97	10.7 ↓
1447				17.57	5.77	4.98	Ø.ØØ	92	6.0
1452				17.68	5.77	4.97	Ø.ØØ	89	3.4
1457				17.65	5.77	4.92	Ø.ØØ	84	2.0
1502	↓	↓	≈2.0	17.59	5.76	4.90	Ø.ØØ	81	1.4 ↓
			Samples Taken						
1550 – EQBK-BG-01/15/19 collected									

pH CALIBRATION (choose two)					Model or Unit No.:
Buffer Solution	pH 4.0	pH 7.0	pH 10.0		
Field Temperature °C					
Instrument Reading					

SPECIFIC ELECTRICAL CONDUCTANCE (SEC) – CALIBRATION				Model or Unit No.:
KCl Solution (µS/cm=µmhos/cm)	1413 at 25°C	12880 at 25°C		
Field Temperature °C				
Instrument Reading				

ORP/REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION		Notes:
Standard Solution (mV)		Altitude / Salinity %		EQBK
Field Temperature °C		Field Temperature °C		
Instrument Reading (mV)		Instrument Reading (mg/L)		
Model or Unit No.:		Model or Unit No.:		

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: AP MW-5
Sample ID: — Duplicate ID: (MS/MSD)
Sample Depth: —
Project and Task No.: 6706190003.03
Project Name: IMPA CCR 2019
Date: ~~AS~~ SCM 1-15-19
Sampled By: SCM
Method of Purging: Low flow sub
Method of Sampling: Low flow sub.

Initial Depth to Water: 11.28'
Depth to Water after Sampling: 12.01'
Total Depth to Well: 43.10'
Well Diameter: 2"
1 Casing/Borehole Volume: — (Circle one)
4 Casing/Borehole Volumes: — (Circle one)
Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity NTU	Remarks (turbidity, color, odor)
1425									23.1	Start Pump
										NTU data to 68.1
1435		~150		19.44	3.36	5.58	3.92	387	67.4	clear
1440				19.26	3.35	5.61	2.61	389	34.2	clear
1445				19.31	3.34	5.59	2.25	392	19.6	"
1450				19.22	3.33	5.61	2.14	393	10.9	"
1455			~1.5	19.37	3.33	5.62	2.07	393	4.4	"

Sampled @ 1455

MS/MSD taken

Notes:

- MS/MSD taken at this well
- (EQBK-SCM-011519) taken @ 1550

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SSP/AP MW-1

Sample ID: - Duplicate ID: -

Sample Depth:

Project and Task No.: 6706190003.03

Project Name: TMPA ECR 2019

Date: 1-15-19

Sampled By: SCM

Method of Purging: Low flow sub.

Method of Sampling: Low flow sub.

Initial Depth to Water: 7.76'

Depth to Water after Sampling: 13.21'

Total Depth to Well: 43.20'

Well Diameter: 2"

1 Casing/Borehole Volume: - (Circle one)

4 Casing/Borehole Volumes: - (Circle one)

Total Casing/Borehole Volumes Removed: -

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (~~turbidity~~, color, odor) NTU	
0905									101	Start pump
▼	waiting for	~150	NTU to get to ~100							NTU climb to 171, then falling
0930		~150		18.46	5.91	9.03	3.76	64	100	cloudy
0935				18.65	5.88	8.84	~~3.70~~	62	93.1	" 3.60
0940				19.55	5.88	8.90	~~3.80~~	60	43.0	clear 3.25
0945				19.33	5.87	8.94	~~3.36~~	59	26.1	clear 3.12
0950			~2.5	18.99	5.87	8.97	2.95	57	19.9	clear SCM

↳ Sampled @ 0950

Notes:

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SSP MW-2

Sample ID: _____ Duplicate ID: _____

Sample Depth: _____

Project and Task No.: 670619A003.03

Project Name: TMPA CCR 2019

Date: 5-15-19

Sampled By: SCM

Method of Purging: Low Flow Sub

Method of Sampling: Low Flow Sub.

Initial Depth to Water: 21.75'

Depth to Water after Sampling: _____

Total Depth to Well: 46.90'

Well Diameter: 2"

1 Casing/Borehole Volume: _____ (Circle one)

4 Casing/Borehole Volumes: _____ (Circle one)

Total Casing/Borehole Volumes Removed: _____

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor) NTU
1025									57.3 Start Pump
1035		~150		18.50	4.30	10.2	5.42	262	65.9 clear
1040				18.53	4.19	10.2	3.77	286	65.3 NTU rising, adj. flow rate slightly
1045				18.58	4.04	10.2	2.98	313	69.1 clear
1050				18.50	3.99	10.3	2.70	323	53.8 "
1055				18.17	3.95	10.4	2.54	330	46.6 "
* 1100		~1.5		18.01	3.96	10.3	2.49	332	42.1 " NTU Rising
				Sampled @ 1100					

Notes:

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SSP MW-3

Sample ID: - Duplicate ID: DUP-1

Sample Depth: -

Project and Task No.: 670619000 3.03

Project Name: TMPA CCR 2019

Date: 1-15-2019

Sampled By: SCM

Method of Purging: Low flow Sub

Method of Sampling: Low flow Sub.

Initial Depth to Water: 26.48'

Depth to Water after Sampling: 28.31

Total Depth to Well: 48.20'

Well Diameter: 2"

1 Casing/Borehole Volume: - (Circle one)

4 Casing/Borehole Volumes: - (Circle one)

Total Casing/Borehole Volumes Removed: -

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	NTU	Remarks (turbidity, color, odor)
1145									107	
↓	Waiting for NTU to be ~100									NTU climb to ~~134~~ 189 ~~from 5cm~~
~~1200~~	~~5cm~~	~~~150~~	~~5cm~~							
1200		~150		20.08	4.15	9.03	19.97	322	83.0	cloudy
1205				20.18	4.15	9.01	18.81	322	54.4	clear
1210				20.14	4.14	8.96	17.48	322	38.2	clear
1215				20.60	4.15	8.95	17.12	322	31.1	clear
~~1220~~			~2.0	20.45	4.15	8.98	17.22	323	19.1	clear

→ Sampled @ 1220

→ DUP-1 taken

Notes: - Dup-1 Taken at this well.

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SSP MW-4

Sample ID: — Duplicate ID: —

Sample Depth: —

Project and Task No.: 670619003.03

Project Name: IMPA CCR 2019

Date: SCM 1-15-19

Sampled By: SCM

Method of Purging: Low flow Sub.

Method of Sampling: Low flow Sub.

Initial Depth to Water: 23.81'

Depth to Water after Sampling: 25.05'

Total Depth to Well: 51.50'

Well Diameter: 2

1 Casing/Borehole Volume: — (Circle one)

4 Casing/Borehole Volumes: — (Circle one)

Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor) NTU
1310									41.8 Start pump
1320		~150		20.21	6.31	5.70	5.05	48	35.1 clear
1325				20.08	6.34	5.71	3.64	39	24.8 "
1330				20.13	6.34	5.72	2.89	35	16.5 "
1335				20.01	6.35	5.71	2.43	34	14.1 "
* 1340			~1.5	19.92	6.35	5.71	2.19	32	12.8 "

↳ Sampled @ 1340

Notes:

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SFL MW-2

Sample ID: — Duplicate ID: —

Sample Depth: —

Project and Task No.: 670619000 3.03

Project Name: TMPA CCR 2019

Date: 1-16-19

Sampled By: SCM

Method of Purging: Low flow sub

Method of Sampling: Low flow sub.

Initial Depth to Water: 10.73'

Depth to Water after Sampling: 11.71'

Total Depth to Well: 23.60'

Well Diameter: 2"

1 Casing/Borehole Volume: — (Circle one)

4 Casing/Borehole Volumes: — (Circle one)

Total Casing/Borehole Volumes Removed: ✓

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
									NTU
1005									99.1 Start Pump
↓									NTU climb to 137
1015		~150		19.14	6.66	9.84	3.96	227	45.9 clear
1020				19.38	6.67	9.86	3.58	220	16.8 clear
1025				19.59	6.69	9.87	3.08	216	6.8 "
1030				19.55	6.69	9.91	~~2.80~~	213	3.5 "
1035			~1.5	19.75	6.69	9.94	~~2.70~~ 2.59	210	1.8 "

Sampled @ 1035

Notes:

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: SFL MW-3
Sample ID: _____ Duplicate ID: DUP-2
Sample Depth: ≈25.7'
Project and Task No.: 6706190003.03
Project Name: TMPA - Gibbons Creek
Date: January 16, 2019
Sampled By: BA
Method of Purging: submersible
Method of Sampling: low flow

Initial Depth to Water: 16.79'
Depth to Water after Sampling: 17.42'
Total Depth to Well: 28.2'
Well Diameter: 2"
1 Casing/Borehole Volume: _____ (Circle one)
4 Casing/Borehole Volumes: _____ (Circle one)
Total Casing/Borehole Volumes Removed: _____

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Remarks (color, turbidity, and sediment)
1337	≈25.7'	≈200		18.43	4.03	7.36	5.50	370	20.5	Clear; no odor
1342				18.85	3.88	7.48	2.49	347	78.2	Slightly cloudy
1347				19.27	3.89	7.49	0.96	340	69.1	Clear
1352				19.42	3.89	7.50	0.92	340	37.4	
1357				19.43	3.89	7.50	0.95	343	19.1	
1402			≈2.0	19.49	3.90	7.50	0.97	345	9.5	
				Samples Taken						

pH CALIBRATION (choose two)				Model or Unit No.:
Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Field Temperature °C				
Instrument Reading				

SPECIFIC ELECTRICAL CONDUCTANCE (SEC) – CALIBRATION				Model or Unit No.:
KCl Solution (µS/cm=µmhos/cm)	1413 at 25°C	12880 at 25°C		
Field Temperature °C				
Instrument Reading				

ORP/REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION		Notes:
Standard Solution (mV)		Altitude / Salinity %		DUP-2
Field Temperature °C		Field Temperature °C		
Instrument Reading (mV)		Instrument Reading (mg/L)		
Model or Unit No.:		Model or Unit No.:		

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: SFL MW-4
Sample ID: _____ Duplicate ID: _____
Sample Depth: ≈40.0'
Project and Task No.: 6706190003.03
Project Name: TMPA-Gibbons Creek
Date: January 16, 2019
Sampled By: BA
Method of Purging: Submersible
Method of Sampling: low flow

Initial Depth to Water: 14.41
Depth to Water after Sampling: _____
Total Depth to Well: 42.7'
Well Diameter: 2"
1 Casing/Borehole Volume: _____ (Circle one)
4 Casing/Borehole Volumes: _____ (Circle one)
Total Casing/Borehole Volumes Removed: _____

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment) NTU
1458	≈40.0'	≈250		20.30	6.73	8.72	0.79	15	5.1 Clear; no odor
1503	↓	↓		20.46	6.36	8.73	0.00	34	1.5 ↓
1508				20.66	6.30	8.73	0.00	40	0.5
1513				20.45	6.29	8.71	0.00	43	0.3
1518				20.23	6.28	8.72	0.00	46	0.1
1523				20.26	6.27	8.73	0.00	47	0.1
1528	↓	↓	≈2.5	20.31	6.27	8.73	0.00	48	0.1 ↓
				Samples Taken					

pH CALIBRATION (choose two)					Model or Unit No.:
Buffer Solution	pH 4.0	pH 7.0	pH 10.0		
Field Temperature °C					
Instrument Reading					

SPECIFIC ELECTRICAL CONDUCTANCE (SEC) – CALIBRATION				Model or Unit No.:
KCl Solution (µS/cm=µmhos/cm)	1413 at 25°C	12880 at 25°C		
Field Temperature °C				
Instrument Reading				

ORP/REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION		Notes:
Standard Solution (mV)		Altitude / Salinity %		
Field Temperature °C		Field Temperature °C		
Instrument Reading (mV)		Instrument Reading (mg/L)		
Model or Unit No.:		Model or Unit No.:		

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SFL MW-5

Sample ID: — Duplicate ID: —

Sample Depth: —

Project and Task No.: 670619000303.03

Project Name: IMP A CCR 2019

Date: 1-16-19

Sampled By: SCM

Method of Purging: Low flow Sub

Method of Sampling: Low flow Sub

Initial Depth to Water: 15.79'

Depth to Water after Sampling: 17.12'

Total Depth to Well: 24.30'

Well Diameter: 2"

1 Casing/Borehole Volume: — (Circle one)

4 Casing/Borehole Volumes: — (Circle one)

Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor) NTU
0855									11.7 Start pump
0905		~125	~~1~~ 1.5	18.43	4.72	11.5	6.23	348	2.3 clear
0910			~~~1.25~~ 1.5	18.77	4.70	11.5	4.07	352	0.4 "
0915				18.65	4.69	11.5	3.48	355	0.0 "
0920				18.47	4.66	11.5	3.23	356	0.0 "
0925			~1.5	18.52	4.64	11.5	3.03	359	0.0 "

→ Sampled @ 0925

Notes:

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: SFL MW-6
Sample ID: _____ Duplicate ID: _____
Sample Depth: 22.0
Project and Task No.: 6706190003.30
Project Name: TMPA-Gibbons Creek
Date: January 15, 2019
Sampled By: BH
Method of Purging: peristaltic pump
Method of Sampling: low flow

Initial Depth to Water: 18.46'
Depth to Water after Sampling: 21.33'
Total Depth to Well: 23.1'
Well Diameter: 2"
1 Casing/Borehole Volume: _____ (Circle one)
4 Casing/Borehole Volumes: _____ (Circle one)
Total Casing/Borehole Volumes Removed: _____

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment) NTU	
1058	21.0	150	~~End~~	19.45	4.05	12.8	0.78	466	1.7	Clear; no odor
1103		↓		19.90	4.08	12.8	0.04	474	0.0	↓
1108	21.5			19.93	4.09	12.8	0.00	468	0.0	
1113				20.03	4.07	12.8	0.00	455	0.0	
1118	22.0	↓	≈1.25	19.96	4.07	12.8	0.00	443	0.0	↓
			Samples Taken							

pH CALIBRATION (choose two)					Model or Unit No.:
Buffer Solution	pH 4.0	pH 7.0	pH 10.0		
Field Temperature °C					
Instrument Reading					

SPECIFIC ELECTRICAL CONDUCTANCE (SEC) – CALIBRATION				Model or Unit No.:
KCl Solution (µS/cm=µmhos/cm)	1413 at 25°C	12880 at 25°C		
Field Temperature °C				
Instrument Reading				

ORP/REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION	
Standard Solution (mV)		Altitude / Salinity %	
Field Temperature °C		Field Temperature °C	
Instrument Reading (mV)		Instrument Reading (mg/L)	
Model or Unit No.:		Model or Unit No.:	

Notes: Well drew down, so collected samples after about 25 min. of purging to ensure entire volume of samples could be collected before well ran dry.

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SFL MW-7

Sample ID: - Duplicate ID: -

Sample Depth: -

Project and Task No.: 670619000 3.03

Project Name: TMPA CCR 2019

Date: 1-16-19

Sampled By: SCM

Method of Purging: Low flow sub.

Method of Sampling: Low Flow sub.

Initial Depth to Water: 12.63'

Depth to Water after Sampling: 13.75'

Total Depth to Well: 58.10'

Well Diameter: 2"

1 Casing/Borehole Volume: (Circle one) -

4 Casing/Borehole Volumes: (Circle one) -

Total Casing/Borehole Volumes Removed: -

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
									NTU
1130									8.3 Start pump
1140		~125		18.64	6.79	8.00	5.21	-11	3.7 clear
1145				18.70	6.71	9.18	2.76	6	0.2 "
1150				18.80	6.70	9.54	2.03	14	0.0 "
1155				18.76	6.69	9.68	1.89	18	0.0 "
1200			~1.5	18.84	6.69	9.80	1.74	19	0.0 "

→ Sampled @ 1200

Notes:

1530 → EQBK-SCM-011619 Taken @ 1530

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: MNW-15
Sample ID: _____ Duplicate ID: _____
Sample Depth: 24.5'
Project and Task No.: 6706190003.30
Project Name: TMPA - Gibbons Creek
Date: January 16, 2019
Sampled By: BJ
Method of Purging: Submersible
Method of Sampling: low flow

Initial Depth to Water: N/A Pine's e-line not working
Depth to Water after Sampling: N/A
Total Depth to Well: 27.0'
Well Diameter: 2"
1 Casing/Borehole Volume: _____ (Circle one)
4 Casing/Borehole Volumes: _____ (Circle one)
Total Casing/Borehole Volumes Removed: _____

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment) NTU	
1234	24.5'	200		19.44	3.69	4.14	2.29	327	89.1	slightly cloudy; no odor
1239	↓	↓		19.45	3.69	4.19	0.22	314	32.3	clear; no odor
1244				19.57	3.69	4.19	0.00	303	11.3	↓
1249				19.80	3.70	4.18	0.00	296	6.2	
1254				19.97	3.70	4.19	0.00	290	3.8	
1259	↓	↓	≈2.0	20.06	3.70	4.19	0.00	286	2.7	↓
		Samples Taken								
1330 – EQBK-BG-011619 collected										

pH CALIBRATION (choose two)					Model or Unit No.:
Buffer Solution	pH 4.0	pH 7.0	pH 10.0		
Field Temperature °C					
Instrument Reading					

SPECIFIC ELECTRICAL CONDUCTANCE (SEC) – CALIBRATION				Model or Unit No.:
KCl Solution (µS/cm=µmhos/cm)	1413 at 25°C	12880 at 25°C		
Field Temperature °C				
Instrument Reading				

ORP/REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION		Notes:
Standard Solution (mV)		Altitude / Salinity %		EQBK
Field Temperature °C		Field Temperature °C		
Instrument Reading (mV)		Instrument Reading (mg/L)		
Model or Unit No.:		Model or Unit No.:		

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: MNW-18
Sample ID: _____ Duplicate ID: _____
Sample Depth: 48.5'
Project and Task No.: 6706190003.03
Project Name: TMPA - Gibbons Creek
Date: January 16, 2019
Sampled By: BH
Method of Purging: submersible
Method of Sampling: low flow

Initial Depth to Water: N/A Pine e-line not functioning
Depth to Water after Sampling: N/A
Total Depth to Well: 51.0'
Well Diameter: 4"
1 Casing/Borehole Volume: _____ (Circle one)
4 Casing/Borehole Volumes: _____ (Circle one)
Total Casing/Borehole Volumes Removed: _____

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment) NTU
0858	48.5'	150		17.51	6.92	4.99	0.14	-82	5.0 clear; slight sulfur odor
0903	↓	↓		17.43	6.96	4.99	4.27	-90	0.6 ↓
0908				17.55	6.97	4.99	4.79	-95	1.0
0913				17.15	6.96	4.99	4.55	-93	0.9
0918				17.31	6.95	4.98	4.26	-93	0.8
0923				17.50	6.94	4.98	4.19	-92	0.5
0928	↓	↓	≈2.0	17.66	6.94	4.98	4.04	-92	0.5 ↓
			Samples Taken						

pH CALIBRATION (choose two)					Model or Unit No.:
Buffer Solution	pH 4.0	pH 7.0	pH 10.0		
Field Temperature °C					
Instrument Reading					

SPECIFIC ELECTRICAL CONDUCTANCE (SEC) – CALIBRATION				Model or Unit No.:
KCl Solution (µS/cm=µmhos/cm)	1413 at 25°C	12880 at 25°C		
Field Temperature °C				
Instrument Reading				

ORP/REDOX CALIBRATION		DISSOLVED OXYGEN CALIBRATION		Notes:
Standard Solution (mV)		Altitude / Salinity %		
Field Temperature °C		Field Temperature °C		
Instrument Reading (mV)		Instrument Reading (mg/L)		
Model or Unit No.:		Model or Unit No.:		

Water Level Monitoring Record

Project Name: TMPA CCR 2019 **Project and Task Number:** 6706190003.30

Date: 6-24-19 Measured by: SCM Instrument Used: Solinst Model 101

Note: For your convenience, the following abbreviations may be used.
P = Pumping I = Inaccessible D = Dedicated Pump
ST = Steel Tape ES = Electric Sounder MP = Measuring Point WL = Water Level

Well No.	Time	Water Level	Previous Water Level (May 2019, Before Redevelopment)	Previous Water Level (1/14/19)	Previous Water Level 6/7/18	Remarks
AP PZ-1	1221	6.39	--	5.62	7.69	
AP PZ-2	1225	17.19	--	17.15	18.76	
AP PZ-3	1230	4.59	--	4.65	4.81	
AP MW-3	1234	10.64	10.62	10.68	10.62	
AP MW-1	1236	12.49	--	12.66	12.42	
APP MW-1D	1238	14.14	13.66	14.10	13.88	
AP MW-5	1241	11.27	11.82	11.38	11.12	
AP MW-4	1243	13.10	13.06	13.16	13.09	
AP MW-2	1247	6.88	--	6.65	6.60	
AP PZ-4	1250	9.54	--	8.86	8.71	
AP MW-6	1255	16.19	15.95	16.33	16.54	
SSP/AP MW-1	1300	7.32	8.70	7.80	7.79	
SSP MW-1	1303	14.36	--	14.46	15.51	
SSP MW-2	1307	21.18	22.35	21.82	22.18	
SSP MW-3	1309	26.35	25.91	26.44	27.59	
SSP MW-4	1313	23.87	23.72	23.82	24.37	
MNW-11	1324	20.87	19.94	19.45	19.97	
MNW-16	1332	12.49	12.08	11.94	12.62	
SFL MW-6	1338	17.31	17.58	18.49	18.57	
MNW-17	1345	43.85	34.90	34.82	45.47	Not recharged since redevelopment
SFL MW-1	1350	20.63	19.81	19.43	22.05	
MNW-18	1359	8.37	8.36	5.63	8.93	
MNW-15	~~1411~~ 1447	4.02 @1411	3.29	3.81	4.31	
SFL MW-7	1417	13.17	12.70	12.64	13.13	
SFL MW-3	1420	16.39	16.32	17.00	16.92	
SFL MW-4	1423	14.21	14.11	14.60	14.80	
SFL MW-5	1448	15.03	15.32	15.80	15.83	
SFL MW-2	~~1443~~ 1451	10.11	9.65	10.81	10.91	

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: AP MW-1D
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 670619003.30
Project Name: IMPA CCR 2019
Date: 6-25-19
Sampled By: SCM
Method of Purging: low flow sub
Method of Sampling: Low flow sub.

Initial Depth to Water: 14.18
Depth to Water after Sampling: 14.29
Total Depth to Well: 42.99
Well Diameter: 2"
1 Casing/Borehole Volume: — (Circle one)
4 Casing/Borehole Volumes: — (Circle one)
Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (~~turbidity~~, color, odor) NTU
0905									Start pump
↓									~~39.4~~ ~~clear~~
0935		~150		26.01	5.77	1.96	1.01	185	39.4 clear
0940				26.01	5.78	1.96	0.95	181	26.7 clear
0945				26.09	5.78	1.96	0.88	184	16.9 "
0950				26.10	5.78	1.95	0.81	183	14.0 "
0955				26.22	5.78	1.95	0.68	183	12.0 "
1000				26.29	5.78	1.95	0.63	183	11.0 "
1005				26.31	5.78	1.95	0.60	184	9.8 "
1010			4.0	26.60	5.80	1.95	0.61	180	8.8 " Lowest NTU = 8.7
~~1015~~									
	Sampled @ 1910								

Notes:

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: AP MW-3
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 670619000 3.30
Project Name: TMPA CCR 2019
Date: 6-25-19
Sampled By: SCM
Method of Purging: Peristaltic pump
Method of Sampling: Peristaltic pump

Initial Depth to Water: 10.70'
Depth to Water after Sampling: 11.03'
Total Depth to Well: 43.4'
Well Diameter: 2"
1 Casing/Borehole Volume: — (Circle one)
4 Casing/Borehole Volumes: — (Circle one)
Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1535				~~30.19~~	~~5~~				NTU ~~NTU~~ → Start pump
1545		~100		30.19	5.21	1.79	1.28	160	6.1 clear, Mild HC odor
1550				28.99	5.19	1.78	1.14	167	6.9 "
1555				27.51	5.17	1.73	0.99	178	9.3 "
☆1600			~1.0	26.36	5.14	1.77	1.06	184	9.7 "
				→ Sampled @ 1600					

Notes: ~~Kink~~ Bend in well casing still present; forced to use peristaltic pump.

☆EQBK-SCM-062419 taken @ 1610

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: AP-MW-4

Sample ID: — Duplicate ID: —

Sample Depth: —

Project and Task No.: 670619000330

Project Name: TMPA

Date: 6/27/19

Sampled By: JMV

Method of Purging: Submersible

Method of Sampling: Low Flow

Initial Depth to Water: 13.13 BTOC

Depth to Water after Sampling: 14.10

Total Depth to Well: 53.03

Well Diameter: 2"

1 Casing/Borehole Volume: — (Circle one)

4 Casing/Borehole Volumes: — (Circle one)

Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1400	—	—	—	24.32	5.63	4.73	4.71	222	212 NTU
1410				24.58	5.63	4.77	4.13	177	81.4
1415	—	—	—	24.53	5.56	4.77	3.95	162	6.7
1420				24.03	5.68	4.76	3.78	151	0.0
1425				24.25	5.72	4.76	4.00	140	0.0
1430		~4.5		24.35	5.69	4.76	3.98	138	0.0
			COLLECT		SAMPLE				

Notes: Second attempt at sampling; too turbid on 6/25/19

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: AP-MW-4

Sample ID: _____ Duplicate ID: —

Sample Depth: —

Project and Task No.: 670619000330

Project Name: TMPA ECR 2019

Date: 6/25/19

Sampled By: JMV

Method of Purging: Submersible

Method of Sampling: Low Flow

Initial Depth to Water: 13.13 BTOC

Depth to Water after Sampling: Not Sampled

Total Depth to Well: 43.25' BTOC

Well Diameter: 2"

1 Casing/Borehole Volume: — (Circle one)

4 Casing/Borehole Volumes: — (Circle one)

Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1250									NTU
									257
14:30									increasing
								—	water flow stops
									restart pump
									tubing loose
14:45									501
1									371
									390
15:30		≈9							X Silty Turbid

Unable To Sample, See 6/27/19

Notes: Water is too turbid to sample
Postpone sampling due to turbidity
resample 6/27/19

- Monsoon Pro Pump with controller and flow valve

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: AP-MW-5

Sample ID: — Duplicate ID: —

Sample Depth: —

Project and Task No.: 6706190003.30

Project Name: TMPA -

Date: 6/25/19

Sampled By: J. Mac Vilas

Method of Purging: Submersible

Method of Sampling: Low Flow

Initial Depth to Water: 11.31 BTOC

Depth to Water after Sampling: 11.41 BTOC

Total Depth to Well: 43.3 BTOC

Well Diameter: 2"

1 Casing/Borehole Volume: — (Circle one)

4 Casing/Borehole Volumes: — (Circle one)

Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1050									NTU
1120	—	—		27.28	3.41	~~5.73~~ 5.43	3.93	398	9.7
1125	—	—		27.42	3.41	5.43	3.91	399	6.0
1130	—	—		27.48	3.41	5.41	3.84	399	3.3
1135				27.46	3.40	5.42	3.75	398	1.8
1140		≈3 gallons		27.52	3.40	5.42	3.73	398	1.75
	Sample Collected								

Notes: Monsoon Pro Pump with Flow controller and flow valve

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: AP MW-6
Sample ID: — Duplicate ID: Dup-1
Sample Depth: —
Project and Task No.: 670619000 3,30
Project Name: TMPA CCR 2019
Date: 6-25-19
Sampled By: SCM
Method of Purging: Low flow sub
Method of Sampling: Low flow sub.

Initial Depth to Water: 16.25'
Depth to Water after Sampling: 17.15'
Total Depth to Well: 48.29'
Well Diameter: 2"
1 Casing/Borehole Volume: (Circle one) —
4 Casing/Borehole Volumes: (Circle one) —
Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor) NTU
1120									Start Pump
1155		~150		27.28	6.39	5.11	0.41	-224	33.4 clear; Mild HS odor
1200				27.66	6.36	5.08	0.38	-230	23.1 "
1205				27.80	6.35	5.04	0.35	-233	24.4 "
1210				28.25	6.34	4.91	0.31	-235	23.8 "
1215				28.55	6.32	4.92	0.30	-238	24.4 "
1220				28.92	6.32	4.85	0.28	-239	20.5 "
1225				28.73	6.34	4.86	0.27	-242	21.6 "
1230				28.97	6.31	4.84	0.26	-242	19.4 "
1235				29.74	6.30	4.76	0.25	-243	16.7 "
1240				29.83	6.30	4.72	0.25	-245	16.1 "
1245				30.27	6.29	4.72	0.26	-247	14.6 "
1250				30.19	6.29	4.66	0.23	-247	14.8 "
1255				29.78	6.32	4.67	0.25	-240	16.8 " 13.9
1300				28.99	6.30	4.77	0.25	-237	16.0 " 14.2
1305				28.20	6.30	4.91	0.30	-247	16.5 " 14.0
1310				28.01	6.28	4.94	0.28	-250	15.1 " 13.6 Lowest NTU
1315				27.07	6.29	4.94	0.25	-253	13.7 "
1320			~7.0	27.21	6.30	4.99	0.24	-250	14.2 "

Notes: Dup-1 taken at this well.

1325	~7.0	27.21	6.29	4.98	0.29	-249	14.0	Turbidity will not go lower

Sampled @ 1325; Dup 1 also;

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SSP AP MW-1

Sample ID: — Duplicate ID: —

Sample Depth: —

Project and Task No.: 670619000 3.30

Project Name: TMPA

Date: 6/27/15

Sampled By: JMV

Method of Purging: Submersible

Method of Sampling: Low Flow

Initial Depth to Water: 7.57' BTOC

Depth to Water after Sampling: 9.21' BTOC

Total Depth to Well: 43.25' BTOC

Well Diameter: 2"

1 Casing/Borehole Volume: — (Circle one)

4 Casing/Borehole Volumes: — (Circle one)

Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor) NTU
08:30	—	—	—	22.93	5.69	9.01	6.87	107	241
08:35				22.40	5.85	8.98	4.68	95	250
09:00				23.91	5.99	9.05	3.80	97	45.8
09:05				23.66	5.99	8.98	3.79	89	9.5
09:10				23.65	5.98	8.98	3.72	80	0.0
09:15		~	4.5	23.97	5.97	8.96	3.67	76	0.0
				COLLECT		SAMPLE			

Notes: Monsoon Pro Pump with Controller and control valve

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: SSP MW-2
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 6706190003.30
Project Name: TMPA
Date: 6/27/19
Sampled By: JMV
Method of Purging: Submersible
Method of Sampling: Low Flow

Initial Depth to Water: 21.45' BTOC
Depth to Water after Sampling: 31.95 BTOC
Total Depth to Well: 47.1
Well Diameter: 2"
1 Casing/Borehole Volume: — (Circle one)
4 Casing/Borehole Volumes: — (Circle one)
Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor) NTU
11:05	—	—	—	24.15	4.55	9.67	7.76	378	278
11:15				24.38	4.27	9.82	5.50	364	123
11:20				24.53	4.26	9.73	5.13	353	78.1
11:25				26.04	4.25	9.67	4.66	349	54
11:45				25.20	4.25	9.79	4.50	337	50
11:50				25.54	4.26	9.77	4.43	339	41.3
11:55				25.86	4.25	9.82	4.22	343	35.4
12:10				27.06	4.31	9.60	3.99	350	20.8
12:15				27.82	4.33	9.64	3.99	349	12.6
12:20				27.18	4.37	9.65	3.92	350	7.6
12:25				27.24	4.35	9.66	~~3.46~~	348	3.1
1230				27.51	4.35	9.70	3.85 3.82	350	1.9
1235				27.47	4.36	9.65	3.79	351	0.6
1240			≈5	28.06	4.39	9.71	3.78	351	0.0
				SAMPLE		COLLECTED			
		Re-Sampled on 6/28/19							

Notes: Monsoon pro pump with controller and control valve

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SSP MW-2

Sample ID: — Duplicate ID: —

Sample Depth: —

Project and Task No.: 670619000330

Project Name: TMP ACCR 2019

Date: 6-28-19

Sampled By: SCM

Method of Purging: Low flow sub

Method of Sampling: Low flow sub

Initial Depth to Water: 22.52'

Depth to Water after Sampling: 40.10'

Total Depth to Well: 46.90'

Well Diameter: 2"

1 Casing/Borehole Volume: — (Circle one)

4 Casing/Borehole Volumes: — (Circle one)

Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)	Remarks (turbidity, color, odor)
0820										Start Pump
1140		~150		26.72	3.93	13.9	0.62	310	130	NTU ~400
1145				26.46	3.92	13.8	0.59	310	139	cloudy light tan
1150				26.58	3.94	13.8	0.55	310	133	"
1155				26.91	3.93	13.8	0.52	311	105	"
1200				26.90	3.91	13.8	0.53	312	74.6	cloudy
1205				26.50	3.92	13.7	0.54	311	~55.0	cloudy
1210				26.34	3.90	13.7	0.49	313	46.1	cloudy (clear)
1215				26.25	3.88	13.6	0.46	314	41.5	clear
1220				26.56	3.87	13.6	0.44	316	40.7	"
☆1225			~15	26.49	3.87	13.5	0.43	316	39.9	" NTU Hovering ~40.0

→ Sampled @ 1225

Notes:

1255 ☆→ EQBK-SCM-062819 Taken @ 1255

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: SSP MW-3
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 670619003.30
Project Name: IMPACCR 2019
Date: 6-27-19
Sampled By: SCM
Method of Purging: Low flow Sub
Method of Sampling:

Initial Depth to Water: 26.62'
Depth to Water after Sampling: 28.07'
Total Depth to Well: 48.21'
Well Diameter: 2"
1 Casing/Borehole Volume: — (Circle one)
4 Casing/Borehole Volumes: — (Circle one)
Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (~~turbidity~~, color, odor) NTU
1005									Start Pump
↓									NTU >400
1050		~150		26.72	4.24	8.58	0.59	280	20.8 clear, mild HC odor
1055				26.75	4.25	8.57	0.52	278	12.9 "
1100				26.85	4.26	8.56	0.47	276	11.4 "
1105				26.94	4.25	8.51	0.44	272	7.3 "
1110				26.99	4.25	8.52	0.42	272	7.7 "

▼Sampled @ 1110

Notes:

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SSP MW-4
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 670619000330
Project Name: TMPA CCR 2019
Date: 6-27-19
Sampled By: SCM
Method of Purging: Low flow sub
Method of Sampling: Low flow sub.

Initial Depth to Water: 24.05'
Depth to Water after Sampling: 38.96'
Total Depth to Well: 52.40'
Well Diameter: 2"
1 Casing/Borehole Volume: — (Circle one)
4 Casing/Borehole Volumes: — (Circle one)
Total Casing/Borehole Volumes Removed: ✓

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (~~turbidity~~, color, odor) NTU
0820									Start Pump
0850		~150	~	24.69	6.12	5.75	0.75	130	35.1 clear
0855				24.87	6.12	5.78	0.78	138	26.3 "
0900				24.96	6.14	5.74	0.82	135	23.2 "
0905				25.14	6.15	5.71	0.77	137	21.0 "
0910				25.32	6.15	5.69	0.74	138	18.7 "
~~0920~~	0915			25.46	6.15	5.68	0.72	139	16.4 "
☆ 0920			~4.0	25.63	6.15	5.66	0.71	139	5.2 "

Sampled @ 0920

Notes:

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: SFL MW-2
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 670619000 3.30
Project Name: TMPA
Date: 6/26/19
Sampled By: JMV
Method of Purging: Submersible
Method of Sampling: Low Flow

Initial Depth to Water: 10.20 BTOC
Depth to Water after Sampling: 12.04'
Total Depth to Well: 23.90
Well Diameter: 2"
1 Casing/Borehole Volume: — (Circle one)
4 Casing/Borehole Volumes: — (Circle one)
Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor) NTU
14:20	—	—	—	27.82	6.13	9.93	5.25	257	87.9
14:25				27.23	6.41	10.3	3.52	233	74.7
14:30				27.27	6.47	10.2	3.11	218	22.7
14:35				27.91	6.50	10.2	2.74	211	2.7
14:40				28.43	6.50	10.1	2.54	209	0.0
14:45				28.27	6.51	10.3	2.48	208	0.0
14:50				28.89	6.54	10.2	2.28	207	0.0
14:55				29.53	6.54	9.87	2.25	206	0.0
15:00			~4	29.70	6.54	9.89	2.24	206	0.0
				COLLECT		SAMPLE			

Notes: Monsoon Pro Pump with controller and control valve

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SFL MW-5 3 (SCM)
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 670619000 3.30
Project Name: IMPA CCR 2019
Date: 6-26-19
Sampled By: SCM
Method of Purging: Low flow sub
Method of Sampling: Low flow Sub

Initial Depth to Water: 16.49'
Depth to Water after Sampling: 16.75'
Total Depth to Well: 28.34'
Well Diameter: 2"
1 Casing/Borehole Volume: — (Circle one)
4 Casing/Borehole Volumes: — (Circle one)
Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	NTU	Remarks (turbidity, color, odor)
0940										Start pump
					3.82					
1000		~150		24.19	3.82	6.46	0.70	405	17.2	clear
1005				24.27	3.82	6.45	0.64	395	11.7	"
1010				24.36	3.82	6.44	0.56	392	3.9	"
☆ 1015			~2.5	24.47	3.82	6.42	0.52	392	1.0	"

☆ Sampled @ 1015

Notes:

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SFL MW-4

Sample ID: – Duplicate ID: –

Sample Depth: –

Project and Task No.: 67C61900330

Project Name: IMPACCR 2019

Date: 6-26-19

Sampled By: SCM

Method of Purging: Low flow sub.

Method of Sampling: Low flow sub.

Initial Depth to Water: 14.40'

Depth to Water after Sampling: 16.10'

Total Depth to Well: 42.40'

Well Diameter: 2"

1 Casing/Borehole Volume: – (Circle one)

4 Casing/Borehole Volumes: – (Circle one)

Total Casing/Borehole Volumes Removed: –

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
0835									NTU
↓		~150							Start Pump
0845		~~150~~		23.24	6.16	1.88	1.10	66	3.1 clear
0850		SCM		23.38	6.16	7.84	0.93	64	3.9 "
0855				23.51	6.13	7.87	0.82	63	0.0 "
☆ 0900			~1.5	~~23.51~~	6.15	7.87	0.79	65	0.0 "
↓									
Sampled @ 0900									

Notes:

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SFL MW-5

Sample ID: — Duplicate ID: —

Sample Depth: —

Project and Task No.: 670619000 5.30

Project Name: TMPA CCR 2019

Date: 6/26/19

Sampled By: J Mac Vilas

Method of Purging: Submersible

Method of Sampling: Low Flow

Initial Depth to Water: 15.07 BTOC

Depth to Water after Sampling: 16.4

Total Depth to Well: 24.44

Well Diameter: 2"

1 Casing/Borehole Volume: —
(Circle one)

4 Casing/Borehole Volumes: —
(Circle one)

Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor) NTU
1240	—	—	—	23.70	4.37	10.9	3.75	347	0.0 · start pump
1245				24.79	4.41	10.7	2.95	349	0.0 clear
1250				24.52	4.40	10.7	2.98	353	0.0
1255				24.49	4.40	10.7	2.92	357	0.0
1300				24.86	4.40	10.7	2.89	359	0.0
1305			≈4 gal	24.09	4.40	10.7	2.97	363	0.0
				COLLECT SAMPLE					

Notes: Monsoon Pro Pump with controller and control valve

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: SFL MW-6
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 671619CCC3.3e
Project Name: TMP ACCR 2019
Date: 6-26-19
Sampled By: SCM
Method of Purging: peristaltic pump
Method of Sampling: peristaltic pump

Initial Depth to Water: 17.34'
Depth to Water after Sampling: —
Total Depth to Well: ~~51.01'~~ 23.10' SCM
Well Diameter: 2"
1 Casing/Borehole Volume: — (Circle one)
4 Casing/Borehole Volumes: — (Circle one)
Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (~~turbidity~~, color, odor)
1410									NTU
↓									Start Pump
									NTU ~200
NTU would not drop below 100 by the time the well was almost dry. Decided to pump well dry and sample it at the end of the day tomorrow to allow recharge and for the sediment to settle out.									
Sampled on 6/28/19									

Notes: Not sampled, will sample tomorrow

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: SFL MW-6
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 610190003.30
Project Name: ~~610190003.30~~ TMP ACCR 2019
Date: 6-27-19
Sampled By: SCM
Method of Purging: Peristaltic Pump
Method of Sampling: Peristaltic pump

Initial Depth to Water: 17.91'
Depth to Water after Sampling: 20.16'
Total Depth to Well: ~~17.91'~~ 23.08'
Well Diameter: 2"
1 Casing/Borehole Volume: — (Circle one)
4 Casing/Borehole Volumes: — (Circle one)
Total Casing/Borehole Volumes Removed:

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (~~turbidity~~, color, odor) NTU
1203									Pump on
↓									
1213	wl	~125		26.33	3.95	12.8	4.69	466	8.9 clear
1218				26.32	3.95	12.5	4.42	470	20.1 NTU spike, cloudy
~~1223~~			Wait for NTU to Drop						"
~~1228~~									
1233									Pump off; allow recharge and stabilize
↓									
1315									Pump on
1320				27.27	3.92	13.0	4.19	484	70.1 cloudy
1325			26[illegible]		3.89	13.2	4.08	473	105 NTU rising
1330				26.22	3.87	13.4	4.15	477	159 "
1335				26.01	3.90	13.5	3.24	485	51.4 lowered pump
1340				26.00	3.91	13.5	3.14	488	114 NTU rising
1345	Cranked up pump to purge dry; allow for recharge								
	Will Sample after turning pump back on,								
1350									Dry, Pump off
1430									
1445	DRY, NTU > 1000								Pump on
1530	Pump on								Pump off
1535				28.00					

Notes:

1540 → Dry before Sample can be taken; turbidity still high, will Sample tomorrow.

6-28-19

1030 start Pump → NTU = 12.2

1040 Collect Sample → NTU = 8.9

WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SFL-MW-1

Sample ID: — Duplicate ID: —

Sample Depth: —

Project and Task No.: 670619000 3.30

Project Name: TMPA

Date: 6/26/19

Sampled By: JMV

Method of Purging: Submersible

Method of Sampling: Low Flow

Initial Depth to Water: 13.27 BTOC

Depth to Water after Sampling: 13.95

Total Depth to Well: 58.24

Well Diameter: 2"

1 Casing/Borehole Volume: — (Circle one)

4 Casing/Borehole Volumes: — (Circle one)

Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
09:55	—	—	—	22.97	6.45	7.03	5.15	64	NTU 378
09:15				23.15	6.68	8.42	4.02	37	128
09:20				23.27	6.74	8.77	3.73	26	33.1
09:25				23.77	6.77	8.93	3.51	19	1.1
0930			~2.5	23.25	6.79	8.93	3.48	18	0
			COLLECT SAMPLE						

Notes: Monsoon Pro Pump with controller and flow valve

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: MW-15
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 6706190003.30
Project Name: TMPA CCR 2019
Date: 6/26/19
Sampled By: J. Mac Vilas
Method of Purging: Submersible
Method of Sampling: Low Flow

Initial Depth to Water: 4.28 BTOC
Depth to Water after Sampling: 4.40
Total Depth to Well: 27.30
Well Diameter: —
1 Casing/Borehole Volume: — (Circle one)
4 Casing/Borehole Volumes: — (Circle one)
Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor) NTU
10:55	—	—	—	23.45	3.66	3.94	8.22	329	0.0 / clear
11:00				23.94	3.47	3.93	7.00	324	0.0
11:05				23.95	3.46	3.93	6.27	317	0.0
11:10				23.99	3.44	3.93	5.75	316	0.0
11:15				24.05	3.46	3.92	5.03	312	0.0
11:20				24.27	3.47	3.92	4.80	312	0.0
11:25				24.46	3.47	3.92	4.63	314	0.0
11:30				24.49	3.45	3.92	2.88	315	0.0
11:35		~5 gallons		24.47	3.44	3.92	2.86	314	0.0
		Collect		Sample					

Notes: Monsoon Pump with Controller and Flow Valve

WELL SAMPLING AND/OR DEVELOPMENT RECORD

wood.

Well ID: MW-18
Sample ID: — Duplicate ID: DUP-2
Sample Depth: —
Project and Task No.: 670619000 3.30
Project Name: IMPA CCR 2019
Date: 6-26-19
Sampled By: SCM
Method of Purging: Low flow sub.
Method of Sampling: Low flow sub.

Initial Depth to Water: 8.43
Depth to Water after Sampling: 10.03'
Total Depth to Well: 51.01'
Well Diameter: 4"
1 Casing/Borehole Volume: (Circle one) —
4 Casing/Borehole Volumes: (Circle one) —
Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor) NTU
1110									Start Pump
1125		~150		25.90	6.89	3.23	5.91	-101	11.5 clear
1130				26.19	6.88	3.17	5.10	-103	11.9 "
1135				25.64	6.86	3.13	5.57	-102	12.3 "
1140				25.28	6.85	3.03	5.40	-100	11.6 "
1145				25.49	6.84	2.93	5.26	-95	10.5 "
1150				25.63	6.82	2.76	5.15	-84	10.1 "
1155				25.19	6.76	2.58	5.01	-71	9.3 "
1200				25.25	6.69	2.43	4.84	-57	8.1 "
1205				25.57	6.67	2.33	4.67	-42	7.6 "
1210				26.05	6.65	2.24	4.48	-29	7.5 "
1215				25.80	6.62	2.16	4.40	-14	6.7 "
1220				25.58	6.60	2.09	4.38	3	5.8 "
1225				25.82	6.57	2.05	4.30	13	5.4 "
1230				26.04	6.53	2.02	4.18	20	4.6 "
1235				26.55	6.56	1.99	3.95	24	4.3 "
★1240			~7.0	26.80	6.56	1.97	3.85	26	3.5 "
		Sampled @ 1240							

Notes: — Put new PVC Cap on this well; Old one cracked in half upon removal.

→ Dup-2 also taken

Appendix C

Laboratory Analytical Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-166987-2
Client Project/Site: AMEC CCR TMPA Gibbons Creek
Sampling Event: CCR

For:
Wood E&I Solutions Inc
3755 South Capital of Texas Highway
Suite 375
Austin, Texas 78704

Attn: Greg Seifert

Authorized for release by:
2/15/2019 3:02:56 PM

Gail Lage, Senior Project Manager
(615)301-5741
gail.lage@testamericainc.com

Table of Contents

Sample Summary

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-166987-1	AP MW-1D	Water	01/15/19 13:48	01/18/19 12:29
490-166987-2	AP MW-3	Water	01/15/19 09:44	01/18/19 12:29
490-166987-3	AP MW-4	Water	01/15/19 15:02	01/18/19 12:29
490-166987-4	AP MW-5	Water	01/15/19 14:55	01/18/19 12:29
490-166987-5	SSP/AP MW-1	Water	01/15/19 09:50	01/18/19 12:29
490-166987-6	SSP MW-2	Water	01/15/19 11:00	01/18/19 12:29
490-166987-7	SSP MW-3	Water	01/15/19 12:20	01/18/19 12:29
490-166987-8	SSP MW-4	Water	01/15/19 13:40	01/18/19 12:29
490-166987-9	SFL MW-2	Water	01/16/19 10:35	01/18/19 12:29
490-166987-10	SFL MW-3	Water	01/16/19 14:02	01/18/19 12:29
490-166987-11	SFL MW-4	Water	01/16/19 15:28	01/18/19 12:29
490-166987-12	SFL MW-5	Water	01/16/19 09:25	01/18/19 12:29
490-166987-13	SFL MW-6	Water	01/16/19 11:18	01/18/19 12:29
490-166987-14	SFL MW-7	Water	01/16/19 12:00	01/18/19 12:29
490-166987-15	MNW-15	Water	01/16/19 12:59	01/18/19 12:29
490-166987-16	MNW-18	Water	01/16/19 09:28	01/18/19 12:29
490-166987-17	EQBK-BG-011519	Water	01/15/19 15:50	01/18/19 12:29
490-166987-18	EQBK-SCM-011519	Water	01/15/19 15:50	01/18/19 12:29
490-166987-19	Dup-1	Water	01/15/19 00:01	01/18/19 12:29
490-166987-20	Dup-2	Water	01/16/19 00:01	01/18/19 12:29
490-166987-21	EQBK-SCM-011619	Water	01/16/19 15:30	01/18/19 12:29
490-166987-22	EQBK-BG-011619	Water	01/16/19 13:30	01/18/19 12:29

Job ID: 490-166987-2

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-166987-2

Comments
No additional comments.

Receipt
The samples were received on 1/18/2019 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 0.2º C, 0.5º C, 0.5º C, 1.5º C, 2.4º C and 3.5º C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): (490-166987-11. We received two sets of bottles labeled SFL-MW-7 one at 1200 and one at 1528. The sample collected at 1528 was confirmed to be sample SFL MW-4.

HPLC/IC
Method(s) 9056A: Due to the high concentration of Chloride and Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 490-571006 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method(s) 9056, 9056A: Due to the high concentration of Chloride, Fluoride and Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 490-571005 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method(s) 9056A: The continuing calibration verification (CCV) associated with batch 490-571005 recovered above the upper control limit for Fluoride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 490-571005/18).

Method(s) 9056A: The following samples were diluted due to the nature of the sample matrix: AP MW-1D (490-166987-1), AP MW-3 (490-166987-2), AP MW-4 (490-166987-3), AP MW-5 (490-166987-4), SSP/AP MW-1 (490-166987-5), SSP MW-2 (490-166987-6), SSP MW-3 (490-166987-7), SSP MW-4 (490-166987-8), SFL MW-2 (490-166987-9), SFL MW-3 (490-166987-10), SFL MW-4 (490-166987-11) and SFL MW-5 (490-166987-12). Elevated reporting limits (RLs) are provided.

Method(s) 9056A: Due to the nature of the sample matrix, a matrix spike / matrix spike duplicate (MS/MSD) was not analyzed with 490-571340. However, the laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries were within the acceptance limits. (LCS 490-571340/4) and (LCSD 490-571340/5)

Method(s) 9056A: The continuing calibration verification (CCV) associated with batch 490-571342 recovered above the upper control limit for Fluoride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCV 490-571342/16), (CCV 490-571342/19) and (CCVRT 490-571342/1).

Method(s) 9056A: The laboratory control sample duplicate (LCSD) for analytical batch 490-571342 recovered outside control limits for the following analytes: Fluoride. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 9056A: The following samples were diluted due to the nature of the sample matrix: SFL MW-6 (490-166987-13), SFL MW-7 (490-166987-14), MNW-15 (490-166987-15), MNW-18 (490-166987-16), Dup-1 (490-166987-19) and Dup-2 (490-166987-20). Elevated reporting limits (RLs) are provided.

Method(s) 9056A: Due to the nature of the sample matrix, a matrix spike / matrix spike duplicate (MS/MSD) was not analyzed with 490-571342. However, the laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries were within the acceptance limits. (LCS 490-571342/4) and (LCSD 490-571342/5)

Method(s) 9056, 9056A: The following samples were diluted due to the nature of the sample matrix: AP MW-5 (490-166987-4) and MNW-15 (490-166987-15). Elevated reporting limits (RLs) are provided.

Job ID: 490-166987-2 (Continued)

Laboratory: TestAmerica Nashville (Continued)

Method(s) 9056A: The continuing calibration verification (CCV) associated with batch 490-573008 recovered above the upper control limit for sulfate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 490-573008/30).

Method(s) 9056A: The following samples were diluted due to the nature of the sample matrix: SSP MW-2 (490-166987-6), SSP MW-3 (490-166987-7), SSP MW-4 (490-166987-8), SFL MW-2 (490-166987-9), SFL MW-3 (490-166987-10), SFL MW-4 (490-166987-11), SFL MW-5 (490-166987-12), SFL MW-6 (490-166987-13), SFL MW-7 (490-166987-14), MNW-18 (490-166987-16), Dup-1 (490-166987-19) and Dup-2 (490-166987-20). Elevated reporting limits (RLs) are provided.

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

Metals

Method(s) 6020A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 490-570711 and analytical batch 490-571667 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 200.8, 6020, 6020A, 6020B: Internal Standard recovery outside the SOP's limits. The sample was ND; therefore data was reported. AP MW-5 (490-166987-4), SSP MW-2 (490-166987-6), SFL MW-6 (490-166987-13), MNW-15 (490-166987-15), Dup-1 (490-166987-19), (CCB 490-572593/123) and (CCB 490-572593/135)

Method(s) 6020A: The laboratory control sample (LCS) and the continuing calibration verification (CCV) for preparation batch 490-571765 and 490-571765 and analytical batch 490-572593 recovered outside acceptance limits for Boron. There was insufficient sample to perform a re-extraction or re-analysis; therefore, the data have been reported.
AP MW-1D (490-166987-1), AP MW-3 (490-166987-2), AP MW-4 (490-166987-3), AP MW-5 (490-166987-4), AP MW-5 (490-166987-4[MS]), AP MW-5 (490-166987-4[MSD]), SSP/AP MW-1 (490-166987-5), SSP MW-2 (490-166987-6), SSP MW-3 (490-166987-7), SSP MW-4 (490-166987-8), SFL MW-2 (490-166987-9), SFL MW-3 (490-166987-10), SFL MW-4 (490-166987-11), SFL MW-5 (490-166987-12), SFL MW-6 (490-166987-13), SFL MW-7 (490-166987-14), MNW-15 (490-166987-15), MNW-18 (490-166987-16), EQBK-BG-011519 (490-166987-17), EQBK-SCM-011519 (490-166987-18), Dup-1 (490-166987-19), Dup-2 (490-166987-20), (LCS 490-571765/2-A), (LCSD 490-571765/3-A), (MB 490-571765/1-A), (490-166987-A-4-G PDS) and (490-166987-A-4-G SD ^5)

Method(s) 6020A: CRI associated with batch 490-573563 recovered outside acceptance limits for Boron. There was insufficient sample to perform a re-extraction or re-analysis; therefore, the data have been reported.
AP MW-1D (490-166987-1), AP MW-3 (490-166987-2), AP MW-4 (490-166987-3), AP MW-5 (490-166987-4), AP MW-5 (490-166987-4[MS]), AP MW-5 (490-166987-4[MSD]), SSP/AP MW-1 (490-166987-5), SSP MW-2 (490-166987-6), SSP MW-3 (490-166987-7), SSP MW-4 (490-166987-8), SFL MW-2 (490-166987-9), SFL MW-3 (490-166987-10), SFL MW-4 (490-166987-11), SFL MW-5 (490-166987-12), SFL MW-6 (490-166987-13), SFL MW-7 (490-166987-14), MNW-15 (490-166987-15), MNW-18 (490-166987-16), EQBK-BG-011519 (490-166987-17), EQBK-SCM-011519 (490-166987-18), Dup-1 (490-166987-19), Dup-2 (490-166987-20), (LCS 490-571765/2-A), (LCSD 490-571765/3-A) and (MB 490-571765/1-A)

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

General Chemistry

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

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery is outside acceptance limits.
*	LCS or LCSD is outside acceptance limits.

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: AP MW-1D
Date Collected: 01/15/19 13:48
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-1
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	197		10.0		mg/L			01/23/19 15:19	10
Fluoride	0.904		0.100		mg/L			01/31/19 09:30	1
Sulfate	532		20.0		mg/L			01/23/19 15:34	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00884		0.00200		mg/L		01/21/19 09:20	01/23/19 10:34	1
Beryllium	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 15:01	1
Boron	4.35	^	2.00		mg/L		01/25/19 10:39	02/04/19 21:37	20
Cadmium	ND		0.00100		mg/L		01/21/19 09:20	01/23/19 10:34	1
Calcium	81.4		1.00		mg/L		01/21/19 09:20	01/23/19 10:34	1
Cobalt	0.0164		0.00200		mg/L		01/21/19 09:20	01/23/19 10:34	1
Lithium	ND		0.0400		mg/L		01/21/19 09:20	01/24/19 15:01	1
Molybdenum	0.0174		0.00200		mg/L		01/21/19 09:20	01/23/19 10:34	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/23/19 14:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1350		25.0		mg/L			01/22/19 16:57	1

Client Sample ID: AP MW-3

Date Collected: 01/15/19 09:44
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-2

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**153**		10.0		mg/L			01/23/19 15:49	10
Fluoride	**0.223**		0.100		mg/L			01/31/19 09:40	1
Sulfate	**653**		20.0		mg/L			01/23/19 16:04	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:43	1
Beryllium	**0.00269**		0.00200		mg/L		01/21/19 09:20	01/24/19 15:13	1
Boron	**3.49**	^	2.00		mg/L		01/25/19 10:39	02/04/19 21:40	20
Cadmium	**0.00482**		0.00100		mg/L		01/21/19 09:20	01/23/19 10:43	1
Calcium	**121**		1.00		mg/L		01/21/19 09:20	01/24/19 15:13	1
Cobalt	**0.0428**		0.00200		mg/L		01/21/19 09:20	01/23/19 10:43	1
Lithium	ND		0.400		mg/L		01/21/19 09:20	01/24/19 15:16	10
Molybdenum	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:43	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/23/19 14:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1360**		25.0		mg/L			01/22/19 16:57	1

Client Sample Results

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: AP MW-4

Date Collected: 01/15/19 15:02
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-3

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**465**		20.0		mg/L			01/23/19 16:19	20
Fluoride	ND		0.100		mg/L			01/22/19 17:45	1
Sulfate	**2250**		100		mg/L			01/23/19 16:34	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:46	1
Beryllium	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 15:19	1
Boron	**2.17**	^	2.00		mg/L		01/25/19 10:39	02/04/19 21:43	20
Cadmium	ND		0.00100		mg/L		01/21/19 09:20	01/23/19 10:46	1
Calcium	**451**		1.00		mg/L		01/21/19 09:20	01/24/19 15:19	1
Cobalt	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:46	1
Lithium	**0.800**		0.0400		mg/L		01/21/19 09:20	01/24/19 15:19	1
Molybdenum	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:46	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/23/19 14:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4010**		100		mg/L			01/22/19 16:57	1

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: AP MW-5

Date Collected: 01/15/19 14:55
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-4

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	460		20.0		mg/L			01/23/19 16:48	20
Fluoride	2.50		2.00		mg/L			01/23/19 16:48	20
Sulfate	2590		200		mg/L			01/26/19 02:07	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0117	F1 F2	0.00200		mg/L		01/21/19 09:20	01/24/19 14:42	1
Beryllium	0.0778	F1 F2	0.00200		mg/L		01/21/19 09:20	01/24/19 14:42	1
Boron	3.38	^	2.00		mg/L		01/25/19 10:39	02/04/19 21:27	20
Cadmium	0.00985		0.00100		mg/L		01/21/19 09:20	01/23/19 10:18	1
Calcium	601	F2	10.0		mg/L		01/21/19 09:20	01/24/19 14:52	10
Cobalt	0.175	F1	0.00200		mg/L		01/21/19 09:20	01/23/19 10:18	1
Lithium	0.446	F2	0.0400		mg/L		01/21/19 09:20	01/24/19 14:42	1
Molybdenum	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:18	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/23/19 14:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4600		100		mg/L			01/22/19 16:57	1

Client Sample ID: SSP/AP MW-1

Date Collected: 01/15/19 09:50
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-5

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1500**		100		mg/L			01/23/19 17:18	100
Fluoride	ND		0.100		mg/L			01/22/19 18:45	1
Sulfate	**3070**		100		mg/L			01/23/19 17:18	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00410**		0.00200		mg/L		01/21/19 09:20	01/23/19 10:49	1
Beryllium	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 15:26	1
Boron	**1.43**	* ^	0.100		mg/L		01/25/19 10:39	01/29/19 21:47	1
Cadmium	ND		0.00100		mg/L		01/21/19 09:20	01/23/19 10:49	1
Calcium	**563**		1.00		mg/L		01/21/19 09:20	01/24/19 15:26	1
Cobalt	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:49	1
Lead	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 15:26	1
Lithium	**1.25**		0.0400		mg/L		01/21/19 09:20	01/24/19 15:26	1
Thallium	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**7060**		250		mg/L			01/22/19 16:57	1

Client Sample ID: SSP MW-2

Date Collected: 01/15/19 11:00
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-6

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2500**		100		mg/L			01/23/19 17:33	100
Fluoride	**2.56**		1.00		mg/L			02/01/19 11:58	10
Sulfate	**2030**		100		mg/L			01/23/19 17:33	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00552**		0.00200		mg/L		01/21/19 09:20	01/24/19 15:32	1
Beryllium	**0.0475**		0.00200		mg/L		01/21/19 09:20	01/24/19 15:32	1
Boron	ND	^	2.00		mg/L		01/25/19 10:39	02/04/19 21:55	20
Cadmium	ND		0.00100		mg/L		01/21/19 09:20	01/23/19 10:52	1
Calcium	**756**		1.00		mg/L		01/21/19 09:20	01/24/19 15:32	1
Cobalt	**0.0645**		0.00200		mg/L		01/21/19 09:20	01/23/19 10:52	1
Lead	**0.00219**		0.00200		mg/L		01/21/19 09:20	01/24/19 15:32	1
Lithium	**0.770**		0.0400		mg/L		01/21/19 09:20	01/24/19 15:32	1
Thallium	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6790**		250		mg/L			01/22/19 16:57	1

Client Sample ID: SSP MW-3
Date Collected: 01/15/19 12:20
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-7
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1770		100		mg/L			01/23/19 18:18	100
Fluoride	2.72		0.200		mg/L			02/01/19 12:08	2
Sulfate	2550		100		mg/L			01/23/19 18:18	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00655		0.00200		mg/L		01/21/19 09:20	01/24/19 15:38	1
Beryllium	0.101		0.00200		mg/L		01/21/19 09:20	01/23/19 10:56	1
Boron	2.47	^	2.00		mg/L		01/25/19 11:47	02/04/19 22:45	20
Cadmium	0.0877		0.00100		mg/L		01/21/19 09:20	01/23/19 10:56	1
Calcium	618		1.00		mg/L		01/21/19 09:20	01/24/19 15:38	1
Cobalt	0.621		0.00200		mg/L		01/21/19 09:20	01/23/19 10:56	1
Lead	0.00441		0.00200		mg/L		01/21/19 09:20	01/24/19 15:38	1
Lithium	0.514		0.0400		mg/L		01/21/19 09:20	01/23/19 10:56	1
Thallium	0.0112		0.00200		mg/L		01/21/19 09:20	01/23/19 10:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6410		250		mg/L			01/22/19 16:57	1

Client Sample ID: SSP MW-4

Date Collected: 01/15/19 13:40
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-8

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1150**		50.0		mg/L			01/23/19 18:32	50
Fluoride	**2.84**		0.200		mg/L			02/01/19 12:20	2
Sulfate	**1170**		50.0		mg/L			01/23/19 18:32	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00203**		0.00200		mg/L		01/21/19 09:20	01/23/19 10:59	1
Beryllium	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 15:50	1
Boron	ND	^	2.00		mg/L		01/25/19 10:39	02/04/19 21:58	20
Cadmium	ND		0.00100		mg/L		01/21/19 09:20	01/23/19 10:59	1
Calcium	**371**		1.00		mg/L		01/21/19 09:20	01/24/19 15:50	1
Cobalt	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:59	1
Lead	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 15:50	1
Lithium	**0.858**		0.0400		mg/L		01/21/19 09:20	01/24/19 15:50	1
Thallium	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**3790**		100		mg/L			01/22/19 16:57	1

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: SFL MW-2
Date Collected: 01/16/19 10:35
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-9
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2450**		100		mg/L			01/23/19 19:17	100
Fluoride	**3.06**		0.500		mg/L			02/01/19 12:31	5
Sulfate	**1480**		50.0		mg/L			01/23/19 19:02	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 15:57	1
Boron	ND	^	2.00		mg/L		01/25/19 10:39	02/04/19 22:01	20
Cadmium	ND		0.00100		mg/L		01/21/19 09:20	01/23/19 11:02	1
Calcium	**585**		1.00		mg/L		01/21/19 09:20	01/24/19 15:57	1
Cobalt	**0.0103**		0.00200		mg/L		01/21/19 09:20	01/23/19 11:02	1
Lead	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 15:57	1
Lithium	**0.408**		0.0400		mg/L		01/21/19 09:20	01/24/19 15:57	1
Thallium	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 11:02	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/24/19 13:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6090**		250		mg/L			01/22/19 16:57	1

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: SFL MW-3
Date Collected: 01/16/19 14:02
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-10
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1140		50.0		mg/L			01/23/19 19:32	50
Fluoride	1.49		0.500		mg/L			02/01/19 12:42	5
Sulfate	2460		100		mg/L			01/23/19 19:46	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.0289		0.00200		mg/L		01/21/19 09:20	01/24/19 16:03	1
Boron	3.06	^	2.00		mg/L		01/25/19 10:39	02/04/19 22:05	20
Cadmium	0.00720		0.00100		mg/L		01/21/19 09:20	01/23/19 11:05	1
Calcium	520		1.00		mg/L		01/21/19 09:20	01/24/19 16:03	1
Cobalt	0.0614		0.00200		mg/L		01/21/19 09:20	01/23/19 11:05	1
Lead	0.0183		0.00200		mg/L		01/21/19 09:20	01/24/19 16:03	1
Lithium	ND		0.400		mg/L		01/21/19 09:20	01/24/19 16:06	10
Thallium	0.00605		0.00200		mg/L		01/21/19 09:20	01/23/19 11:05	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00176		0.000200		mg/L		01/22/19 09:54	01/24/19 13:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5240		100		mg/L			01/22/19 16:57	1

Client Sample ID: SFL MW-4

Date Collected: 01/16/19 15:28
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-11

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1640**		50.0		mg/L			01/23/19 20:01	50
Fluoride	**1.70**		0.500		mg/L			02/01/19 12:53	5
Sulfate	**2220**		100		mg/L			01/23/19 20:16	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 16:09	1
Boron	ND	^	2.00		mg/L		01/25/19 10:39	02/04/19 22:08	20
Cadmium	ND		0.00100		mg/L		01/21/19 09:20	01/23/19 11:08	1
Calcium	**714**		1.00		mg/L		01/21/19 09:20	01/24/19 16:09	1
Cobalt	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 11:08	1
Lead	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 16:09	1
Lithium	**0.401**		0.0400		mg/L		01/21/19 09:20	01/24/19 16:09	1
Thallium	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 11:08	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/24/19 14:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6170**		250		mg/L			01/22/19 20:35	1

Client Sample ID: SFL MW-5

Date Collected: 01/16/19 09:25
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-12

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2880		100		mg/L			01/23/19 20:31	100
Fluoride	5.89		0.500		mg/L			02/01/19 13:04	5
Sulfate	2070		100		mg/L			01/23/19 20:31	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00885		0.00200		mg/L		01/21/19 09:20	01/24/19 16:15	1
Boron	4.08	^	2.00		mg/L		01/25/19 10:39	02/04/19 22:11	20
Cadmium	0.00531		0.00100		mg/L		01/21/19 09:20	01/23/19 11:11	1
Calcium	715		1.00		mg/L		01/21/19 09:20	01/24/19 16:15	1
Cobalt	0.0492		0.00200		mg/L		01/21/19 09:20	01/23/19 11:11	1
Lead	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 16:15	1
Lithium	0.643		0.0400		mg/L		01/21/19 09:20	01/24/19 16:15	1
Thallium	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 11:11	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/24/19 14:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7300		250		mg/L			01/22/19 20:35	1

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: SFL MW-6
Date Collected: 01/16/19 11:18
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-13
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3490		100		mg/L			01/23/19 22:29	100
Fluoride	8.72		0.500		mg/L			02/01/19 13:16	5
Sulfate	2500		100		mg/L			01/23/19 22:29	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.0418		0.00200		mg/L		01/21/19 09:20	01/24/19 16:28	1
Boron	ND	^	2.00		mg/L		01/25/19 10:39	02/04/19 22:14	20
Cadmium	0.00955		0.00100		mg/L		01/21/19 09:20	01/23/19 11:20	1
Calcium	824		1.00		mg/L		01/21/19 09:20	01/24/19 16:28	1
Cobalt	0.112		0.00200		mg/L		01/21/19 09:20	01/23/19 11:20	1
Lead	0.00549		0.00200		mg/L		01/21/19 09:20	01/24/19 16:28	1
Lithium	0.619		0.0400		mg/L		01/21/19 09:20	01/24/19 16:28	1
Thallium	0.00315		0.00200		mg/L		01/21/19 09:20	01/24/19 16:28	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/24/19 14:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8850		250		mg/L			01/22/19 20:35	1

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: SFL MW-7
Date Collected: 01/16/19 12:00
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-14
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2580**		100		mg/L			01/23/19 23:13	100
Fluoride	**2.62**		0.500		mg/L			02/01/19 13:49	5
Sulfate	**694**		50.0		mg/L			01/23/19 22:58	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 16:34	1
Boron	ND	^	2.00		mg/L		01/25/19 10:39	02/04/19 22:17	20
Cadmium	ND		0.00100		mg/L		01/21/19 09:20	01/23/19 11:23	1
Calcium	**523**		1.00		mg/L		01/21/19 09:20	01/24/19 16:34	1
Cobalt	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 11:23	1
Lead	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 16:34	1
Lithium	**0.388**		0.0400		mg/L		01/21/19 09:20	01/24/19 16:34	1
Thallium	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 16:34	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/24/19 14:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6090**		250		mg/L			01/22/19 20:35	1

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: MNW-15
Date Collected: 01/16/19 12:59
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-15
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	667		20.0		mg/L			01/23/19 23:28	20
Fluoride	1.04		0.100		mg/L			01/31/19 12:43	1
Sulfate	1310		100		mg/L			01/26/19 02:22	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.0606		0.00200		mg/L		01/21/19 09:20	01/24/19 16:40	1
Boron	8.56	^	2.00		mg/L		01/25/19 10:39	02/04/19 22:20	20
Cadmium	0.0945		0.00100		mg/L		01/21/19 09:20	01/23/19 11:27	1
Calcium	244		1.00		mg/L		01/21/19 09:20	01/24/19 16:40	1
Cobalt	0.297		0.00200		mg/L		01/21/19 09:20	01/23/19 11:27	1
Lead	0.00297		0.00200		mg/L		01/21/19 09:20	01/24/19 16:40	1
Lithium	ND		0.400		mg/L		01/21/19 09:20	01/24/19 16:43	10
Thallium	0.00248		0.00200		mg/L		01/21/19 09:20	01/24/19 16:40	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000942		0.000200		mg/L		01/22/19 09:54	01/24/19 14:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3030		50.0		mg/L			01/22/19 20:35	1

Client Sample ID: MNW-18

Date Collected: 01/16/19 09:28
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-16

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**504**		20.0		mg/L			01/23/19 23:57	20
Fluoride	**2.01**		0.200		mg/L			02/01/19 14:01	2
Sulfate	**1720**		50.0		mg/L			01/24/19 00:12	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 16:46	1
Boron	ND	^	2.00		mg/L		01/25/19 10:39	02/04/19 22:23	20
Cadmium	ND		0.00100		mg/L		01/21/19 09:20	01/23/19 11:30	1
Calcium	**316**		1.00		mg/L		01/21/19 09:20	01/24/19 16:46	1
Cobalt	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 11:30	1
Lead	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 16:46	1
Lithium	**0.403**		0.0400		mg/L		01/21/19 09:20	01/24/19 16:46	1
Thallium	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 16:46	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/24/19 16:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**3750**		100		mg/L			01/22/19 20:35	1

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: EQBK-BG-011519
Date Collected: 01/15/19 15:50
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-17
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			01/23/19 05:45	1
Fluoride	ND		0.100		mg/L			01/31/19 13:05	1
Sulfate	ND		1.00		mg/L			01/23/19 05:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 11:33	1
Beryllium	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 16:52	1
Boron	ND	^	2.00		mg/L		01/25/19 10:39	02/04/19 22:32	20
Cadmium	ND		0.00100		mg/L		01/21/19 09:20	01/23/19 11:33	1
Calcium	ND		1.00		mg/L		01/21/19 09:20	01/23/19 11:33	1
Cobalt	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 11:33	1
Lithium	ND		0.0400		mg/L		01/21/19 09:20	01/24/19 16:52	1
Molybdenum	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 11:33	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/24/19 16:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		25.0		mg/L			01/22/19 16:57	1

Client Sample ID: EQBK-SCM-011519

Date Collected: 01/15/19 15:50
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-18

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			01/23/19 06:00	1
Fluoride	ND		0.100		mg/L			01/31/19 13:16	1
Sulfate	ND		1.00		mg/L			01/23/19 06:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 11:36	1
Beryllium	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 17:05	1
Boron	ND	^	2.00		mg/L		01/25/19 10:39	02/04/19 22:36	20
Cadmium	ND		0.00100		mg/L		01/21/19 09:20	01/23/19 11:36	1
Calcium	ND		1.00		mg/L		01/21/19 09:20	01/23/19 11:36	1
Cobalt	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 11:36	1
Lead	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 17:05	1
Lithium	ND		0.0400		mg/L		01/21/19 09:20	01/24/19 17:05	1
Molybdenum	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 11:36	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/24/19 16:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		25.0		mg/L			01/22/19 16:57	1

Client Sample ID: Dup-1

Date Collected: 01/15/19 00:01
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-19

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1750		100		mg/L			01/24/19 00:27	100
Fluoride	2.79		0.200		mg/L			02/01/19 14:12	2
Sulfate	2360		100		mg/L			01/24/19 00:27	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00578		0.00200		mg/L		01/21/19 09:20	01/24/19 17:11	1
Beryllium	0.0989		0.00200		mg/L		01/21/19 09:20	01/24/19 17:11	1
Boron	2.52	^	2.00		mg/L		01/25/19 10:39	02/04/19 22:39	20
Cadmium	0.0780		0.00100		mg/L		01/21/19 09:20	01/23/19 11:39	1
Calcium	586		1.00		mg/L		01/21/19 09:20	01/24/19 17:11	1
Cobalt	0.575		0.00200		mg/L		01/21/19 09:20	01/23/19 11:39	1
Lead	0.00421		0.00200		mg/L		01/21/19 09:20	01/24/19 17:11	1
Lithium	0.533		0.0400		mg/L		01/21/19 09:20	01/24/19 17:11	1
Thallium	0.00955		0.00200		mg/L		01/21/19 09:20	01/24/19 17:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6310		250		mg/L			01/22/19 16:57	1

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: Dup-2
Date Collected: 01/16/19 00:01
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-20
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1170		50.0		mg/L			01/24/19 00:42	50
Fluoride	1.71		0.500		mg/L			02/01/19 14:23	5
Sulfate	2590		100		mg/L			01/24/19 01:26	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.0304		0.00200		mg/L		01/21/19 09:20	01/24/19 17:17	1
Boron	5.91	* ^	0.100		mg/L		01/25/19 10:39	01/29/19 22:37	1
Cadmium	0.00664		0.00100		mg/L		01/21/19 09:20	01/23/19 11:42	1
Calcium	555		1.00		mg/L		01/21/19 09:20	01/24/19 17:17	1
Cobalt	0.0614		0.00200		mg/L		01/21/19 09:20	01/23/19 11:42	1
Lead	0.0185		0.00200		mg/L		01/21/19 09:20	01/24/19 17:17	1
Lithium	ND		0.400		mg/L		01/21/19 09:20	01/24/19 17:20	10
Thallium	0.00565		0.00200		mg/L		01/21/19 09:20	01/24/19 17:17	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00130		0.000200		mg/L		01/22/19 09:54	01/24/19 16:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5190		100		mg/L			01/22/19 20:35	1

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: EQBK-SCM-011619
Date Collected: 01/16/19 15:30
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-21
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			01/31/19 14:42	1
Fluoride	ND		0.100		mg/L			01/31/19 14:42	1
Sulfate	ND		1.00		mg/L			01/31/19 14:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00200		mg/L		01/21/19 09:25	01/22/19 13:17	1
Boron	ND		0.100		mg/L		01/23/19 11:18	01/24/19 14:05	1
Cadmium	ND		0.00100		mg/L		01/21/19 09:25	01/22/19 13:17	1
Calcium	ND		1.00		mg/L		01/21/19 09:25	01/22/19 13:17	1
Cobalt	ND		0.00200		mg/L		01/21/19 09:25	01/22/19 13:17	1
Lead	ND		0.00200		mg/L		01/21/19 09:25	01/22/19 13:17	1
Lithium	ND		0.0400		mg/L		01/21/19 09:25	01/22/19 13:17	1
Thallium	ND		0.00200		mg/L		01/21/19 09:25	01/22/19 13:17	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/24/19 16:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		25.0		mg/L			01/22/19 20:35	1

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: EQBK-BG-011619
Date Collected: 01/16/19 13:30
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-22
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			01/31/19 15:14	1
Fluoride	ND		0.100		mg/L			01/31/19 15:14	1
Sulfate	ND		1.00		mg/L			01/31/19 15:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00200		mg/L		01/21/19 09:25	01/22/19 13:39	1
Boron	ND		0.100		mg/L		01/23/19 11:18	01/24/19 13:49	1
Cadmium	ND		0.00100		mg/L		01/21/19 09:25	01/22/19 13:39	1
Calcium	ND		1.00		mg/L		01/21/19 09:25	01/22/19 13:39	1
Cobalt	ND		0.00200		mg/L		01/21/19 09:25	01/22/19 13:39	1
Lead	**0.00242**		0.00200		mg/L		01/21/19 09:25	01/22/19 13:39	1
Lithium	ND		0.0400		mg/L		01/21/19 09:25	01/22/19 13:39	1
Thallium	ND		0.00200		mg/L		01/21/19 09:25	01/22/19 13:39	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/24/19 16:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		25.0		mg/L			01/22/19 20:35	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 490-571005/3
Matrix: Water
Analysis Batch: 571005

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			01/22/19 15:32	1
Fluoride	ND		0.100		mg/L			01/22/19 15:32	1
Sulfate	ND		1.00		mg/L			01/22/19 15:32	1

Lab Sample ID: LCS 490-571005/4
Matrix: Water
Analysis Batch: 571005

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.02		mg/L		100	80 - 120
Fluoride	1.00	1.011		mg/L		101	80 - 120
Sulfate	10.0	9.825		mg/L		98	80 - 120

Lab Sample ID: LCSD 490-571005/5
Matrix: Water
Analysis Batch: 571005

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	10.03		mg/L		100	80 - 120	0	20
Fluoride	1.00	1.077		mg/L		108	80 - 120	6	20
Sulfate	10.0	10.05		mg/L		100	80 - 120	2	20

Lab Sample ID: 490-166987-4 MS
Matrix: Water
Analysis Batch: 571005

Client Sample ID: AP MW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	449	E	10.0	448.1	E 4	mg/L		-11	80 - 120
Fluoride	2.01	E F1	1.00	2.677	E F1	mg/L		67	80 - 120
Sulfate	2400	E	10.0	2366	E 4	mg/L		-340	80 - 120

Lab Sample ID: 490-166987-4 MSD
Matrix: Water
Analysis Batch: 571005

Client Sample ID: AP MW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	449	E	10.0	448.2	E 4	mg/L		-9	80 - 120	0	20
Fluoride	2.01	E F1	1.00	2.713	E F1	mg/L		70	80 - 120	1	20
Sulfate	2400	E	10.0	2367	E 4	mg/L		-334	80 - 120	0	20

Lab Sample ID: MB 490-571006/3
Matrix: Water
Analysis Batch: 571006

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			01/22/19 23:11	1
Sulfate	ND		1.00		mg/L			01/22/19 23:11	1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 490-571006/4
Matrix: Water
Analysis Batch: 571006

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.05		mg/L		100	80 - 120
Sulfate	10.0	9.602		mg/L		96	80 - 120

Lab Sample ID: LCSD 490-571006/5
Matrix: Water
Analysis Batch: 571006

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	10.10		mg/L		101	80 - 120	0	20
Sulfate	10.0	9.639		mg/L		96	80 - 120	0	20

Lab Sample ID: 490-166987-20 MS
Matrix: Water
Analysis Batch: 571006

Client Sample ID: Dup-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1130	E	10.0	1097	E 4	mg/L		-311	80 - 120
Sulfate	2060	E	10.0	2010	E 4	mg/L		-530	80 - 120

Lab Sample ID: 490-166987-20 MSD
Matrix: Water
Analysis Batch: 571006

Client Sample ID: Dup-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1130	E	10.0	1098	E 4	mg/L		-310	80 - 120	0	20
Sulfate	2060	E	10.0	2010	E 4	mg/L		-526	80 - 120	0	20

Lab Sample ID: MB 490-571340/3
Matrix: Water
Analysis Batch: 571340

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			01/23/19 14:35	1
Fluoride	ND		0.100		mg/L			01/23/19 14:35	1
Sulfate	ND		1.00		mg/L			01/23/19 14:35	1

Lab Sample ID: LCS 490-571340/4
Matrix: Water
Analysis Batch: 571340

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.876		mg/L		99	80 - 120
Fluoride	1.00	0.9992		mg/L		100	80 - 120
Sulfate	10.0	9.935		mg/L		99	80 - 120

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 490-571340/5
Matrix: Water
Analysis Batch: 571340

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.885		mg/L		99	80 - 120	0	20
Fluoride	1.00	1.052		mg/L		105	80 - 120	5	20
Sulfate	10.0	10.16		mg/L		101	80 - 120	2	20

Lab Sample ID: MB 490-571342/3
Matrix: Water
Analysis Batch: 571342

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			01/23/19 21:45	1
Fluoride	ND		0.100		mg/L			01/23/19 21:45	1
Sulfate	ND		1.00		mg/L			01/23/19 21:45	1

Lab Sample ID: LCS 490-571342/4
Matrix: Water
Analysis Batch: 571342

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.777		mg/L		98	80 - 120
Fluoride	1.00	1.200		mg/L		120	80 - 120
Sulfate	10.0	10.42		mg/L		104	80 - 120

Lab Sample ID: LCSD 490-571342/5
Matrix: Water
Analysis Batch: 571342

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.781		mg/L		98	80 - 120	0	20
Fluoride	1.00	1.225	*	mg/L		122	80 - 120	2	20
Sulfate	10.0	10.55		mg/L		105	80 - 120	1	20

Lab Sample ID: MB 490-571919/3
Matrix: Water
Analysis Batch: 571919

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			01/25/19 22:11	1
Fluoride	ND		0.100		mg/L			01/25/19 22:11	1
Sulfate	ND		1.00		mg/L			01/25/19 22:11	1

Lab Sample ID: LCS 490-571919/5
Matrix: Water
Analysis Batch: 571919

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.800		mg/L		98	80 - 120
Sulfate	10.0	9.152		mg/L		91	80 - 120

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 490-571919/6
Matrix: Water
Analysis Batch: 571919

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.816		mg/L		98	80 - 120	0	20
Sulfate	10.0	9.176		mg/L		92	80 - 120	0	20

Lab Sample ID: MB 490-573008/3
Matrix: Water
Analysis Batch: 573008

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			01/31/19 08:57	1
Fluoride	ND		0.100		mg/L			01/31/19 08:57	1
Sulfate	ND		1.00		mg/L			01/31/19 08:57	1

Lab Sample ID: MB 490-573008/32
Matrix: Water
Analysis Batch: 573008

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			01/31/19 14:09	1
Fluoride	ND		0.100		mg/L			01/31/19 14:09	1
Sulfate	ND		1.00		mg/L			01/31/19 14:09	1

Lab Sample ID: LCS 490-573008/33
Matrix: Water
Analysis Batch: 573008

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.554		mg/L		95	80 - 120
Fluoride	1.00	0.9093		mg/L		91	80 - 120
Sulfate	10.0	9.613		mg/L		96	80 - 120

Lab Sample ID: LCS 490-573008/4
Matrix: Water
Analysis Batch: 573008

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.069		mg/L		91	80 - 120
Fluoride	1.00	1.032		mg/L		103	80 - 120
Sulfate	10.0	9.185		mg/L		92	80 - 120

Lab Sample ID: LCSD 490-573008/34
Matrix: Water
Analysis Batch: 573008

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.588		mg/L		96	80 - 120	0	20
Fluoride	1.00	0.9970		mg/L		100	80 - 120	9	20
Sulfate	10.0	9.606		mg/L		96	80 - 120	0	20

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 490-573008/5
Matrix: Water
Analysis Batch: 573008

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			10.0	9.108		mg/L		91	80 - 120	0	20
Fluoride			1.00	1.026		mg/L		103	80 - 120	1	20
Sulfate			10.0	9.225		mg/L		92	80 - 120	0	20

Lab Sample ID: 490-166987-21 MS
Matrix: Water
Analysis Batch: 573008

Client Sample ID: EQBK-SCM-011619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	ND		10.0	10.33		mg/L		100	80 - 120
Fluoride	ND		1.00	1.090		mg/L		109	80 - 120
Sulfate	ND		10.0	10.24		mg/L		101	80 - 120

Lab Sample ID: 490-166987-21 MSD
Matrix: Water
Analysis Batch: 573008

Client Sample ID: EQBK-SCM-011619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND		10.0	9.619		mg/L		92	80 - 120	7	20
Fluoride	ND		1.00	0.9715		mg/L		97	80 - 120	12	20
Sulfate	ND		10.0	9.742		mg/L		96	80 - 120	5	20

Lab Sample ID: MB 490-573051/3
Matrix: Water
Analysis Batch: 573051

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			02/01/19 11:04	1
Fluoride	ND		0.100		mg/L			02/01/19 11:04	1
Sulfate	ND		1.00		mg/L			02/01/19 11:04	1

Lab Sample ID: LCS 490-573051/4
Matrix: Water
Analysis Batch: 573051

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			10.0	9.184		mg/L		92	80 - 120
Fluoride			1.00	0.9565		mg/L		96	80 - 120
Sulfate			10.0	9.347		mg/L		93	80 - 120

Lab Sample ID: LCSD 490-573051/5
Matrix: Water
Analysis Batch: 573051

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			10.0	9.279		mg/L		93	80 - 120	1	20
Fluoride			1.00	0.9509		mg/L		95	80 - 120	1	20
Sulfate			10.0	9.356		mg/L		93	80 - 120	0	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 490-570711/1-A
Matrix: Water
Analysis Batch: 571286

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 570711

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:09	1
Cadmium	ND		0.00100		mg/L		01/21/19 09:20	01/23/19 10:09	1
Calcium	ND		1.00		mg/L		01/21/19 09:20	01/23/19 10:09	1
Cobalt	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:09	1
Molybdenum	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:09	1
Thallium	ND		0.00200		mg/L		01/21/19 09:20	01/23/19 10:09	1

Lab Sample ID: MB 490-570711/1-A
Matrix: Water
Analysis Batch: 571667

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 570711

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 14:27	1
Lead	ND		0.00200		mg/L		01/21/19 09:20	01/24/19 14:27	1
Lithium	ND		0.0400		mg/L		01/21/19 09:20	01/24/19 14:27	1

Lab Sample ID: LCS 490-570711/2-A
Matrix: Water
Analysis Batch: 571286

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 570711

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.1096		mg/L		110	80 - 120
Cadmium	0.100	0.1083		mg/L		108	80 - 120
Calcium	10.0	9.504		mg/L		95	80 - 120
Chromium	0.100	0.1122		mg/L		112	80 - 120
Cobalt	0.100	0.1113		mg/L		111	80 - 120
Molybdenum	0.100	0.1053		mg/L		105	80 - 120
Selenium	0.100	0.1040		mg/L		104	80 - 120
Thallium	0.100	0.1059		mg/L		106	80 - 120

Lab Sample ID: LCS 490-570711/2-A
Matrix: Water
Analysis Batch: 571667

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 570711

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.1134		mg/L		113	80 - 120
Barium	0.100	0.1032		mg/L		103	80 - 120
Beryllium	0.100	0.09544		mg/L		95	80 - 120
Lead	0.100	0.1000		mg/L		100	80 - 120
Lithium	0.100	0.09713		mg/L		97	80 - 120

Lab Sample ID: LCSD 490-570711/3-A
Matrix: Water
Analysis Batch: 571286

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 570711

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.1156		mg/L		116	80 - 120	5	20
Cadmium	0.100	0.1107		mg/L		111	80 - 120	2	20
Calcium	10.0	9.800		mg/L		98	80 - 120	3	20

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

Lab Sample ID: LCSD 490-570711/3-A
Matrix: Water
Analysis Batch: 571286

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 570711

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium			0.100	0.1072		mg/L		107	80 - 120	5	20
Cobalt			0.100	0.1050		mg/L		105	80 - 120	6	20
Molybdenum			0.100	0.1085		mg/L		108	80 - 120	3	20
Selenium			0.100	0.1066		mg/L		107	80 - 120	2	20
Thallium			0.100	0.1081		mg/L		108	80 - 120	2	20

Lab Sample ID: LCSD 490-570711/3-A
Matrix: Water
Analysis Batch: 571667

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 570711

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony			0.100	0.1165		mg/L		116	80 - 120	3	20
Barium			0.100	0.1031		mg/L		103	80 - 120	0	20
Beryllium			0.100	0.1000		mg/L		100	80 - 120	5	20
Lead			0.100	0.1029		mg/L		103	80 - 120	3	20
Lithium			0.100	0.1005		mg/L		101	80 - 120	3	20

Lab Sample ID: 490-166987-4 MS
Matrix: Water
Analysis Batch: 571286

Client Sample ID: AP MW-5
Prep Type: Total Recoverable
Prep Batch: 570711

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.00985		0.100	0.1224		mg/L		113	75 - 125
Cobalt	0.175	F1	0.100	0.3073	F1	mg/L		132	75 - 125
Molybdenum	ND		0.100	0.1186		mg/L		119	75 - 125

Lab Sample ID: 490-166987-4 MS
Matrix: Water
Analysis Batch: 571667

Client Sample ID: AP MW-5
Prep Type: Total Recoverable
Prep Batch: 570711

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0117	F1 F2	0.100	ND	F1	mg/L		-10	75 - 125
Beryllium	0.0778	F1 F2	0.100	0.01003	F1	mg/L		-68	75 - 125
Lithium	0.446	F2	0.100	0.05561	4	mg/L		-391	75 - 125

Lab Sample ID: 490-166987-4 MS
Matrix: Water
Analysis Batch: 571667

Client Sample ID: AP MW-5
Prep Type: Total Recoverable
Prep Batch: 570711

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	601	F2	10.0	4820	4	mg/L		42193	75 - 125

Lab Sample ID: 490-166987-4 MSD
Matrix: Water
Analysis Batch: 571286

Client Sample ID: AP MW-5
Prep Type: Total Recoverable
Prep Batch: 570711

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	0.00985		0.100	0.1205		mg/L		111	75 - 125	2	20
Cobalt	0.175	F1	0.100	0.2839		mg/L		108	75 - 125	8	20

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

Lab Sample ID: 490-166987-4 MSD
Matrix: Water
Analysis Batch: 571286

Client Sample ID: AP MW-5
Prep Type: Total Recoverable
Prep Batch: 570711

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Molybdenum	ND		0.100	0.1181		mg/L		118	75 - 125	0	20

Lab Sample ID: 490-166987-4 MSD
Matrix: Water
Analysis Batch: 571667

Client Sample ID: AP MW-5
Prep Type: Total Recoverable
Prep Batch: 570711

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0117	F1 F2	0.100	0.1189	F2	mg/L		107	75 - 125	196	20
Beryllium	0.0778	F1 F2	0.100	0.1707	F2	mg/L		93	75 - 125	178	20
Lithium	0.446	F2	0.100	0.5560	4 F2	mg/L		110	75 - 125	164	20

Lab Sample ID: 490-166987-4 MSD
Matrix: Water
Analysis Batch: 571667

Client Sample ID: AP MW-5
Prep Type: Total Recoverable
Prep Batch: 570711

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	601	F2	10.0	503.6	4 F2	mg/L		-974	75 - 125	162	20

Lab Sample ID: MB 490-570712/1-A
Matrix: Water
Analysis Batch: 571121

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 570712

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00200		mg/L		01/21/19 09:25	01/22/19 13:08	1
Beryllium	ND		0.00200		mg/L		01/21/19 09:25	01/22/19 13:08	1
Cadmium	ND		0.00100		mg/L		01/21/19 09:25	01/22/19 13:08	1
Calcium	ND		1.00		mg/L		01/21/19 09:25	01/22/19 13:08	1
Cobalt	ND		0.00200		mg/L		01/21/19 09:25	01/22/19 13:08	1
Lead	ND		0.00200		mg/L		01/21/19 09:25	01/22/19 13:08	1
Lithium	ND		0.0400		mg/L		01/21/19 09:25	01/22/19 13:08	1
Molybdenum	ND		0.00200		mg/L		01/21/19 09:25	01/22/19 13:08	1
Thallium	ND		0.00200		mg/L		01/21/19 09:25	01/22/19 13:08	1

Lab Sample ID: LCS 490-570712/2-A
Matrix: Water
Analysis Batch: 571121

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 570712

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.09944		mg/L		99	80 - 120
Beryllium	0.100	0.1028		mg/L		103	80 - 120
Cadmium	0.100	0.1030		mg/L		103	80 - 120
Calcium	10.0	9.448		mg/L		94	80 - 120
Cobalt	0.100	0.09362		mg/L		94	80 - 120
Lead	0.100	0.1020		mg/L		102	80 - 120
Lithium	0.100	0.1038		mg/L		104	80 - 120
Molybdenum	0.100	0.09939		mg/L		99	80 - 120
Selenium	0.100	0.1067		mg/L		107	80 - 120
Thallium	0.100	0.1011		mg/L		101	80 - 120

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

Lab Sample ID: LCS 490-570712/2-A
Matrix: Water
Analysis Batch: 571156

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 570712

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.100	0.1072		mg/L		107	80 - 120

Lab Sample ID: LCSD 490-570712/3-A
Matrix: Water
Analysis Batch: 571121

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 570712

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.1044		mg/L		104	80 - 120	5	20
Beryllium	0.100	0.1027		mg/L		103	80 - 120	0	20
Cadmium	0.100	0.1037		mg/L		104	80 - 120	1	20
Calcium	10.0	9.320		mg/L		93	80 - 120	1	20
Cobalt	0.100	0.09588		mg/L		96	80 - 120	2	20
Lead	0.100	0.1014		mg/L		101	80 - 120	1	20
Lithium	0.100	0.1017		mg/L		102	80 - 120	2	20
Molybdenum	0.100	0.09928		mg/L		99	80 - 120	0	20
Selenium	0.100	0.1050		mg/L		105	80 - 120	2	20
Thallium	0.100	0.1004		mg/L		100	80 - 120	1	20

Lab Sample ID: LCSD 490-570712/3-A
Matrix: Water
Analysis Batch: 571156

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 570712

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.100	0.1057		mg/L		106	80 - 120	1	20

Lab Sample ID: 490-166987-21 MS
Matrix: Water
Analysis Batch: 571121

Client Sample ID: EQBK-SCM-011619
Prep Type: Total Recoverable
Prep Batch: 570712

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.100	0.1049		mg/L		105	75 - 125
Beryllium	ND		0.100	0.1047		mg/L		105	75 - 125
Cadmium	ND		0.100	0.1047		mg/L		105	75 - 125
Calcium	ND		10.0	9.787		mg/L		98	75 - 125
Cobalt	ND		0.100	0.09821		mg/L		98	75 - 125
Lead	ND		0.100	0.1027		mg/L		103	75 - 125
Lithium	ND		0.100	0.1046		mg/L		105	75 - 125
Molybdenum	ND		0.100	0.1008		mg/L		101	75 - 125
Selenium	ND		0.100	0.1083		mg/L		108	75 - 125
Thallium	ND		0.100	0.1009		mg/L		101	75 - 125

Lab Sample ID: 490-166987-21 MS
Matrix: Water
Analysis Batch: 571156

Client Sample ID: EQBK-SCM-011619
Prep Type: Total Recoverable
Prep Batch: 570712

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	ND		0.100	0.1056		mg/L		105	75 - 125

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

Lab Sample ID: 490-166987-21 MSD — **Client Sample ID: EQBK-SCM-011619**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 571121 — **Prep Batch: 570712**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		0.100	0.08852		mg/L		89	75 - 125	17	20
Beryllium	ND		0.100	0.09359		mg/L		94	75 - 125	11	20
Cadmium	ND		0.100	0.09323		mg/L		93	75 - 125	12	20
Calcium	ND		10.0	8.472		mg/L		85	75 - 125	14	20
Cobalt	ND		0.100	0.08233		mg/L		82	75 - 125	18	20
Lead	ND		0.100	0.09120		mg/L		91	75 - 125	12	20
Lithium	ND		0.100	0.09435		mg/L		94	75 - 125	10	20
Molybdenum	ND		0.100	0.08943		mg/L		89	75 - 125	12	20
Selenium	ND		0.100	0.09634		mg/L		96	75 - 125	12	20
Thallium	ND		0.100	0.09033		mg/L		90	75 - 125	11	20

Lab Sample ID: 490-166987-21 MSD — **Client Sample ID: EQBK-SCM-011619**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 571156 — **Prep Batch: 570712**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	ND		0.100	0.09391		mg/L		94	75 - 125	12	20

Lab Sample ID: MB 490-571251/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 571570 — **Prep Batch: 571251**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.100		mg/L		01/23/19 11:18	01/24/19 13:40	1

Lab Sample ID: LCS 490-571251/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 571570 — **Prep Batch: 571251**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.1106		mg/L		111	80 - 120
Boron	0.100	0.09846	J	mg/L		98	80 - 120
Chromium	0.100	0.1004		mg/L		100	80 - 120

Lab Sample ID: LCSD 490-571251/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 571570 — **Prep Batch: 571251**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.1130		mg/L		113	80 - 120	2	20
Boron	0.100	0.09659	J	mg/L		97	80 - 120	2	20
Chromium	0.100	0.1085		mg/L		108	80 - 120	8	20

Lab Sample ID: 490-166987-22 MS — **Client Sample ID: EQBK-BG-011619**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 571570 — **Prep Batch: 571251**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.100	0.1143		mg/L		113	75 - 125

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

Lab Sample ID: 490-166987-22 MS
Matrix: Water
Analysis Batch: 571570

Client Sample ID: EQBK-BG-011619
Prep Type: Total Recoverable
Prep Batch: 571251

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	ND		0.100	ND		mg/L		98	75 - 125
Chromium	ND		0.100	0.09707		mg/L		96	75 - 125

Lab Sample ID: 490-166987-22 MSD
Matrix: Water
Analysis Batch: 571570

Client Sample ID: EQBK-BG-011619
Prep Type: Total Recoverable
Prep Batch: 571251

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		0.100	0.1167		mg/L		115	75 - 125	2	20
Boron	ND		0.100	0.1042		mg/L		104	75 - 125	6	20
Chromium	ND		0.100	0.1067		mg/L		106	75 - 125	9	20

Lab Sample ID: MB 490-571765/1-A
Matrix: Water
Analysis Batch: 572593

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 571765

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND	^	0.100		mg/L		01/25/19 10:39	01/29/19 21:01	1

Lab Sample ID: MB 490-571765/1-A
Matrix: Water
Analysis Batch: 573563

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 571765

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00200		mg/L		01/25/19 10:39	02/04/19 21:18	1
Boron	ND	^	0.100		mg/L		01/25/19 10:39	02/04/19 21:18	1
Cadmium	ND		0.00100		mg/L		01/25/19 10:39	02/04/19 21:18	1
Cobalt	ND		0.00200		mg/L		01/25/19 10:39	02/04/19 21:18	1
Lead	ND		0.00200		mg/L		01/25/19 10:39	02/04/19 21:18	1
Molybdenum	ND		0.00200		mg/L		01/25/19 10:39	02/04/19 21:18	1
Thallium	ND		0.00200		mg/L		01/25/19 10:39	02/04/19 21:18	1

Lab Sample ID: LCS 490-571765/2-A
Matrix: Water
Analysis Batch: 572593

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 571765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.100	0.1756	^ *	mg/L		176	80 - 120

Lab Sample ID: LCS 490-571765/2-A
Matrix: Water
Analysis Batch: 573563

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 571765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.100	0.09815		mg/L		98	80 - 120
Cadmium	0.100	0.1039		mg/L		104	80 - 120
Chromium	0.100	0.1033		mg/L		103	80 - 120
Cobalt	0.100	0.1038		mg/L		104	80 - 120
Lead	0.100	0.1006		mg/L		101	80 - 120

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

Lab Sample ID: LCS 490-571765/2-A
Matrix: Water
Analysis Batch: 573563

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 571765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	0.100	0.1016		mg/L		102	80 - 120
Thallium	0.100	0.09976		mg/L		100	80 - 120

Lab Sample ID: LCSD 490-571765/3-A
Matrix: Water
Analysis Batch: 572593

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 571765

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.100	0.1713	* ^	mg/L		171	80 - 120	2	20

Lab Sample ID: LCSD 490-571765/3-A
Matrix: Water
Analysis Batch: 573563

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 571765

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	0.100	0.09895		mg/L		99	80 - 120	1	20
Cadmium	0.100	0.1031		mg/L		103	80 - 120	1	20
Chromium	0.100	0.1040		mg/L		104	80 - 120	1	20
Cobalt	0.100	0.1030		mg/L		103	80 - 120	1	20
Lead	0.100	0.1013		mg/L		101	80 - 120	1	20
Molybdenum	0.100	0.1017		mg/L		102	80 - 120	0	20
Thallium	0.100	0.1010		mg/L		101	80 - 120	1	20

Lab Sample ID: 490-166987-4 MS
Matrix: Water
Analysis Batch: 573563

Client Sample ID: AP MW-5
Prep Type: Total Recoverable
Prep Batch: 571765

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	3.38	^	0.100	3.778	4 ^	mg/L		394	75 - 125

Lab Sample ID: 490-166987-4 MSD
Matrix: Water
Analysis Batch: 573563

Client Sample ID: AP MW-5
Prep Type: Total Recoverable
Prep Batch: 571765

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	3.38	^	0.100	3.631	4 ^	mg/L		247	75 - 125	4	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 490-570912/1-A
Matrix: Water
Analysis Batch: 571490

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 570912

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		01/22/19 09:54	01/23/19 14:30	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 490-570912/2-A
Matrix: Water
Analysis Batch: 571490

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 570912

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00100	0.0008842		mg/L		88	80 - 120		

Lab Sample ID: LCSD 490-570912/3-A
Matrix: Water
Analysis Batch: 571490

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 570912

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.00100	0.0008692		mg/L		87	80 - 120	2	20

Lab Sample ID: 490-166987-4 MS
Matrix: Water
Analysis Batch: 571490

Client Sample ID: AP MW-5
Prep Type: Total/NA
Prep Batch: 570912

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		0.00100	0.0009484		mg/L		77	75 - 125		

Lab Sample ID: 490-166987-4 MSD
Matrix: Water
Analysis Batch: 571490

Client Sample ID: AP MW-5
Prep Type: Total/NA
Prep Batch: 570912

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00100	0.0009421		mg/L		76	75 - 125	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 490-569014/1
Matrix: Water
Analysis Batch: 569014

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		25.0		mg/L			01/22/19 16:57	1

Lab Sample ID: LCS 490-569014/2
Matrix: Water
Analysis Batch: 569014

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			100	106.0		mg/L		106	90 - 110		

Lab Sample ID: LCSD 490-569014/3
Matrix: Water
Analysis Batch: 569014

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			100	101.0		mg/L		101	90 - 110	5	20

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 490-166987-1 DU
Matrix: Water
Analysis Batch: 569014

Client Sample ID: AP MW-1D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1350			1335		mg/L				1	20

Lab Sample ID: 490-166987-4 DU
Matrix: Water
Analysis Batch: 569014

Client Sample ID: AP MW-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	4600			4604		mg/L				0	20

Lab Sample ID: MB 490-569015/1
Matrix: Water
Analysis Batch: 569015

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		25.0		mg/L			01/22/19 20:35	1

Lab Sample ID: LCS 490-569015/2
Matrix: Water
Analysis Batch: 569015

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			100	98.00		mg/L		98	90 - 110		

Lab Sample ID: LCSD 490-569015/3
Matrix: Water
Analysis Batch: 569015

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			100	103.0		mg/L		103	90 - 110	5	20

Lab Sample ID: 490-166987-11 DU
Matrix: Water
Analysis Batch: 569015

Client Sample ID: SFL MW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	6170			6290		mg/L				2	20

HPLC/IC

Analysis Batch: 571005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-3	AP MW-4	Total/NA	Water	9056A	
490-166987-5	SSP/AP MW-1	Total/NA	Water	9056A	
MB 490-571005/3	Method Blank	Total/NA	Water	9056A	
LCS 490-571005/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-571005/5	Lab Control Sample Dup	Total/NA	Water	9056A	
490-166987-4 MS	AP MW-5	Total/NA	Water	9056A	
490-166987-4 MSD	AP MW-5	Total/NA	Water	9056A	

Analysis Batch: 571006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-17	EQBK-BG-011519	Total/NA	Water	9056A	
490-166987-18	EQBK-SCM-011519	Total/NA	Water	9056A	
MB 490-571006/3	Method Blank	Total/NA	Water	9056A	
LCS 490-571006/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-571006/5	Lab Control Sample Dup	Total/NA	Water	9056A	
490-166987-20 MS	Dup-2	Total/NA	Water	9056A	
490-166987-20 MSD	Dup-2	Total/NA	Water	9056A	

Analysis Batch: 571340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-1	AP MW-1D	Total/NA	Water	9056A	
490-166987-1	AP MW-1D	Total/NA	Water	9056A	
490-166987-2	AP MW-3	Total/NA	Water	9056A	
490-166987-2	AP MW-3	Total/NA	Water	9056A	
490-166987-3	AP MW-4	Total/NA	Water	9056A	
490-166987-3	AP MW-4	Total/NA	Water	9056A	
490-166987-4	AP MW-5	Total/NA	Water	9056A	
490-166987-5	SSP/AP MW-1	Total/NA	Water	9056A	
490-166987-6	SSP MW-2	Total/NA	Water	9056A	
490-166987-7	SSP MW-3	Total/NA	Water	9056A	
490-166987-8	SSP MW-4	Total/NA	Water	9056A	
490-166987-9	SFL MW-2	Total/NA	Water	9056A	
490-166987-9	SFL MW-2	Total/NA	Water	9056A	
490-166987-10	SFL MW-3	Total/NA	Water	9056A	
490-166987-10	SFL MW-3	Total/NA	Water	9056A	
490-166987-11	SFL MW-4	Total/NA	Water	9056A	
490-166987-11	SFL MW-4	Total/NA	Water	9056A	
490-166987-12	SFL MW-5	Total/NA	Water	9056A	
MB 490-571340/3	Method Blank	Total/NA	Water	9056A	
LCS 490-571340/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-571340/5	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 571342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-13	SFL MW-6	Total/NA	Water	9056A	
490-166987-14	SFL MW-7	Total/NA	Water	9056A	
490-166987-14	SFL MW-7	Total/NA	Water	9056A	
490-166987-15	MNW-15	Total/NA	Water	9056A	
490-166987-16	MNW-18	Total/NA	Water	9056A	
490-166987-16	MNW-18	Total/NA	Water	9056A	
490-166987-19	Dup-1	Total/NA	Water	9056A	

HPLC/IC (Continued)

Analysis Batch: 571342 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-20	Dup-2	Total/NA	Water	9056A	
490-166987-20	Dup-2	Total/NA	Water	9056A	
MB 490-571342/3	Method Blank	Total/NA	Water	9056A	
LCS 490-571342/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-571342/5	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 571919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-4	AP MW-5	Total/NA	Water	9056A	
490-166987-15	MNW-15	Total/NA	Water	9056A	
MB 490-571919/3	Method Blank	Total/NA	Water	9056A	
LCS 490-571919/5	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-571919/6	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 573008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-1	AP MW-1D	Total/NA	Water	9056A	
490-166987-2	AP MW-3	Total/NA	Water	9056A	
490-166987-15	MNW-15	Total/NA	Water	9056A	
490-166987-17	EQBK-BG-011519	Total/NA	Water	9056A	
490-166987-18	EQBK-SCM-011519	Total/NA	Water	9056A	
490-166987-21	EQBK-SCM-011619	Total/NA	Water	9056A	
490-166987-22	EQBK-BG-011619	Total/NA	Water	9056A	
MB 490-573008/3	Method Blank	Total/NA	Water	9056A	
MB 490-573008/32	Method Blank	Total/NA	Water	9056A	
LCS 490-573008/33	Lab Control Sample	Total/NA	Water	9056A	
LCS 490-573008/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-573008/34	Lab Control Sample Dup	Total/NA	Water	9056A	
LCSD 490-573008/5	Lab Control Sample Dup	Total/NA	Water	9056A	
490-166987-21 MS	EQBK-SCM-011619	Total/NA	Water	9056A	
490-166987-21 MSD	EQBK-SCM-011619	Total/NA	Water	9056A	

Analysis Batch: 573051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-6	SSP MW-2	Total/NA	Water	9056A	
490-166987-7	SSP MW-3	Total/NA	Water	9056A	
490-166987-8	SSP MW-4	Total/NA	Water	9056A	
490-166987-9	SFL MW-2	Total/NA	Water	9056A	
490-166987-10	SFL MW-3	Total/NA	Water	9056A	
490-166987-11	SFL MW-4	Total/NA	Water	9056A	
490-166987-12	SFL MW-5	Total/NA	Water	9056A	
490-166987-13	SFL MW-6	Total/NA	Water	9056A	
490-166987-14	SFL MW-7	Total/NA	Water	9056A	
490-166987-16	MNW-18	Total/NA	Water	9056A	
490-166987-19	Dup-1	Total/NA	Water	9056A	
490-166987-20	Dup-2	Total/NA	Water	9056A	
MB 490-573051/3	Method Blank	Total/NA	Water	9056A	
LCS 490-573051/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-573051/5	Lab Control Sample Dup	Total/NA	Water	9056A	

Metals

Prep Batch: 570711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-1	AP MW-1D	Total Recoverable	Water	3005A	
490-166987-2	AP MW-3	Total Recoverable	Water	3005A	
490-166987-3	AP MW-4	Total Recoverable	Water	3005A	
490-166987-4	AP MW-5	Total Recoverable	Water	3005A	
490-166987-5	SSP/AP MW-1	Total Recoverable	Water	3005A	
490-166987-6	SSP MW-2	Total Recoverable	Water	3005A	
490-166987-7	SSP MW-3	Total Recoverable	Water	3005A	
490-166987-8	SSP MW-4	Total Recoverable	Water	3005A	
490-166987-9	SFL MW-2	Total Recoverable	Water	3005A	
490-166987-10	SFL MW-3	Total Recoverable	Water	3005A	
490-166987-11	SFL MW-4	Total Recoverable	Water	3005A	
490-166987-12	SFL MW-5	Total Recoverable	Water	3005A	
490-166987-13	SFL MW-6	Total Recoverable	Water	3005A	
490-166987-14	SFL MW-7	Total Recoverable	Water	3005A	
490-166987-15	MNW-15	Total Recoverable	Water	3005A	
490-166987-16	MNW-18	Total Recoverable	Water	3005A	
490-166987-17	EQBK-BG-011519	Total Recoverable	Water	3005A	
490-166987-18	EQBK-SCM-011519	Total Recoverable	Water	3005A	
490-166987-19	Dup-1	Total Recoverable	Water	3005A	
490-166987-20	Dup-2	Total Recoverable	Water	3005A	
MB 490-570711/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 490-570711/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 490-570711/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
490-166987-4 MS	AP MW-5	Total Recoverable	Water	3005A	
490-166987-4 MSD	AP MW-5	Total Recoverable	Water	3005A	

Prep Batch: 570712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-21	EQBK-SCM-011619	Total Recoverable	Water	3005A	
490-166987-22	EQBK-BG-011619	Total Recoverable	Water	3005A	
MB 490-570712/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 490-570712/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 490-570712/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
490-166987-21 MS	EQBK-SCM-011619	Total Recoverable	Water	3005A	
490-166987-21 MSD	EQBK-SCM-011619	Total Recoverable	Water	3005A	

Prep Batch: 570912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-1	AP MW-1D	Total/NA	Water	7470A	
490-166987-2	AP MW-3	Total/NA	Water	7470A	
490-166987-3	AP MW-4	Total/NA	Water	7470A	
490-166987-4	AP MW-5	Total/NA	Water	7470A	
490-166987-9	SFL MW-2	Total/NA	Water	7470A	
490-166987-10	SFL MW-3	Total/NA	Water	7470A	
490-166987-11	SFL MW-4	Total/NA	Water	7470A	
490-166987-12	SFL MW-5	Total/NA	Water	7470A	
490-166987-13	SFL MW-6	Total/NA	Water	7470A	
490-166987-14	SFL MW-7	Total/NA	Water	7470A	
490-166987-15	MNW-15	Total/NA	Water	7470A	
490-166987-16	MNW-18	Total/NA	Water	7470A	
490-166987-17	EQBK-BG-011519	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 570912 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-18	EQBK-SCM-011519	Total/NA	Water	7470A	
490-166987-20	Dup-2	Total/NA	Water	7470A	
490-166987-21	EQBK-SCM-011619	Total/NA	Water	7470A	
490-166987-22	EQBK-BG-011619	Total/NA	Water	7470A	
MB 490-570912/1-A	Method Blank	Total/NA	Water	7470A	
LCS 490-570912/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 490-570912/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
490-166987-4 MS	AP MW-5	Total/NA	Water	7470A	
490-166987-4 MSD	AP MW-5	Total/NA	Water	7470A	

Analysis Batch: 571121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-21	EQBK-SCM-011619	Total Recoverable	Water	6020A	570712
490-166987-22	EQBK-BG-011619	Total Recoverable	Water	6020A	570712
MB 490-570712/1-A	Method Blank	Total Recoverable	Water	6020A	570712
LCS 490-570712/2-A	Lab Control Sample	Total Recoverable	Water	6020A	570712
LCSD 490-570712/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	570712
490-166987-21 MS	EQBK-SCM-011619	Total Recoverable	Water	6020A	570712
490-166987-21 MSD	EQBK-SCM-011619	Total Recoverable	Water	6020A	570712

Analysis Batch: 571156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-570712/1-A	Method Blank	Total Recoverable	Water	6020A	570712
LCS 490-570712/2-A	Lab Control Sample	Total Recoverable	Water	6020A	570712
LCSD 490-570712/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	570712
490-166987-21 MS	EQBK-SCM-011619	Total Recoverable	Water	6020A	570712
490-166987-21 MSD	EQBK-SCM-011619	Total Recoverable	Water	6020A	570712

Prep Batch: 571251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-21	EQBK-SCM-011619	Total Recoverable	Water	3005A	
490-166987-22	EQBK-BG-011619	Total Recoverable	Water	3005A	
MB 490-571251/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 490-571251/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 490-571251/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
490-166987-22 MS	EQBK-BG-011619	Total Recoverable	Water	3005A	
490-166987-22 MSD	EQBK-BG-011619	Total Recoverable	Water	3005A	

Analysis Batch: 571286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-1	AP MW-1D	Total Recoverable	Water	6020A	570711
490-166987-2	AP MW-3	Total Recoverable	Water	6020A	570711
490-166987-3	AP MW-4	Total Recoverable	Water	6020A	570711
490-166987-4	AP MW-5	Total Recoverable	Water	6020A	570711
490-166987-5	SSP/AP MW-1	Total Recoverable	Water	6020A	570711
490-166987-6	SSP MW-2	Total Recoverable	Water	6020A	570711
490-166987-7	SSP MW-3	Total Recoverable	Water	6020A	570711
490-166987-8	SSP MW-4	Total Recoverable	Water	6020A	570711
490-166987-9	SFL MW-2	Total Recoverable	Water	6020A	570711
490-166987-10	SFL MW-3	Total Recoverable	Water	6020A	570711
490-166987-11	SFL MW-4	Total Recoverable	Water	6020A	570711

Metals (Continued)

Analysis Batch: 571286 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-12	SFL MW-5	Total Recoverable	Water	6020A	570711
490-166987-13	SFL MW-6	Total Recoverable	Water	6020A	570711
490-166987-14	SFL MW-7	Total Recoverable	Water	6020A	570711
490-166987-15	MNW-15	Total Recoverable	Water	6020A	570711
490-166987-16	MNW-18	Total Recoverable	Water	6020A	570711
490-166987-17	EQBK-BG-011519	Total Recoverable	Water	6020A	570711
490-166987-18	EQBK-SCM-011519	Total Recoverable	Water	6020A	570711
490-166987-19	Dup-1	Total Recoverable	Water	6020A	570711
490-166987-20	Dup-2	Total Recoverable	Water	6020A	570711
MB 490-570711/1-A	Method Blank	Total Recoverable	Water	6020A	570711
LCS 490-570711/2-A	Lab Control Sample	Total Recoverable	Water	6020A	570711
LCSD 490-570711/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	570711
490-166987-4 MS	AP MW-5	Total Recoverable	Water	6020A	570711
490-166987-4 MSD	AP MW-5	Total Recoverable	Water	6020A	570711

Analysis Batch: 571490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-1	AP MW-1D	Total/NA	Water	7470A	570912
490-166987-2	AP MW-3	Total/NA	Water	7470A	570912
490-166987-3	AP MW-4	Total/NA	Water	7470A	570912
490-166987-4	AP MW-5	Total/NA	Water	7470A	570912
MB 490-570912/1-A	Method Blank	Total/NA	Water	7470A	570912
LCS 490-570912/2-A	Lab Control Sample	Total/NA	Water	7470A	570912
LCSD 490-570912/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	570912
490-166987-4 MS	AP MW-5	Total/NA	Water	7470A	570912
490-166987-4 MSD	AP MW-5	Total/NA	Water	7470A	570912

Analysis Batch: 571570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-21	EQBK-SCM-011619	Total Recoverable	Water	6020A	571251
490-166987-22	EQBK-BG-011619	Total Recoverable	Water	6020A	571251
MB 490-571251/1-A	Method Blank	Total Recoverable	Water	6020A	571251
LCS 490-571251/2-A	Lab Control Sample	Total Recoverable	Water	6020A	571251
LCSD 490-571251/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	571251
490-166987-22 MS	EQBK-BG-011619	Total Recoverable	Water	6020A	571251
490-166987-22 MSD	EQBK-BG-011619	Total Recoverable	Water	6020A	571251

Analysis Batch: 571667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-1	AP MW-1D	Total Recoverable	Water	6020A	570711
490-166987-2	AP MW-3	Total Recoverable	Water	6020A	570711
490-166987-2	AP MW-3	Total Recoverable	Water	6020A	570711
490-166987-3	AP MW-4	Total Recoverable	Water	6020A	570711
490-166987-4	AP MW-5	Total Recoverable	Water	6020A	570711
490-166987-4	AP MW-5	Total Recoverable	Water	6020A	570711
490-166987-5	SSP/AP MW-1	Total Recoverable	Water	6020A	570711
490-166987-6	SSP MW-2	Total Recoverable	Water	6020A	570711
490-166987-7	SSP MW-3	Total Recoverable	Water	6020A	570711
490-166987-8	SSP MW-4	Total Recoverable	Water	6020A	570711
490-166987-9	SFL MW-2	Total Recoverable	Water	6020A	570711
490-166987-10	SFL MW-3	Total Recoverable	Water	6020A	570711

Metals (Continued)

Analysis Batch: 571667 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-10	SFL MW-3	Total Recoverable	Water	6020A	570711
490-166987-11	SFL MW-4	Total Recoverable	Water	6020A	570711
490-166987-12	SFL MW-5	Total Recoverable	Water	6020A	570711
490-166987-13	SFL MW-6	Total Recoverable	Water	6020A	570711
490-166987-14	SFL MW-7	Total Recoverable	Water	6020A	570711
490-166987-15	MNW-15	Total Recoverable	Water	6020A	570711
490-166987-15	MNW-15	Total Recoverable	Water	6020A	570711
490-166987-16	MNW-18	Total Recoverable	Water	6020A	570711
490-166987-17	EQBK-BG-011519	Total Recoverable	Water	6020A	570711
490-166987-18	EQBK-SCM-011519	Total Recoverable	Water	6020A	570711
490-166987-19	Dup-1	Total Recoverable	Water	6020A	570711
490-166987-20	Dup-2	Total Recoverable	Water	6020A	570711
490-166987-20	Dup-2	Total Recoverable	Water	6020A	570711
MB 490-570711/1-A	Method Blank	Total Recoverable	Water	6020A	570711
LCS 490-570711/2-A	Lab Control Sample	Total Recoverable	Water	6020A	570711
LCSD 490-570711/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	570711
490-166987-4 MS	AP MW-5	Total Recoverable	Water	6020A	570711
490-166987-4 MS	AP MW-5	Total Recoverable	Water	6020A	570711
490-166987-4 MSD	AP MW-5	Total Recoverable	Water	6020A	570711
490-166987-4 MSD	AP MW-5	Total Recoverable	Water	6020A	570711

Analysis Batch: 571682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-16	MNW-18	Total/NA	Water	7470A	570912
490-166987-17	EQBK-BG-011519	Total/NA	Water	7470A	570912
490-166987-18	EQBK-SCM-011519	Total/NA	Water	7470A	570912
490-166987-20	Dup-2	Total/NA	Water	7470A	570912
490-166987-21	EQBK-SCM-011619	Total/NA	Water	7470A	570912
490-166987-22	EQBK-BG-011619	Total/NA	Water	7470A	570912

Prep Batch: 571765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-1	AP MW-1D	Total Recoverable	Water	3005A	
490-166987-2	AP MW-3	Total Recoverable	Water	3005A	
490-166987-3	AP MW-4	Total Recoverable	Water	3005A	
490-166987-4	AP MW-5	Total Recoverable	Water	3005A	
490-166987-5	SSP/AP MW-1	Total Recoverable	Water	3005A	
490-166987-6	SSP MW-2	Total Recoverable	Water	3005A	
490-166987-7	SSP MW-3	Total Recoverable	Water	3005A	
490-166987-8	SSP MW-4	Total Recoverable	Water	3005A	
490-166987-9	SFL MW-2	Total Recoverable	Water	3005A	
490-166987-10	SFL MW-3	Total Recoverable	Water	3005A	
490-166987-11	SFL MW-4	Total Recoverable	Water	3005A	
490-166987-12	SFL MW-5	Total Recoverable	Water	3005A	
490-166987-13	SFL MW-6	Total Recoverable	Water	3005A	
490-166987-14	SFL MW-7	Total Recoverable	Water	3005A	
490-166987-15	MNW-15	Total Recoverable	Water	3005A	
490-166987-16	MNW-18	Total Recoverable	Water	3005A	
490-166987-17	EQBK-BG-011519	Total Recoverable	Water	3005A	
490-166987-18	EQBK-SCM-011519	Total Recoverable	Water	3005A	
490-166987-19	Dup-1	Total Recoverable	Water	3005A	

Metals (Continued)

Prep Batch: 571765 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-20	Dup-2	Total Recoverable	Water	3005A	
MB 490-571765/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 490-571765/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 490-571765/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
490-166987-4 MS	AP MW-5	Total Recoverable	Water	3005A	
490-166987-4 MSD	AP MW-5	Total Recoverable	Water	3005A	

Analysis Batch: 572593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-5	SSP/AP MW-1	Total Recoverable	Water	6020A	571765
490-166987-20	Dup-2	Total Recoverable	Water	6020A	571765
MB 490-571765/1-A	Method Blank	Total Recoverable	Water	6020A	571765
LCS 490-571765/2-A	Lab Control Sample	Total Recoverable	Water	6020A	571765
LCSD 490-571765/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	571765

Analysis Batch: 573563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-1	AP MW-1D	Total Recoverable	Water	6020A	571765
490-166987-2	AP MW-3	Total Recoverable	Water	6020A	571765
490-166987-3	AP MW-4	Total Recoverable	Water	6020A	571765
490-166987-4	AP MW-5	Total Recoverable	Water	6020A	571765
490-166987-6	SSP MW-2	Total Recoverable	Water	6020A	571765
490-166987-7	SSP MW-3	Total Recoverable	Water	6020A	571765
490-166987-8	SSP MW-4	Total Recoverable	Water	6020A	571765
490-166987-9	SFL MW-2	Total Recoverable	Water	6020A	571765
490-166987-10	SFL MW-3	Total Recoverable	Water	6020A	571765
490-166987-11	SFL MW-4	Total Recoverable	Water	6020A	571765
490-166987-12	SFL MW-5	Total Recoverable	Water	6020A	571765
490-166987-13	SFL MW-6	Total Recoverable	Water	6020A	571765
490-166987-14	SFL MW-7	Total Recoverable	Water	6020A	571765
490-166987-15	MNW-15	Total Recoverable	Water	6020A	571765
490-166987-16	MNW-18	Total Recoverable	Water	6020A	571765
490-166987-17	EQBK-BG-011519	Total Recoverable	Water	6020A	571765
490-166987-18	EQBK-SCM-011519	Total Recoverable	Water	6020A	571765
490-166987-19	Dup-1	Total Recoverable	Water	6020A	571765
MB 490-571765/1-A	Method Blank	Total Recoverable	Water	6020A	571765
LCS 490-571765/2-A	Lab Control Sample	Total Recoverable	Water	6020A	571765
LCSD 490-571765/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	571765
490-166987-4 MS	AP MW-5	Total Recoverable	Water	6020A	571765
490-166987-4 MSD	AP MW-5	Total Recoverable	Water	6020A	571765

Analysis Batch: 573742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-9	SFL MW-2	Total/NA	Water	7470A	570912
490-166987-10	SFL MW-3	Total/NA	Water	7470A	570912
490-166987-11	SFL MW-4	Total/NA	Water	7470A	570912
490-166987-12	SFL MW-5	Total/NA	Water	7470A	570912
490-166987-13	SFL MW-6	Total/NA	Water	7470A	570912
490-166987-14	SFL MW-7	Total/NA	Water	7470A	570912
490-166987-15	MNW-15	Total/NA	Water	7470A	570912

General Chemistry

Analysis Batch: 569014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-1	AP MW-1D	Total/NA	Water	SM 2540C	
490-166987-2	AP MW-3	Total/NA	Water	SM 2540C	
490-166987-3	AP MW-4	Total/NA	Water	SM 2540C	
490-166987-4	AP MW-5	Total/NA	Water	SM 2540C	
490-166987-5	SSP/AP MW-1	Total/NA	Water	SM 2540C	
490-166987-6	SSP MW-2	Total/NA	Water	SM 2540C	
490-166987-7	SSP MW-3	Total/NA	Water	SM 2540C	
490-166987-8	SSP MW-4	Total/NA	Water	SM 2540C	
490-166987-9	SFL MW-2	Total/NA	Water	SM 2540C	
490-166987-10	SFL MW-3	Total/NA	Water	SM 2540C	
490-166987-17	EQBK-BG-011519	Total/NA	Water	SM 2540C	
490-166987-18	EQBK-SCM-011519	Total/NA	Water	SM 2540C	
490-166987-19	Dup-1	Total/NA	Water	SM 2540C	
MB 490-569014/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 490-569014/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 490-569014/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
490-166987-1 DU	AP MW-1D	Total/NA	Water	SM 2540C	
490-166987-4 DU	AP MW-5	Total/NA	Water	SM 2540C	

Analysis Batch: 569015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-11	SFL MW-4	Total/NA	Water	SM 2540C	
490-166987-12	SFL MW-5	Total/NA	Water	SM 2540C	
490-166987-13	SFL MW-6	Total/NA	Water	SM 2540C	
490-166987-14	SFL MW-7	Total/NA	Water	SM 2540C	
490-166987-15	MNW-15	Total/NA	Water	SM 2540C	
490-166987-16	MNW-18	Total/NA	Water	SM 2540C	
490-166987-20	Dup-2	Total/NA	Water	SM 2540C	
490-166987-21	EQBK-SCM-011619	Total/NA	Water	SM 2540C	
490-166987-22	EQBK-BG-011619	Total/NA	Water	SM 2540C	
MB 490-569015/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 490-569015/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 490-569015/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
490-166987-11 DU	SFL MW-4	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: AP MW-1D

Date Collected: 01/15/19 13:48
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		10			571340	01/23/19 15:19	SW1	TAL NSH
Total/NA	Analysis	9056A		20			571340	01/23/19 15:34	SW1	TAL NSH
Total/NA	Analysis	9056A		1			573008	01/31/19 09:30	SOO	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 21:37	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 10:34	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 15:01	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			571490	01/23/19 14:46	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	569014	01/22/19 16:57	BMC	TAL NSH

Client Sample ID: AP MW-3

Date Collected: 01/15/19 09:44
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		10			571340	01/23/19 15:49	SW1	TAL NSH
Total/NA	Analysis	9056A		20			571340	01/23/19 16:04	SW1	TAL NSH
Total/NA	Analysis	9056A		1			573008	01/31/19 09:40	SOO	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 21:40	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 10:43	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 15:13	JLL	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		10			571667	01/24/19 15:16	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			571490	01/23/19 14:48	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	569014	01/22/19 16:57	BMC	TAL NSH

Client Sample ID: AP MW-4

Date Collected: 01/15/19 15:02
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			571005	01/22/19 17:45	SW1	TAL NSH
Total/NA	Analysis	9056A		20			571340	01/23/19 16:19	SW1	TAL NSH
Total/NA	Analysis	9056A		100			571340	01/23/19 16:34	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: AP MW-4

Date Collected: 01/15/19 15:02
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		20			573563	02/04/19 21:43	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 10:46	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 15:19	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			571490	01/23/19 14:51	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	569014	01/22/19 16:57	BMC	TAL NSH

Client Sample ID: AP MW-5

Date Collected: 01/15/19 14:55
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		20			571340	01/23/19 16:48	SW1	TAL NSH
Total/NA	Analysis	9056A		200			571919	01/26/19 02:07	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 21:27	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 10:18	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 14:42	JLL	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		10			571667	01/24/19 14:52	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			571490	01/23/19 14:38	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	569014	01/22/19 16:57	BMC	TAL NSH

Client Sample ID: SSP/AP MW-1

Date Collected: 01/15/19 09:50
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			571005	01/22/19 18:45	SW1	TAL NSH
Total/NA	Analysis	9056A		100			571340	01/23/19 17:18	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		1			572593	01/29/19 21:47	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 10:49	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 15:26	JLL	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	569014	01/22/19 16:57	BMC	TAL NSH

Client Sample ID: SSP MW-2

Date Collected: 01/15/19 11:00
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		100			571340	01/23/19 17:33	SW1	TAL NSH
Total/NA	Analysis	9056A		10			573051	02/01/19 11:58	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 21:55	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 10:52	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 15:32	JLL	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	569014	01/22/19 16:57	BMC	TAL NSH

Client Sample ID: SSP MW-3

Date Collected: 01/15/19 12:20
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		100			571340	01/23/19 18:18	SW1	TAL NSH
Total/NA	Analysis	9056A		2			573051	02/01/19 12:08	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 11:47	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 22:45	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 10:56	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 15:38	JLL	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	569014	01/22/19 16:57	BMC	TAL NSH

Client Sample ID: SSP MW-4

Date Collected: 01/15/19 13:40
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		50			571340	01/23/19 18:32	SW1	TAL NSH
Total/NA	Analysis	9056A		2			573051	02/01/19 12:20	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 21:58	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 10:59	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 15:50	JLL	TAL NSH
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	569014	01/22/19 16:57	BMC	TAL NSH

Client Sample ID: SFL MW-2

Date Collected: 01/16/19 10:35
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		50			571340	01/23/19 19:02	SW1	TAL NSH
Total/NA	Analysis	9056A		100			571340	01/23/19 19:17	SW1	TAL NSH
Total/NA	Analysis	9056A		5			573051	02/01/19 12:31	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 22:01	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 11:02	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 15:57	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			573742	01/24/19 13:55	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	569014	01/22/19 16:57	BMC	TAL NSH

Client Sample ID: SFL MW-3

Date Collected: 01/16/19 14:02
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		50			571340	01/23/19 19:32	SW1	TAL NSH
Total/NA	Analysis	9056A		100			571340	01/23/19 19:46	SW1	TAL NSH
Total/NA	Analysis	9056A		5			573051	02/01/19 12:42	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 22:05	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 11:05	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 16:03	JLL	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		10			571667	01/24/19 16:06	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			573742	01/24/19 13:57	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	569014	01/22/19 16:57	BMC	TAL NSH

Client Sample ID: SFL MW-4

Date Collected: 01/16/19 15:28
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		50			571340	01/23/19 20:01	SW1	TAL NSH
Total/NA	Analysis	9056A		100			571340	01/23/19 20:16	SW1	TAL NSH
Total/NA	Analysis	9056A		5			573051	02/01/19 12:53	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: SFL MW-4

Date Collected: 01/16/19 15:28
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		20			573563	02/04/19 22:08	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 11:08	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 16:09	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			573742	01/24/19 14:00	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	569015	01/22/19 20:35	BMC	TAL NSH

Client Sample ID: SFL MW-5

Date Collected: 01/16/19 09:25
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		100			571340	01/23/19 20:31	SW1	TAL NSH
Total/NA	Analysis	9056A		5			573051	02/01/19 13:04	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 22:11	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 11:11	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 16:15	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			573742	01/24/19 14:02	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	569015	01/22/19 20:35	BMC	TAL NSH

Client Sample ID: SFL MW-6

Date Collected: 01/16/19 11:18
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		100			571342	01/23/19 22:29	SW1	TAL NSH
Total/NA	Analysis	9056A		5			573051	02/01/19 13:16	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 22:14	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 11:20	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 16:28	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			573742	01/24/19 14:05	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	569015	01/22/19 20:35	BMC	TAL NSH

Client Sample ID: SFL MW-7

Date Collected: 01/16/19 12:00
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		50			571342	01/23/19 22:58	SW1	TAL NSH
Total/NA	Analysis	9056A		100			571342	01/23/19 23:13	SW1	TAL NSH
Total/NA	Analysis	9056A		5			573051	02/01/19 13:49	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 22:17	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 11:23	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 16:34	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			573742	01/24/19 14:07	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	569015	01/22/19 20:35	BMC	TAL NSH

Client Sample ID: MNW-15

Date Collected: 01/16/19 12:59
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		20			571342	01/23/19 23:28	SW1	TAL NSH
Total/NA	Analysis	9056A		100			571919	01/26/19 02:22	JHS	TAL NSH
Total/NA	Analysis	9056A		1			573008	01/31/19 12:43	SOO	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 22:20	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 11:27	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 16:40	JLL	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		10			571667	01/24/19 16:43	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			573742	01/24/19 14:10	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	569015	01/22/19 20:35	BMC	TAL NSH

Client Sample ID: MNW-18

Date Collected: 01/16/19 09:28
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-16

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		20			571342	01/23/19 23:57	SW1	TAL NSH
Total/NA	Analysis	9056A		50			571342	01/24/19 00:12	SW1	TAL NSH
Total/NA	Analysis	9056A		2			573051	02/01/19 14:01	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: MNW-18

Date Collected: 01/16/19 09:28
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-16

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		20			573563	02/04/19 22:23	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 11:30	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 16:46	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			571682	01/24/19 16:18	JLL	TAL NSH
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	569015	01/22/19 20:35	BMC	TAL NSH

Client Sample ID: EQBK-BG-011519

Date Collected: 01/15/19 15:50
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-17

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			571006	01/23/19 05:45	T1C	TAL NSH
Total/NA	Analysis	9056A		1			573008	01/31/19 13:05	SOO	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 22:32	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 11:33	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 16:52	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			571682	01/24/19 16:20	JLL	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	569014	01/22/19 16:57	BMC	TAL NSH

Client Sample ID: EQBK-SCM-011519

Date Collected: 01/15/19 15:50
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-18

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			571006	01/23/19 06:00	T1C	TAL NSH
Total/NA	Analysis	9056A		1			573008	01/31/19 13:16	SOO	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 22:36	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 11:36	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 17:05	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			571682	01/24/19 16:23	JLL	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	569014	01/22/19 16:57	BMC	TAL NSH

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: Dup-1

Date Collected: 01/15/19 00:01
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-19

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		100			571342	01/24/19 00:27	SW1	TAL NSH
Total/NA	Analysis	9056A		2			573051	02/01/19 14:12	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		20			573563	02/04/19 22:39	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 11:39	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 17:11	JLL	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	569014	01/22/19 16:57	BMC	TAL NSH

Client Sample ID: Dup-2

Date Collected: 01/16/19 00:01
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		50			571342	01/24/19 00:42	SW1	TAL NSH
Total/NA	Analysis	9056A		100			571342	01/24/19 01:26	SW1	TAL NSH
Total/NA	Analysis	9056A		5			573051	02/01/19 14:23	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571765	01/25/19 10:39	MNC	TAL NSH
Total Recoverable	Analysis	6020A		1			572593	01/29/19 22:37	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571286	01/23/19 11:42	LDC	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571667	01/24/19 17:17	JLL	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570711	01/21/19 09:20	WJE	TAL NSH
Total Recoverable	Analysis	6020A		10			571667	01/24/19 17:20	JLL	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			571682	01/24/19 16:28	JLL	TAL NSH
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	569015	01/22/19 20:35	BMC	TAL NSH

Client Sample ID: EQBK-SCM-011619

Date Collected: 01/16/19 15:30
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-21

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			573008	01/31/19 14:42	SOO	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570712	01/21/19 09:25	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571121	01/22/19 13:17	JLL	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571251	01/23/19 11:18	MNC	TAL NSH
Total Recoverable	Analysis	6020A		1			571570	01/24/19 14:05	LDC	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			571682	01/24/19 16:31	JLL	TAL NSH

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Client Sample ID: EQBK-SCM-011619

Date Collected: 01/16/19 15:30
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-21

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	569015	01/22/19 20:35	BMC	TAL NSH

Client Sample ID: EQBK-BG-011619

Date Collected: 01/16/19 13:30
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-22

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			573008	01/31/19 15:14	SOO	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	570712	01/21/19 09:25	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			571121	01/22/19 13:39	JLL	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	571251	01/23/19 11:18	MNC	TAL NSH
Total Recoverable	Analysis	6020A		1			571570	01/24/19 13:49	LDC	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	570912	01/22/19 09:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			571682	01/24/19 16:33	JLL	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	569015	01/22/19 20:35	BMC	TAL NSH

Laboratory References:

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

Method Summary

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL NSH
6020A	Metals (ICP/MS)	SW846	TAL NSH
7470A	Mercury (CVAA)	SW846	TAL NSH
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL NSH
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL NSH
7470A	Preparation, Mercury	SW846	TAL NSH

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

Accreditation/Certification Summary

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-2

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704077	08-31-19

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

490-166987 Chain of Custody

COOLER RECEIPT FORM

Cooler Received/Opened On 1/18/2019 @ 9:20

Time Samples Removed From Cooler 1440 Time Samples Placed In Storage 1506 (2 Hour Window)

1. Tracking # 7884 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960358 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 0.5 *Degrees Celsius*

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

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

If yes, how many and where: 1 front

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

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

I certify that I opened the cooler and answered questions 1-6 (intial) _____

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

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

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

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

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

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

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

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

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

Larger than this.

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

I certify that I unloaded the cooler and answered questions 7-14 (intial) GH

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

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

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

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

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

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

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

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

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

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

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

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 8/23/17

Loc: 490
166987

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

Cooler Received/Opened On 1/18/2019 @ 9:20

Time Samples Removed From Cooler 1440 Time Samples Placed In Storage 1506 (2 Hour Window)

1. Tracking # 7830 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960358 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 0.5 Degrees Celsius

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

4. Were custody seals on outside of cooler? 1 Sent YES NO NA

If yes, how many and where: _____

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

6. Were custody papers inside cooler? YES NO NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

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

Were these signed and dated correctly? YES NO NA

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

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

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

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

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

13a. Were VOA vials received? YES NO NA

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

● ⬅ Larger than this.

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

I certify that I unloaded the cooler and answered questions 7-14 (intial) GH

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

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

16. Was residual chlorine present? YES NO NA

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

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

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

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

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

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

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

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

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 8/23/17

2/15/2019

Loc: 490
166987

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

Cooler Received/Opened On 1/18/2019 @ 9:20

Time Samples Removed From Cooler 1440 Time Samples Placed In Storage 1506 (2 Hour Window)

1. Tracking # 7851 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960358 pH Strip Lot NA Chlorine Strip Lot NA

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

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

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

If yes, how many and where: 1 Front

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

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

I certify that I opened the cooler and answered questions 1-6 (intial) _____

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

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

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

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

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

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

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

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

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

● ⬅ Larger than this.

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

I certify that I unloaded the cooler and answered questions 7-14 (intial) GH

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

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

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

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

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

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

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

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

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

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

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

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 8/23/17

2/15/2019

Loc: 490
166987

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

Cooler Received/Opened On 01-18-2019 @ 09:20

Time Samples Removed From Cooler 1440 Time Samples Placed In Storage 1506 (2 Hour Window)

1. Tracking # 7873 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 14740456 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 2.4 *Degrees Celsius*

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

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

If yes, how many and where: 1 (front)

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

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

I certify that I opened the cooler and answered questions 1-6 (intial) GH

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

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

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

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

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

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

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

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

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

● ⬅ Larger than this.

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

I certify that I unloaded the cooler and answered questions 7-14 (intial) GH

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

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

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

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

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

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

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

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

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

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

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

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 8/23/17

2/15/2019

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

Cooler Received/Opened On 01-18-2019 @ 09:20

Time Samples Removed From Cooler 1440 Time Samples Placed In Storage 1506 (2 Hour Window)

1. Tracking # 7840 (last 4 digits, FedEx) Courier: _FedEx_

IR Gun ID 14740456 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 3.5 *Degrees Celsius*

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

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

If yes, how many and where: 1 (front)

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

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

I certify that I opened the cooler and answered questions 1-6 (intial) KA

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

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

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

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

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

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

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

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

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

● Larger than this.

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

I certify that I unloaded the cooler and answered questions 7-14 (intial) GH

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

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

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

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

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

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

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

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

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

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

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

BIS = Broken in shipment

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

Loc: 490
166987

COOLER RECEIPT FORM

Cooler Received/Opened On 1/19/2019 @ 1100

Time Samples Removed From Cooler 1224 Time Samples Placed In Storage 1230 (2 Hour Window)

1. Tracking # 7862 (last 4 digits, FedEx) Courier: FedEx

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

2. Temperature of rep. sample or temp blank when opened: 1.5 *Degrees Celsius*

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

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

If yes, how many and where: 1 (Front)

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

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

I certify that I opened the cooler and answered questions 1-6 (intial) GH

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

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

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

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

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

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

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

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

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

● ⬅ Larger than this.

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

I certify that I unloaded the cooler and answered questions 7-14 (intial) GH

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

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

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

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

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

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

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

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

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

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

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

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 8/23/17

TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Samuel Macon/Brian Giesselman	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-94553-24956.3
Client Contact: Greg Seifert	Phone: 512-413-3876	E-Mail: gail.lage@testamericainc.com		Page: Page 1 of 2
Company: Wood E&I Solutions Inc				Job #: SCH

Address: 3755 South Capital of Texas Highway Suite 375	Due Date Requested:	Analysis Requested
City: Austin	TAT Requested (days):	
State, Zip: TX, 78704		
Phone: 512-795-0360	PO #: Purchase Order Requested	
Email: greg.seifert@woodplc.com	WO #:	
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510	
Site: Texas	SSOW#:	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, 904.0	9056A_ORGFM_28D - Chloride, Fluoride, Sulfate	6020A, 7470A	2540C_Calcd - Total Dissolved Solids	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
AP MW-1D	1-15(SCH)-19	1348	G	W	N	N	X	X	X	X		
AP MW-3	1-15-19	0944				N						
AP MW-4	1-15-19	1502				N						
AP MW-5	1-15-19	1455				Y						
SSP/AP MW-1	1-15-19	0950				N						
SSP MW-2	1-15-19	1100				N						
SSP MW-3	1-15-19	1220				N						
SSP MW-4	1-15-19	1340				N						
SFL MW-2	1-16-19	1035				N						
SFL MW-3	1-16-19	1402				N						
SFL MW-4	1-16-19	1528				N						

Loc: 490
166987

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Samuel C Macon	Date/Time: 1-17-19 1515	Company: Wood	Received by:	Date/Time: 1-18-19/0920	Company: TA-NAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 0.5/0.5/0.2/2.4/3.5/

Ver: 08/04/2016

TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Samuel Mason/Brian Gieselman	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-94553-24956.3
Client Contact: Greg Seifert	Phone: 512-413-3876	E-Mail: gail.lage@testamericainc.com		Page: Page 2 of 2
Company: Wood E&I Solutions Inc				Job #: SCM
Address: 3755 South Capital of Texas Highway Suite 375	Due Date Requested:			
City: Austin	TAT Requested (days):			
State, Zip: TX, 78704				
Phone: 512-795-0360	PO #: Purchase Order Requested			
Email: greg.seifert@woodplc.com	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: Texas	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, 904.0	9056A_ORGFM_28D - Chloride, Fluoride, Sulfate	6020A, 7470A	2540C_Calcd - Total Dissolved Solids	Total Number of containers	Special Instructions/Note:
			Preservation Code:		N	N	D	N	D	N		
SFL MW-5	1-16-19	0925	G	W	N	N	X	X	X	X		Loc: 490 166987
SFL MW-6	1-16-19	1118										
SFL MW-7	1-16-19	1200										
MNW-15	1-16-19	1259										
MNW-18	1-16-19	0928										
EQBK-BG-011519	1-15-19	1550										
EQBK-SCM-011519	1-15-19	1550										
DUP-1	1-15-19	—										
DUP-2	1-16-19	—										
EQBK-SCM-011619	1-16-19	1530										
~~EQBK-SCM-011619~~ EQBK-BG-011619	1-16-19	1330										

Possible Hazard Identification SCM
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:	
Relinquished by: Samuel C Mason (Samuel C Mason)	Date/Time: 1-17-19 @ 1515	Company Wood	Received by:	Date/Time: 1-18-19/0920	Company TA-NAS	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.5/0.5/0.2/2.4/3.5			

Ver: 08/04/2016

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-166987-1
Client Project/Site: AMEC CCR TMPA Gibbons Creek
Sampling Event: CCR

For:
Wood E&I Solutions Inc
3755 South Capital of Texas Highway
Suite 375
Austin, Texas 78704

Attn: Greg Seifert

Authorized for release by:
2/21/2019 5:18:56 PM

Gail Lage, Senior Project Manager
(615)301-5741
gail.lage@testamericainc.com

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

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

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

Table of Contents

Sample Summary

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-166987-1	AP MW-1D	Water	01/15/19 13:48	01/18/19 12:29
490-166987-2	AP MW-3	Water	01/15/19 09:44	01/18/19 12:29
490-166987-3	AP MW-4	Water	01/15/19 15:02	01/18/19 12:29
490-166987-4	AP MW-5	Water	01/15/19 14:55	01/18/19 12:29
490-166987-5	SSP/AP MW-1	Water	01/15/19 09:50	01/18/19 12:29
490-166987-6	SSP MW-2	Water	01/15/19 11:00	01/18/19 12:29
490-166987-7	SSP MW-3	Water	01/15/19 12:20	01/18/19 12:29
490-166987-8	SSP MW-4	Water	01/15/19 13:40	01/18/19 12:29
490-166987-9	SFL MW-2	Water	01/16/19 10:35	01/18/19 12:29
490-166987-10	SFL MW-3	Water	01/16/19 14:02	01/18/19 12:29
490-166987-11	SFL MW-4	Water	01/16/19 15:28	01/18/19 12:29
490-166987-12	SFL MW-5	Water	01/16/19 09:25	01/18/19 12:29
490-166987-13	SFL MW-6	Water	01/16/19 11:18	01/18/19 12:29
490-166987-14	SFL MW-7	Water	01/16/19 12:00	01/18/19 12:29
490-166987-15	MNW-15	Water	01/16/19 12:59	01/18/19 12:29
490-166987-16	MNW-18	Water	01/16/19 09:28	01/18/19 12:29
490-166987-17	EQBK-BG-011519	Water	01/15/19 15:50	01/18/19 12:29
490-166987-18	EQBK-SCM-011519	Water	01/15/19 15:50	01/18/19 12:29
490-166987-19	Dup-1	Water	01/15/19 00:01	01/18/19 12:29
490-166987-20	Dup-2	Water	01/16/19 00:01	01/18/19 12:29
490-166987-21	EQBK-SCM-011619	Water	01/16/19 15:30	01/18/19 12:29
490-166987-22	EQBK-BG-011619	Water	01/16/19 13:30	01/18/19 12:29

Case Narrative

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-1

Job ID: 490-166987-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-166987-1

Comments
No additional comments.

Receipt
The samples were received on 1/18/2019 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 0.2º C, 0.5º C, 0.5º C, 1.5º C, 2.4º C and 3.5º C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): (490-166987-11. We received two sets of bottles labeled SFL-MW-7 one at 1200 and one at 1528. The sample collected at 1528 was confirmed to be sample SFL MW-4.

RAD
Method(s) PrecSep_0: Radium 228 Prep Batch 160-411848
Insufficient sample volume was available to perform a sample duplicate for the following samples: SFL MW-4 (490-166987-11), SFL MW-5 (490-166987-12), SFL MW-6 (490-166987-13), SFL MW-7 (490-166987-14), MNW-15 (490-166987-15), MNW-18 (490-166987-16), EQBK-BG-011519 (490-166987-17), EQBK-SCM-011519 (490-166987-18), Dup-1 (490-166987-19), Dup-2 (490-166987-20), EQBK-SCM-011619 (490-166987-21) and EQBK-BG-011619 (490-166987-22). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep_0: Radium 228 Prep Batch 160-411857
Samples 490-166987-4, 4MS, 4MSD aliquots reduced due to limited sample aliquot
AP MW-5 (490-166987-4), AP MW-5 (490-166987-4[MS]) and AP MW-5 (490-166987-4[MSD])

Method(s) PrecSep-21: Radium 226 Prep Batch 160-344838
Insufficient sample volume was available to perform a sample duplicate for the following samples: SFL MW-4 (490-166987-11), SFL MW-5 (490-166987-12), SFL MW-6 (490-166987-13), SFL MW-7 (490-166987-14), MNW-15 (490-166987-15), MNW-18 (490-166987-16), EQBK-BG-011519 (490-166987-17), EQBK-SCM-011519 (490-166987-18), Dup-1 (490-166987-19), Dup-2 (490-166987-20), EQBK-SCM-011619 (490-166987-21) and EQBK-BG-011619 (490-166987-22). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep-21: Radium 226 Prep Batch 160-411855
Samples 490-166987-4, 4MS, 4MSD aliquots reduced due to limited sample aliquot
AP MW-5 (490-166987-4), AP MW-5 (490-166987-4[MS]) and AP MW-5 (490-166987-4[MSD])

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

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Client Sample ID: AP MW-1D

Date Collected: 01/15/19 13:48
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.223		0.0584	0.0617	1.00	0.0466	pCi/L	01/23/19 10:53	02/15/19 14:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.9*		*40 - 110*	*01/23/19 10:53*	*02/15/19 14:18*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.49		0.348	0.374	1.00	0.418	pCi/L	01/23/19 12:34	02/04/19 16:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.9*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:11*	*1*
Y Carrier	*84.9*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:11*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.71		0.353	0.379	3.50	0.418	pCi/L		02/18/19 15:43	1

Client Sample ID: AP MW-3

Date Collected: 01/15/19 09:44
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.390		0.0830	0.0902	1.00	0.0538	pCi/L	01/23/19 10:53	02/15/19 14:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*01/23/19 10:53*	*02/15/19 14:18*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.70		0.367	0.399	1.00	0.417	pCi/L	01/23/19 12:34	02/04/19 16:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:11*	*1*
Y Carrier	*82.2*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:11*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.09		0.376	0.409	3.50	0.417	pCi/L		02/18/19 15:43	1

Client Sample ID: AP MW-4
Date Collected: 01/15/19 15:02
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-3
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.335**		0.0705	0.0767	1.00	0.0487	pCi/L	01/23/19 10:53	02/15/19 14:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.6*		*40 - 110*	*01/23/19 10:53*	*02/15/19 14:18*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.423	U	0.277	0.280	1.00	0.429	pCi/L	01/23/19 12:34	02/04/19 16:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.6*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:11*	*1*
Y Carrier	*84.9*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:11*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.759**		0.286	0.290	3.50	0.429	pCi/L		02/18/19 15:43	1

Client Sample ID: AP MW-5

Date Collected: 01/15/19 14:55
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.444		0.0960	0.104	1.00	0.0701	pCi/L	01/23/19 10:53	02/15/19 14:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.5*		*40 - 110*	*01/23/19 10:53*	*02/15/19 14:18*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.05		0.402	0.413	1.00	0.559	pCi/L	01/23/19 12:34	02/04/19 16:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.5*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:11*	*1*
Y Carrier	*80.4*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:11*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.49		0.413	0.426	3.50	0.559	pCi/L		02/18/19 15:43	1

Client Sample ID: SSP/AP MW-1

Date Collected: 01/15/19 09:50
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.334		0.0737	0.0796	1.00	0.0485	pCi/L	01/23/19 10:53	02/15/19 14:08	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*01/23/19 10:53*	*02/15/19 14:08*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.47		0.372	0.396	1.00	0.476	pCi/L	01/23/19 12:34	02/04/19 16:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:12*	*1*
Y Carrier	*86.7*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:12*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.81		0.379	0.404	3.50	0.476	pCi/L		02/18/19 15:43	1

Client Sample ID: SSP MW-2

Date Collected: 01/15/19 11:00
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-6

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.540		0.106	0.117	1.00	0.0833	pCi/L	01/23/19 10:53	02/15/19 14:08	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*72.3*		*40 - 110*	*01/23/19 10:53*	*02/15/19 14:08*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.73		0.468	0.494	1.00	0.597	pCi/L	01/23/19 12:34	02/04/19 16:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*72.3*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:12*	*1*
Y Carrier	*82.6*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:12*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.27		0.480	0.508	3.50	0.597	pCi/L		02/18/19 15:43	1

Client Sample ID: SSP MW-3

Lab Sample ID: 490-166987-7

Date Collected: 01/15/19 12:20

Matrix: Water

Date Received: 01/18/19 12:29

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.70		0.272	0.581	1.00	0.0529	pCi/L	01/23/19 10:53	02/15/19 14:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*01/23/19 10:53*	*02/15/19 14:09*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	29.7		1.16	2.97	1.00	0.400	pCi/L	01/23/19 12:34	02/04/19 16:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:12*	*1*
Y Carrier	*81.9*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:12*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	35.4		1.19	3.03	3.50	0.400	pCi/L		02/18/19 15:43	1

Client Sample ID: SSP MW-4

Date Collected: 01/15/19 13:40
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-8

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.793		0.109	0.131	1.00	0.0611	pCi/L	01/23/19 10:53	02/15/19 14:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*01/23/19 10:53*	*02/15/19 14:09*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.03		0.414	0.454	1.00	0.475	pCi/L	01/23/19 12:34	02/04/19 16:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:12*	*1*
Y Carrier	*79.3*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:12*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.82		0.428	0.473	3.50	0.475	pCi/L		02/18/19 15:43	1

Client Sample ID: SFL MW-2

Date Collected: 01/16/19 10:35
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-9

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.96		0.180	0.253	1.00	0.0638	pCi/L	01/23/19 10:53	02/15/19 14:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.8*		*40 - 110*	*01/23/19 10:53*	*02/15/19 14:09*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.94		0.514	0.686	1.00	0.382	pCi/L	01/23/19 12:34	02/04/19 16:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.8*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:12*	*1*
Y Carrier	*85.6*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:12*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.91		0.545	0.731	3.50	0.382	pCi/L		02/18/19 15:43	1

Client Sample ID: SFL MW-3
Date Collected: 01/16/19 14:02
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-10
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.42		0.140	0.190	1.00	0.0626	pCi/L	01/23/19 10:53	02/15/19 14:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*01/23/19 10:53*	*02/15/19 14:09*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.20		0.424	0.516	1.00	0.370	pCi/L	01/23/19 12:34	02/04/19 16:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:12*	*1*
Y Carrier	*86.4*		*40 - 110*	*01/23/19 12:34*	*02/04/19 16:12*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.62		0.447	0.550	3.50	0.370	pCi/L		02/18/19 15:43	1

Client Sample ID: SFL MW-4

Date Collected: 01/16/19 15:28
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-11

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.412		0.0821	0.0901	1.00	0.0654	pCi/L	01/23/19 09:01	02/15/19 14:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*01/23/19 09:01*	*02/15/19 14:13*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.771		0.308	0.316	1.00	0.430	pCi/L	01/23/19 10:10	02/08/19 14:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:47*	*1*
Y Carrier	*77.8*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:47*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.18		0.319	0.329	3.50	0.430	pCi/L		02/18/19 15:43	1

Client Sample ID: SFL MW-5

Date Collected: 01/16/19 09:25
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-12

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.70		0.198	0.313	1.00	0.0595	pCi/L	01/23/19 09:01	02/15/19 14:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*01/23/19 09:01*	*02/15/19 14:13*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	8.60		0.672	1.04	1.00	0.436	pCi/L	01/23/19 10:10	02/08/19 14:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:47*	*1*
Y Carrier	*84.1*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:47*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	11.3		0.701	1.09	3.50	0.436	pCi/L		02/18/19 15:43	1

Client Sample ID: SFL MW-6
Date Collected: 01/16/19 11:18
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-13
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.28		0.183	0.275	1.00	0.0584	pCi/L	01/23/19 09:01	02/15/19 14:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*01/23/19 09:01*	*02/15/19 14:14*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	7.86		0.652	0.973	1.00	0.426	pCi/L	01/23/19 10:10	02/08/19 14:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:47*	*1*
Y Carrier	*81.9*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:47*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	10.1		0.677	1.01	3.50	0.426	pCi/L		02/18/19 15:43	1

Client Sample ID: SFL MW-7

Date Collected: 01/16/19 12:00
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-14

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.584		0.0994	0.112	1.00	0.0524	pCi/L	01/23/19 09:01	02/15/19 14:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*01/23/19 09:01*	*02/15/19 14:14*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.77		0.443	0.473	1.00	0.573	pCi/L	01/23/19 10:10	02/08/19 14:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:47*	*1*
Y Carrier	*84.5*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:47*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.36		0.454	0.486	3.50	0.573	pCi/L		02/18/19 15:43	1

Client Sample ID: MNW-15

Date Collected: 01/16/19 12:59
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-15

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0901		0.0475	0.0482	1.00	0.0620	pCi/L	01/23/19 09:01	02/15/19 14:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*01/23/19 09:01*	*02/15/19 14:14*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.529		0.297	0.301	1.00	0.449	pCi/L	01/23/19 10:10	02/08/19 14:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:47*	*1*
Y Carrier	*78.9*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:47*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.619		0.301	0.305	3.50	0.449	pCi/L		02/18/19 15:43	1

Client Sample ID: MNW-18
Date Collected: 01/16/19 09:28
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-16
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.34		0.144	0.188	1.00	0.0627	pCi/L	01/23/19 09:01	02/15/19 14:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*01/23/19 09:01*	*02/15/19 14:14*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.38		0.435	0.487	1.00	0.493	pCi/L	01/23/19 10:10	02/08/19 14:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:47*	*1*
Y Carrier	*81.9*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:47*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.72		0.458	0.522	3.50	0.493	pCi/L		02/18/19 15:43	1

Client Sample ID: EQBK-BG-011519
Date Collected: 01/15/19 15:50
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-17
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0557	U	0.0402	0.0405	1.00	0.0585	pCi/L	01/23/19 09:01	02/15/19 14:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*01/23/19 09:01*	*02/15/19 14:14*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0878	U	0.243	0.243	1.00	0.448	pCi/L	01/23/19 10:10	02/08/19 14:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:47*	*1*
Y Carrier	*81.9*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:47*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0321	U	0.246	0.246	3.50	0.448	pCi/L		02/18/19 15:43	1

Client Sample ID: EQBK-SCM-011519
Date Collected: 01/15/19 15:50
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-18
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00488	U	0.0303	0.0303	1.00	0.0584	pCi/L	01/23/19 09:01	02/15/19 14:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*01/23/19 09:01*	*02/15/19 14:14*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.151	U	0.246	0.246	1.00	0.414	pCi/L	01/23/19 10:10	02/08/19 14:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:48*	*1*
Y Carrier	*85.2*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:48*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.156	U	0.248	0.248	3.50	0.414	pCi/L		02/18/19 15:43	1

Client Sample ID: Dup-1

Date Collected: 01/15/19 00:01
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-19

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.84		0.258	0.506	1.00	0.0637	pCi/L	01/23/19 09:01	02/15/19 14:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*01/23/19 09:01*	*02/15/19 14:14*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	28.3		1.15	2.84	1.00	0.429	pCi/L	01/23/19 10:10	02/08/19 14:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:48*	*1*
Y Carrier	*81.1*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:48*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	33.1		1.18	2.88	3.50	0.429	pCi/L		02/18/19 15:43	1

Client Sample ID: Dup-2
Date Collected: 01/16/19 00:01
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-20
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.22		0.133	0.173	1.00	0.0582	pCi/L	01/23/19 09:01	02/15/19 14:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*01/23/19 09:01*	*02/15/19 14:14*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.85		0.425	0.499	1.00	0.398	pCi/L	01/23/19 10:10	02/08/19 14:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:48*	*1*
Y Carrier	*81.5*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:48*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.07		0.445	0.528	3.50	0.398	pCi/L		02/18/19 15:43	1

Client Sample ID: EQBK-SCM-011619
Date Collected: 01/16/19 15:30
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-21
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0510	U	0.0390	0.0393	1.00	0.0571	pCi/L	01/23/19 09:01	02/15/19 14:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*01/23/19 09:01*	*02/15/19 14:15*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0674	U	0.245	0.245	1.00	0.429	pCi/L	01/23/19 10:10	02/08/19 14:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:48*	*1*
Y Carrier	*80.7*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:48*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.118	U	0.248	0.248	3.50	0.429	pCi/L		02/18/19 15:43	1

Client Sample ID: EQBK-BG-011619
Date Collected: 01/16/19 13:30
Date Received: 01/18/19 12:29

Lab Sample ID: 490-166987-22
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0375	U	0.0286	0.0288	1.00	0.0729	pCi/L	01/23/19 09:01	02/15/19 14:15	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.4*		*40 - 110*	*01/23/19 09:01*	*02/15/19 14:15*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0591	U	0.276	0.276	1.00	0.484	pCi/L	01/23/19 10:10	02/08/19 14:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.4*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:48*	*1*
Y Carrier	*82.2*		*40 - 110*	*01/23/19 10:10*	*02/08/19 14:48*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0216	U	0.277	0.277	3.50	0.484	pCi/L		02/18/19 15:43	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-411838/21-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 415197 — **Prep Batch: 411838**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04039	U	0.0388	0.0390	1.00	0.0608	pCi/L	01/23/19 09:01	02/15/19 14:15	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.7*		*40 - 110*	*01/23/19 09:01*	*02/15/19 14:15*	*1*

Lab Sample ID: LCS 160-411838/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 415196 — **Prep Batch: 411838**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	9.888		0.973	1.00	0.0828	pCi/L	87	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*97.1*		*40 - 110*

Lab Sample ID: LCSD 160-411838/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 415196 — **Prep Batch: 411838**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.4	11.02		1.08	1.00	0.0681	pCi/L	97	68 - 137	0.55	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*95.9*		*40 - 110*

Lab Sample ID: MB 160-411855/21-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 415196 — **Prep Batch: 411855**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.001312	U	0.0314	0.0314	1.00	0.0619	pCi/L	01/23/19 10:53	02/15/19 14:09	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*01/23/19 10:53*	*02/15/19 14:09*	*1*

Lab Sample ID: LCS 160-411855/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 415198 — **Prep Batch: 411855**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	10.56		1.02	1.00	0.0581	pCi/L	93	68 - 137		

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-411855/1-A
Matrix: Water
Analysis Batch: 415198

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411855

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	95.0		40 - 110

Lab Sample ID: 490-166987-4 MS
Matrix: Water
Analysis Batch: 415198

Client Sample ID: AP MW-5
Prep Type: Total/NA
Prep Batch: 411855

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	0.444		15.1	15.69		1.51	1.00	0.0756	pCi/L	101	75 - 138

Carrier	MS %Yield	MS Qualifier	Limits
Ba Carrier	94.1		40 - 110

Lab Sample ID: 490-166987-4 MSD
Matrix: Water
Analysis Batch: 415196

Client Sample ID: AP MW-5
Prep Type: Total/NA
Prep Batch: 411855

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	0.444		15.1	14.64		1.42	1.00	0.0732	pCi/L	94	75 - 138	0.36	1

Carrier	MSD %Yield	MSD Qualifier	Limits
Ba Carrier	95.9		40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-411848/21-A
Matrix: Water
Analysis Batch: 414168

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411848

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.01152	U	0.202	0.202	1.00	0.369	pCi/L	01/23/19 10:10	02/08/19 14:48	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	99.7		40 - 110	01/23/19 10:10	02/08/19 14:48	1
Y Carrier	84.9		40 - 110	01/23/19 10:10	02/08/19 14:48	1

Lab Sample ID: LCS 160-411848/1-A
Matrix: Water
Analysis Batch: 414168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411848

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	9.50	9.497		1.16	1.00	0.483	pCi/L	100	56 - 140

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-411848/1-A
Matrix: Water
Analysis Batch: 414168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411848

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	97.1		40 - 110
Y Carrier	73.3		40 - 110

Lab Sample ID: LCSD 160-411848/2-A
Matrix: Water
Analysis Batch: 414168

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 411848

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.50	7.893		0.988	1.00	0.401	pCi/L	83	56 - 140	0.75	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	95.9		40 - 110
Y Carrier	80.4		40 - 110

Lab Sample ID: MB 160-411957/21-A
Matrix: Water
Analysis Batch: 413454

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411957

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.02351	U	0.189	0.189	1.00	0.348	pCi/L	01/23/19 12:34	02/04/19 16:12	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	98.8		40 - 110	01/23/19 12:34	02/04/19 16:12	1
Y Carrier	86.0		40 - 110	01/23/19 12:34	02/04/19 16:12	1

Lab Sample ID: LCS 160-411957/1-A
Matrix: Water
Analysis Batch: 413454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411957

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.52	8.965		1.08	1.00	0.386	pCi/L	94	56 - 140		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	95.0		40 - 110
Y Carrier	79.3		40 - 110

Lab Sample ID: 490-166987-4 MS
Matrix: Water
Analysis Batch: 413454

Client Sample ID: AP MW-5
Prep Type: Total/NA
Prep Batch: 411957

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228	1.05		12.7	13.17		1.57	1.00	0.700	pCi/L	96	45 - 150		

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: 490-166987-4 MS
Matrix: Water
Analysis Batch: 413454

Client Sample ID: AP MW-5
Prep Type: Total/NA
Prep Batch: 411957

Carrier	MS %Yield	MS Qualifier	Limits
Ba Carrier	94.1		40 - 110
Y Carrier	83.4		40 - 110

Lab Sample ID: 490-166987-4 MSD
Matrix: Water
Analysis Batch: 413454

Client Sample ID: AP MW-5
Prep Type: Total/NA
Prep Batch: 411957

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	1.05		12.7	13.07		1.54	1.00	0.582	pCi/L	95	45 - 150	0.03	1

Carrier	MSD %Yield	MSD Qualifier	Limits
Ba Carrier	95.9		40 - 110
Y Carrier	81.1		40 - 110

Rad

Prep Batch: 411838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-11	SFL MW-4	Total/NA	Water	PrecSep-21	
490-166987-12	SFL MW-5	Total/NA	Water	PrecSep-21	
490-166987-13	SFL MW-6	Total/NA	Water	PrecSep-21	
490-166987-14	SFL MW-7	Total/NA	Water	PrecSep-21	
490-166987-15	MNW-15	Total/NA	Water	PrecSep-21	
490-166987-16	MNW-18	Total/NA	Water	PrecSep-21	
490-166987-17	EQBK-BG-011519	Total/NA	Water	PrecSep-21	
490-166987-18	EQBK-SCM-011519	Total/NA	Water	PrecSep-21	
490-166987-19	Dup-1	Total/NA	Water	PrecSep-21	
490-166987-20	Dup-2	Total/NA	Water	PrecSep-21	
490-166987-21	EQBK-SCM-011619	Total/NA	Water	PrecSep-21	
490-166987-22	EQBK-BG-011619	Total/NA	Water	PrecSep-21	
MB 160-411838/21-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-411838/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-411838/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 411848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-11	SFL MW-4	Total/NA	Water	PrecSep_0	
490-166987-12	SFL MW-5	Total/NA	Water	PrecSep_0	
490-166987-13	SFL MW-6	Total/NA	Water	PrecSep_0	
490-166987-14	SFL MW-7	Total/NA	Water	PrecSep_0	
490-166987-15	MNW-15	Total/NA	Water	PrecSep_0	
490-166987-16	MNW-18	Total/NA	Water	PrecSep_0	
490-166987-17	EQBK-BG-011519	Total/NA	Water	PrecSep_0	
490-166987-18	EQBK-SCM-011519	Total/NA	Water	PrecSep_0	
490-166987-19	Dup-1	Total/NA	Water	PrecSep_0	
490-166987-20	Dup-2	Total/NA	Water	PrecSep_0	
490-166987-21	EQBK-SCM-011619	Total/NA	Water	PrecSep_0	
490-166987-22	EQBK-BG-011619	Total/NA	Water	PrecSep_0	
MB 160-411848/21-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-411848/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-411848/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 411855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-1	AP MW-1D	Total/NA	Water	PrecSep-21	
490-166987-2	AP MW-3	Total/NA	Water	PrecSep-21	
490-166987-3	AP MW-4	Total/NA	Water	PrecSep-21	
490-166987-4	AP MW-5	Total/NA	Water	PrecSep-21	
490-166987-5	SSP/AP MW-1	Total/NA	Water	PrecSep-21	
490-166987-6	SSP MW-2	Total/NA	Water	PrecSep-21	
490-166987-7	SSP MW-3	Total/NA	Water	PrecSep-21	
490-166987-8	SSP MW-4	Total/NA	Water	PrecSep-21	
490-166987-9	SFL MW-2	Total/NA	Water	PrecSep-21	
490-166987-10	SFL MW-3	Total/NA	Water	PrecSep-21	
MB 160-411855/21-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-411855/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
490-166987-4 MS	AP MW-5	Total/NA	Water	PrecSep-21	
490-166987-4 MSD	AP MW-5	Total/NA	Water	PrecSep-21	

Rad (Continued)

Prep Batch: 411957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-166987-1	AP MW-1D	Total/NA	Water	PrecSep_0	
490-166987-2	AP MW-3	Total/NA	Water	PrecSep_0	
490-166987-3	AP MW-4	Total/NA	Water	PrecSep_0	
490-166987-4	AP MW-5	Total/NA	Water	PrecSep_0	
490-166987-5	SSP/AP MW-1	Total/NA	Water	PrecSep_0	
490-166987-6	SSP MW-2	Total/NA	Water	PrecSep_0	
490-166987-7	SSP MW-3	Total/NA	Water	PrecSep_0	
490-166987-8	SSP MW-4	Total/NA	Water	PrecSep_0	
490-166987-9	SFL MW-2	Total/NA	Water	PrecSep_0	
490-166987-10	SFL MW-3	Total/NA	Water	PrecSep_0	
MB 160-411957/21-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-411957/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
490-166987-4 MS	AP MW-5	Total/NA	Water	PrecSep_0	
490-166987-4 MSD	AP MW-5	Total/NA	Water	PrecSep_0	

Client Sample ID: AP MW-1D

Lab Sample ID: 490-166987-1

Date Collected: 01/15/19 13:48

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.63 mL	1.0 g	411855	01/23/19 10:53	SJC	TAL SL
Total/NA	Analysis	903.0		1			415198	02/15/19 14:18	CDR	TAL SL
Total/NA	Prep	PrecSep_0			1000.63 mL	1.0 g	411957	01/23/19 12:34	SJC	TAL SL
Total/NA	Analysis	904.0		1			413454	02/04/19 16:11	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: AP MW-3

Lab Sample ID: 490-166987-2

Date Collected: 01/15/19 09:44

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.36 mL	1.0 g	411855	01/23/19 10:53	SJC	TAL SL
Total/NA	Analysis	903.0		1			415198	02/15/19 14:18	CDR	TAL SL
Total/NA	Prep	PrecSep_0			1000.36 mL	1.0 g	411957	01/23/19 12:34	SJC	TAL SL
Total/NA	Analysis	904.0		1			413454	02/04/19 16:11	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: AP MW-4

Lab Sample ID: 490-166987-3

Date Collected: 01/15/19 15:02

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.21 mL	1.0 g	411855	01/23/19 10:53	SJC	TAL SL
Total/NA	Analysis	903.0		1			415198	02/15/19 14:18	CDR	TAL SL
Total/NA	Prep	PrecSep_0			999.21 mL	1.0 g	411957	01/23/19 12:34	SJC	TAL SL
Total/NA	Analysis	904.0		1			413454	02/04/19 16:11	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: AP MW-5

Lab Sample ID: 490-166987-4

Date Collected: 01/15/19 14:55

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.34 mL	1.0 g	411855	01/23/19 10:53	SJC	TAL SL
Total/NA	Analysis	903.0		1			415198	02/15/19 14:18	CDR	TAL SL
Total/NA	Prep	PrecSep_0			749.34 mL	1.0 g	411957	01/23/19 12:34	SJC	TAL SL
Total/NA	Analysis	904.0		1			413454	02/04/19 16:11	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-1

Client Sample ID: SSP/AP MW-1

Lab Sample ID: 490-166987-5

Date Collected: 01/15/19 09:50
Matrix: Water
Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.75 mL	1.0 g	411855	01/23/19 10:53	SJC	TAL SL
Total/NA	Analysis	903.0		1			415196	02/15/19 14:08	CDR	TAL SL
Total/NA	Prep	PrecSep_0			999.75 mL	1.0 g	411957	01/23/19 12:34	SJC	TAL SL
Total/NA	Analysis	904.0		1			413454	02/04/19 16:12	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: SSP MW-2

Lab Sample ID: 490-166987-6

Date Collected: 01/15/19 11:00
Matrix: Water
Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.11 mL	1.0 g	411855	01/23/19 10:53	SJC	TAL SL
Total/NA	Analysis	903.0		1			415196	02/15/19 14:08	CDR	TAL SL
Total/NA	Prep	PrecSep_0			1000.11 mL	1.0 g	411957	01/23/19 12:34	SJC	TAL SL
Total/NA	Analysis	904.0		1			413454	02/04/19 16:12	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: SSP MW-3

Lab Sample ID: 490-166987-7

Date Collected: 01/15/19 12:20
Matrix: Water
Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.88 mL	1.0 g	411855	01/23/19 10:53	SJC	TAL SL
Total/NA	Analysis	903.0		1			415196	02/15/19 14:09	CDR	TAL SL
Total/NA	Prep	PrecSep_0			999.88 mL	1.0 g	411957	01/23/19 12:34	SJC	TAL SL
Total/NA	Analysis	904.0		1			413454	02/04/19 16:12	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: SSP MW-4

Lab Sample ID: 490-166987-8

Date Collected: 01/15/19 13:40
Matrix: Water
Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.56 mL	1.0 g	411855	01/23/19 10:53	SJC	TAL SL
Total/NA	Analysis	903.0		1			415196	02/15/19 14:09	CDR	TAL SL
Total/NA	Prep	PrecSep_0			999.56 mL	1.0 g	411957	01/23/19 12:34	SJC	TAL SL
Total/NA	Analysis	904.0		1			413454	02/04/19 16:12	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: SFL MW-2

Lab Sample ID: 490-166987-9

Date Collected: 01/16/19 10:35

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.12 mL	1.0 g	411855	01/23/19 10:53	SJC	TAL SL
Total/NA	Analysis	903.0		1			415196	02/15/19 14:09	CDR	TAL SL
Total/NA	Prep	PrecSep_0			1000.12 mL	1.0 g	411957	01/23/19 12:34	SJC	TAL SL
Total/NA	Analysis	904.0		1			413454	02/04/19 16:12	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: SFL MW-3

Lab Sample ID: 490-166987-10

Date Collected: 01/16/19 14:02

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.02 mL	1.0 g	411855	01/23/19 10:53	SJC	TAL SL
Total/NA	Analysis	903.0		1			415196	02/15/19 14:09	CDR	TAL SL
Total/NA	Prep	PrecSep_0			1000.02 mL	1.0 g	411957	01/23/19 12:34	SJC	TAL SL
Total/NA	Analysis	904.0		1			413454	02/04/19 16:12	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: SFL MW-4

Lab Sample ID: 490-166987-11

Date Collected: 01/16/19 15:28

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.57 mL	1.0 g	411838	01/23/19 09:01	SJC	TAL SL
Total/NA	Analysis	903.0		1			415197	02/15/19 14:13	CDR	TAL SL
Total/NA	Prep	PrecSep_0			1000.57 mL	1.0 g	411848	01/23/19 10:10	SJC	TAL SL
Total/NA	Analysis	904.0		1			414168	02/08/19 14:47	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: SFL MW-5

Lab Sample ID: 490-166987-12

Date Collected: 01/16/19 09:25

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.29 mL	1.0 g	411838	01/23/19 09:01	SJC	TAL SL
Total/NA	Analysis	903.0		1			415197	02/15/19 14:13	CDR	TAL SL
Total/NA	Prep	PrecSep_0			1000.29 mL	1.0 g	411848	01/23/19 10:10	SJC	TAL SL
Total/NA	Analysis	904.0		1			414168	02/08/19 14:47	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: SFL MW-6

Lab Sample ID: 490-166987-13

Date Collected: 01/16/19 11:18

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.67 mL	1.0 g	411838	01/23/19 09:01	SJC	TAL SL
Total/NA	Analysis	903.0		1			415197	02/15/19 14:14	CDR	TAL SL
Total/NA	Prep	PrecSep_0			1000.67 mL	1.0 g	411848	01/23/19 10:10	SJC	TAL SL
Total/NA	Analysis	904.0		1			414168	02/08/19 14:47	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: SFL MW-7

Lab Sample ID: 490-166987-14

Date Collected: 01/16/19 12:00

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.07 mL	1.0 g	411838	01/23/19 09:01	SJC	TAL SL
Total/NA	Analysis	903.0		1			415197	02/15/19 14:14	CDR	TAL SL
Total/NA	Prep	PrecSep_0			1000.07 mL	1.0 g	411848	01/23/19 10:10	SJC	TAL SL
Total/NA	Analysis	904.0		1			414168	02/08/19 14:47	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: MNW-15

Lab Sample ID: 490-166987-15

Date Collected: 01/16/19 12:59

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.98 mL	1.0 g	411838	01/23/19 09:01	SJC	TAL SL
Total/NA	Analysis	903.0		1			415197	02/15/19 14:14	CDR	TAL SL
Total/NA	Prep	PrecSep_0			999.98 mL	1.0 g	411848	01/23/19 10:10	SJC	TAL SL
Total/NA	Analysis	904.0		1			414168	02/08/19 14:47	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: MNW-18

Lab Sample ID: 490-166987-16

Date Collected: 01/16/19 09:28

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.24 mL	1.0 g	411838	01/23/19 09:01	SJC	TAL SL
Total/NA	Analysis	903.0		1			415197	02/15/19 14:14	CDR	TAL SL
Total/NA	Prep	PrecSep_0			1000.24 mL	1.0 g	411848	01/23/19 10:10	SJC	TAL SL
Total/NA	Analysis	904.0		1			414168	02/08/19 14:47	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: EQBK-BG-011519

Lab Sample ID: 490-166987-17

Date Collected: 01/15/19 15:50

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.02 mL	1.0 g	411838	01/23/19 09:01	SJC	TAL SL
Total/NA	Analysis	903.0		1			415197	02/15/19 14:14	CDR	TAL SL
Total/NA	Prep	PrecSep_0			1000.02 mL	1.0 g	411848	01/23/19 10:10	SJC	TAL SL
Total/NA	Analysis	904.0		1			414168	02/08/19 14:47	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: EQBK-SCM-011519

Lab Sample ID: 490-166987-18

Date Collected: 01/15/19 15:50

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.64 mL	1.0 g	411838	01/23/19 09:01	SJC	TAL SL
Total/NA	Analysis	903.0		1			415197	02/15/19 14:14	CDR	TAL SL
Total/NA	Prep	PrecSep_0			999.64 mL	1.0 g	411848	01/23/19 10:10	SJC	TAL SL
Total/NA	Analysis	904.0		1			414168	02/08/19 14:48	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: Dup-1

Lab Sample ID: 490-166987-19

Date Collected: 01/15/19 00:01

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.69 mL	1.0 g	411838	01/23/19 09:01	SJC	TAL SL
Total/NA	Analysis	903.0		1			415197	02/15/19 14:14	CDR	TAL SL
Total/NA	Prep	PrecSep_0			1000.69 mL	1.0 g	411848	01/23/19 10:10	SJC	TAL SL
Total/NA	Analysis	904.0		1			414168	02/08/19 14:48	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: Dup-2

Lab Sample ID: 490-166987-20

Date Collected: 01/16/19 00:01

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.73 mL	1.0 g	411838	01/23/19 09:01	SJC	TAL SL
Total/NA	Analysis	903.0		1			415197	02/15/19 14:14	CDR	TAL SL
Total/NA	Prep	PrecSep_0			1000.73 mL	1.0 g	411848	01/23/19 10:10	SJC	TAL SL
Total/NA	Analysis	904.0		1			414168	02/08/19 14:48	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-1

Client Sample ID: EQBK-SCM-011619

Lab Sample ID: 490-166987-21

Date Collected: 01/16/19 15:30

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.76 mL	1.0 g	411838	01/23/19 09:01	SJC	TAL SL
Total/NA	Analysis	903.0		1			415197	02/15/19 14:15	CDR	TAL SL
Total/NA	Prep	PrecSep_0			1000.76 mL	1.0 g	411848	01/23/19 10:10	SJC	TAL SL
Total/NA	Analysis	904.0		1			414168	02/08/19 14:48	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Client Sample ID: EQBK-BG-011619

Lab Sample ID: 490-166987-22

Date Collected: 01/16/19 13:30

Matrix: Water

Date Received: 01/18/19 12:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.99 mL	1.0 g	411838	01/23/19 09:01	SJC	TAL SL
Total/NA	Analysis	903.0		1			415197	02/15/19 14:15	CDR	TAL SL
Total/NA	Prep	PrecSep_0			999.99 mL	1.0 g	411848	01/23/19 10:10	SJC	TAL SL
Total/NA	Analysis	904.0		1			414168	02/08/19 14:48	KLS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			415535	02/18/19 15:43	CDR	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Method Summary

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-1

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-1

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704077	08-31-19

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-19
ANAB	DoD / DOE		L2305	04-06-19 *
Arizona	State Program	9	AZ0813	12-08-19
California	State Program	9	2886	06-30-19
Connecticut	State Program	1	PH-0241	03-31-19 *
Florida	NELAP	4	E87689	06-30-19
Illinois	NELAP	5	200023	11-30-19
Iowa	State Program	7	373	12-01-20
Kansas	NELAP	7	E-10236	10-31-19
Kentucky (DW)	State Program	4	KY90125	12-31-19
Louisiana	NELAP	6	04080	06-30-19
Louisiana (DW)	NELAP	6	LA011	12-31-19
Maryland	State Program	3	310	09-30-19
Michigan	State Program	5	9005	06-30-19
Missouri	State Program	7	780	06-30-19
Nevada	State Program	9	MO000542018-1	07-31-19
New Jersey	NELAP	2	MO002	06-30-19
New York	NELAP	2	11616	03-31-19 *
North Dakota	State Program	8	R207	06-30-19
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-19
Pennsylvania	NELAP	3	68-00540	02-28-19 *
South Carolina	State Program	4	85002001	06-30-19
Texas	NELAP	6	T104704193-18-12	07-31-19
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542018-10	07-31-19
Virginia	NELAP	3	460230	06-14-19
Washington	State Program	10	C592	08-30-19
West Virginia DEP	State Program	3	381	08-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

490-166987 Chain of Custody

COOLER RECEIPT FORM

Cooler Received/Opened On 1/18/2019 @ 9:20

Time Samples Removed From Cooler 1440 Time Samples Placed In Storage 1506 (2 Hour Window)

1. Tracking # 7884 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960358 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 0.5 *Degrees Celsius*

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

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

If yes, how many and where: 1 front

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

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

I certify that I opened the cooler and answered questions 1-6 (intial) _____

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

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

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

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

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

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

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

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

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

Larger than this.

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

I certify that I unloaded the cooler and answered questions 7-14 (intial) GH

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

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

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

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

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

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

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

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

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

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

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

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 8/23/17

Loc: 490
166987

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

Cooler Received/Opened On 1/18/2019 @ 9:20

Time Samples Removed From Cooler 1440 Time Samples Placed In Storage 1506 (2 Hour Window)

1. Tracking # 7830 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960358 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 0.5 Degrees Celsius

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

4. Were custody seals on outside of cooler? 1 Sam A YES NO NA

If yes, how many and where: _____

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

6. Were custody papers inside cooler? YES NO NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

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

Were these signed and dated correctly? YES NO NA

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

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

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

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

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

13a. Were VOA vials received? YES NO NA

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

Larger than this.

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

I certify that I unloaded the cooler and answered questions 7-14 (intial) GH

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

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

16. Was residual chlorine present? YES NO NA

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

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

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

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

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

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

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

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

BIS = Broken in shipment
Cooler Receipt Form.doc

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Revised 8/23/17

2/21/2019

Loc: 490
166987

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

Cooler Received/Opened On 1/18/2019 @ 9:20

Time Samples Removed From Cooler 1440 Time Samples Placed In Storage 1506 (2 Hour Window)

1. Tracking # 7851 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960358 pH Strip Lot NA Chlorine Strip Lot NA

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

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

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

If yes, how many and where: 1 Front

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

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

I certify that I opened the cooler and answered questions 1-6 (intial) _____

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

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

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

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

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

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

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

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

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

● ⬅ Larger than this.

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

I certify that I unloaded the cooler and answered questions 7-14 (intial) GH

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

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

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

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

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

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

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

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

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

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

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

BIS = Broken in shipment
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Revised 8/23/17

Loc: 490
166987

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

Cooler Received/Opened On 01-18-2019 @ 09:20

Time Samples Removed From Cooler 1440 Time Samples Placed In Storage 1506 (2 Hour Window)

1. Tracking # 7873 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 14740456 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 2.4 *Degrees Celsius*

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

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

If yes, how many and where: 1 (front)

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

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

I certify that I opened the cooler and answered questions 1-6 (intial) GH

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

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

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

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

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

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

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

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

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

● ⬅ Larger than this.

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

I certify that I unloaded the cooler and answered questions 7-14 (intial) GH

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

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

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

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

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

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

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

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

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

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

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

BIS = Broken in shipment
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Revised 8/23/17

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THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

Cooler Received/Opened On 01-18-2019 @ 09:20

Time Samples Removed From Cooler 1440 Time Samples Placed In Storage 1506 (2 Hour Window)

1. Tracking # 7840 (last 4 digits, FedEx) Courier: _FedEx_

IR Gun ID 14740456 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 3.5 *Degrees Celsius*

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

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

If yes, how many and where: 1 (front)

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

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

I certify that I opened the cooler and answered questions 1-6 (intial) KA

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

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

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

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

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

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

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

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

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

● Larger than this.

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

I certify that I unloaded the cooler and answered questions 7-14 (intial) GH

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

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

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

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

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

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

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

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

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

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

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

BIS = Broken in shipment
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Revised 8/23/17

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

Loc: 490
166987

COOLER RECEIPT FORM

Cooler Received/Opened On 1/19/2019 @ 1100

Time Samples Removed From Cooler 1224 Time Samples Placed In Storage 1230 (2 Hour Window)

1. Tracking # 7862 (last 4 digits, FedEx) Courier: FedEx

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

2. Temperature of rep. sample or temp blank when opened: 1.5 *Degrees Celsius*

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

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

If yes, how many and where: 1 (Front)

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

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

I certify that I opened the cooler and answered questions 1-6 (intial) GH

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

Were these signed and dated correctly? YES NO (NA)

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

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

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

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

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

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

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

● ⬅ Larger than this.

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

I certify that I unloaded the cooler and answered questions 7-14 (intial) GH

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

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

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

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

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

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

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

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

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

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

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

BIS = Broken in shipment

TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Samuel Macon/Brian Giesselman	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-94553-24956.3
Client Contact: Greg Seifert	Phone: 512-413-3876	E-Mail: gail.lage@testamericainc.com		Page: Page 1 of 2
Company: Wood E&I Solutions Inc				Job #: SCM

Address: 3755 South Capital of Texas Highway Suite 375	Due Date Requested:	Analysis Requested
City: Austin	TAT Requested (days):	
State, Zip: TX, 78704		
Phone: 512-795-0360	PO #: Purchase Order Requested	
Email: greg.seifert@woodplc.com	WO #:	
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510	
Site: Texas	SSOW#:	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, 904.0	9056A_ORGFM_28D - Chloride, Fluoride, Sulfate	6020A, 7470A	2540C_Calcd - Total Dissolved Solids	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
AP MW-1D	1-15 19 SCM	1348	G	W	N	N	X	X	X	X		
AP MW-3	1-15-19	0944				N						
AP MW-4	1-15-19	1502				N						
AP MW-5	1-15-19	1455				Y						
SSP/AP MW-1	1-15-19	0950				N						
SSP MW-2	1-15-19	1100				N						
SSP MW-3	1-15-19	1220				N						
SSP MW-4	1-15-19	1340				N						
SFL MW-2	1-16-19	1035				N						
SFL MW-3	1-16-19	1402				N						
SFL MW-4	1-16-19	1528				N						

Loc: 490
166987

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Samuel C Macon (Samuel C Macon)	Date/Time: 1-17-19 1515	Company: Wood	Received by:	Date/Time: 1-18-19 0920	Company: TA-NAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 0.5/0.5/0.2/2.4/3.5/

Ver: 08/04/2016

TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Samuel Mason/Brian Gieselman	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-94553-24956.3
Client Contact: Greg Seifert	Phone: 512-413-3876	E-Mail: gail.lage@testamericainc.com		Page: Page 2 of 2
Company: Wood E&I Solutions Inc				Job #: SCM

Address: 3755 South Capital of Texas Highway Suite 375	Due Date Requested:	Analysis Requested
City: Austin	TAT Requested (days):	
State, Zip: TX, 78704		
Phone: 512-795-0360	PO #: Purchase Order Requested	
Email: greg.seifert@woodplc.com	WO #:	
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510	
Site: Texas	SSOW#:	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, 904.0	9056A_ORGFM_28D - Chloride, Fluoride, Sulfate	6020A, 7470A	2540C_Calcd - Total Dissolved Solids	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
SFL MW-5	1-16-19	0925	G	W	N	N	X	X	X	X		
SFL MW-6	1-16-19	1118										Loc: 490 166987
SFL MW-7	1-16-19	1200										
MNW-15	1-16-19	1259										
MNW-18	1-16-19	0928										
EQBK-BG-011519	1-15-19	1550										
EQBK-SCM-011519	1-15-19	1550										
DUP-1	1-15-19	—										
DUP-2	1-16-19	—										
EQBK-SCM-011619	1-16-19	1530										
~~EQBK-SCM-011619~~ EQBK-BG-011619	1-16-19	1330										

Possible Hazard Identification SCM
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Samuel C Mason (Samuel C Mason)	Date/Time: 1-17-19 @ 1515	Company: Wood	Received by: [signature] Date/Time: 1-18-19/0920 Company: TA-NAS
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company

Custody Seals Intact: △ Yes △ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 0.5/0.5/0.2/2.4/3.5

Ver: 08/04/2016

TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-85137.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: gail.lage@testamericainc.com	State of Origin: Texas	Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 490-166987-1
Address: 13715 Rider Trail North,	Due Date Requested: 1/30/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: AMEC Gibbons Creek Stream	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
AP MW-1D (490-166987-1)	1/15/19	13:48 Central		Water			X	X	X	2	
AP MW-3 (490-166987-2)	1/15/19	09:44 Central		Water			X	X	X	2	
AP MW-4 (490-166987-3)	1/15/19	15:02 Central		Water			X	X	X	2	
AP MW-5 (490-166987-4)	1/15/19	14:55 Central		Water			X	X	X	2	
AP MW-5 (490-166987-4MS)	1/15/19	14:55 Central	MS	Water			X	X	X	2	
AP MW-5 (490-166987-4MSD)	1/15/19	14:55 Central	MSD	Water			X	X	X	2	
SSP/AP MW-1 (490-166987-5)	1/15/19	09:50 Central		Water			X	X	X	2	
SSP MW-2 (490-166987-6)	1/15/19	11:00 Central		Water			X	X	X	2	
SSP MW-3 (490-166987-7)	1/15/19	12:20 Central		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1-21-19 @ 0935	TANAS	Michael Heem	1-22-19 0850	TA STL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 09/20/2016

TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-85137.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: gail.lage@testamericainc.com	State of Origin: Texas	Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 490-166987-1
Address: 13715 Rider Trail North,	Due Date Requested: 1/30/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: AMEC Gibbons Creek Stream	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
SSP MW-4 (490-166987-8)	1/15/19	13:40 Central		Water			X	X	X	2	
SFL MW-2 (490-166987-9)	1/16/19	10:35 Central		Water			X	X	X	2	
SFL MW-3 (490-166987-10)	1/16/19	14:02 Central		Water			X	X	X	2	
SFL MW-4 (490-166987-11)	1/16/19	15:28 Central		Water			X	X	X	2	
SFL MW-5 (490-166987-12)	1/16/19	09:25 Central		Water			X	X	X	2	
SFL MW-6 (490-166987-13)	1/16/19	11:18 Central		Water			X	X	X	2	
SFL MW-7 (490-166987-14)	1/16/19	12:00 Central		Water			X	X	X	2	
MNW-15 (490-166987-15)	1/16/19	12:59 Central		Water			X	X	X	2	
MNW-18 (490-166987-16)	1/16/19	09:28 Central		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1-21-19 @ 0935	TANKS	Michael Heem	1-22-19 0850	TMSL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 09/20/2016

TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-85137.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: gail.lage@testamericainc.com	State of Origin: Texas	Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 490-166987-1
Address: 13715 Rider Trail North,	Due Date Requested: 1/30/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: AMEC Gibbons Creek Stream	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
EQBK-BG-011519 (490-166987-17)	1/15/19	15:50 Central		Water			X	X	X	2	
EQBK-SCM-011519 (490-166987-18)	1/15/19	15:50 Central		Water			X	X	X	2	
Dup-1 (490-166987-19)	1/15/19	00:01 Central		Water			X	X	X	2	
Dup-2 (490-166987-20)	1/16/19	00:01 Central		Water			X	X	X	2	
EQBK-SCM-011619 (490-166987-21)	1/16/19	15:30 Central		Water			X	X	X	2	
EQBK-BG-011619 (490-166987-22)	1/16/19	13:30 Central		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: 0850/MH 1-22-19
Relinquished by: [signature]	Date/Time: 1-21-19 @ 0935	Company: TANAS	Received by: Michael Hewin Date/Time: 1-22-19 0850 Company: FT STL
Relinquished by:	Date/Time:	Company:	Received by: Date/Time: Company:
Relinquished by:	Date/Time:	Company:	Received by: Date/Time: Company:

Custody Seals Intact: ∧ Yes ∧ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 09/20/2016

Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 490-166987-1

Login Number: 166987
List Number: 2
Creator: Hellm, Michael

List Source: TestAmerica St. Louis
List Creation: 01/22/19 03:20 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	19.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-1

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)						
Lab Sample ID	Client Sample ID	Ba Carrier (40-110)						
490-166987-1	AP MW-1D	95.9						
490-166987-2	AP MW-3	92.3						
490-166987-3	AP MW-4	95.6						
490-166987-4	AP MW-5	98.5						
490-166987-4 MS	AP MW-5	94.1						
490-166987-4 MSD	AP MW-5	95.9						
490-166987-5	SSP/AP MW-1	92.6						
490-166987-6	SSP MW-2	72.3						
490-166987-7	SSP MW-3	104						
490-166987-8	SSP MW-4	92.0						
490-166987-9	SFL MW-2	96.8						
490-166987-10	SFL MW-3	98.2						
490-166987-11	SFL MW-4	101						
490-166987-12	SFL MW-5	101						
490-166987-13	SFL MW-6	101						
490-166987-14	SFL MW-7	90.6						
490-166987-15	MNW-15	102						
490-166987-16	MNW-18	101						
490-166987-17	EQBK-BG-011519	104						
490-166987-18	EQBK-SCM-011519	102						
490-166987-19	Dup-1	106						
490-166987-20	Dup-2	104						
490-166987-21	EQBK-SCM-011619	96.5						
490-166987-22	EQBK-BG-011619	91.4						
LCS 160-411838/1-A	Lab Control Sample	97.1						
LCS 160-411855/1-A	Lab Control Sample	95.0						
LCSD 160-411838/2-A	Lab Control Sample Dup	95.9						
MB 160-411838/21-A	Method Blank	99.7						
MB 160-411855/21-A	Method Blank	98.8						

Tracer/Carrier Legend

Ba Carrier = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)						
Lab Sample ID	Client Sample ID	Ba Carrier (40-110)	Y Carrier (40-110)					
490-166987-1	AP MW-1D	95.9	84.9					
490-166987-2	AP MW-3	92.3	82.2					
490-166987-3	AP MW-4	95.6	84.9					
490-166987-4	AP MW-5	98.5	80.4					
490-166987-4 MS	AP MW-5	94.1	83.4					
490-166987-4 MSD	AP MW-5	95.9	81.1					
490-166987-5	SSP/AP MW-1	92.6	86.7					
490-166987-6	SSP MW-2	72.3	82.6					
490-166987-7	SSP MW-3	104	81.9					
490-166987-8	SSP MW-4	92.0	79.3					

Tracer/Carrier Summary

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

TestAmerica Job ID: 490-166987-1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Matrix: Water **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits) Ba Carrier (40-110)	Y Carrier (40-110)
490-166987-9	SFL MW-2	96.8	85.6
490-166987-10	SFL MW-3	98.2	86.4
490-166987-11	SFL MW-4	101	77.8
490-166987-12	SFL MW-5	101	84.1
490-166987-13	SFL MW-6	101	81.9
490-166987-14	SFL MW-7	90.6	84.5
490-166987-15	MNW-15	102	78.9
490-166987-16	MNW-18	101	81.9
490-166987-17	EQBK-BG-011519	104	81.9
490-166987-18	EQBK-SCM-011519	102	85.2
490-166987-19	Dup-1	106	81.1
490-166987-20	Dup-2	104	81.5
490-166987-21	EQBK-SCM-011619	96.5	80.7
490-166987-22	EQBK-BG-011619	91.4	82.2
LCS 160-411848/1-A	Lab Control Sample	97.1	73.3
LCS 160-411957/1-A	Lab Control Sample	95.0	79.3
LCSD 160-411848/2-A	Lab Control Sample Dup	95.9	80.4
MB 160-411848/21-A	Method Blank	99.7	84.9
MB 160-411957/21-A	Method Blank	98.8	86.0

Tracer/Carrier Legend

Ba Carrier = Ba Carrier
Y Carrier = Y Carrier

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-92094-2
Client Project/Site: AMEC CCR TMPA Gibbons Creek
Sampling Event: CCR

For:
Wood E&I Solutions Inc
3755 South Capital of Texas Highway
Suite 375
Austin, Texas 78704

Attn: Greg Seifert

Authorized for release by:
7/23/2019 7:36:13 PM

Gail Lage, Senior Project Manager
(615)301-5741
gail.lage@testamericainc.com

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

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

PA Lab ID: 02-00416

Table of Contents

Job ID: 180-92094-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-92094-2

Comments
No additional comments.

Receipt
The samples were received on 6/29/2019 11:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.7º C and 2.3º C.

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

Metals
Method(s) 6020A: The continuing calibration verification (CCV) and continuing calibration verification low (CCVL) associated with batch 240-390262 recovered above the upper control limit for Boron. The samples associated with this CCV and CCVL were below the requested reporting limit for the affected analyte; therefore, the data have been reported. The following samples are impacted: EQBK-SCM-062719 (180-92094-6), EQBK-JMV-062719 (180-92094-7) and EQBK-SCM-062819 (180-92094-8).

Method(s) 6020A: The continuing calibration verification Low (CCVL) associated with batch 240-390262 recovered above the upper control limit for Boron. The samples associated with this CCVL were below the requested reporting limit for the affected analyte; therefore, the data have been reported. The following samples are impacted: EQBK-SCM-062719 (180-92094-6), EQBK-JMV-062719 (180-92094-7) and EQBK-SCM-062819 (180-92094-8).

Method(s) 6020A: The CCB was greater than or equal to the requested reporting for boron. Since the sample result(s) was/were below the requested reporting limit the result(s) was/were accepted.
EQBK-JMV-062719 (180-92094-7) and EQBK-SCM-062819 (180-92094-8)

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

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

Definitions/Glossary

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

Glossary

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

Accreditation/Certification Summary

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704528-15-2	03-31-20

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State		2927	02-23-20
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-20
Florida	NELAP		E87225	06-30-20
Illinois	NELAP	5	200004	07-31-19 *
Illinois	NELAP		004498	07-31-19
Iowa	State Program	7	421	06-01-21
Kansas	NELAP	7	E-10336	04-30-20
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19 *
Nevada	State		OH00048	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-20
New Jersey	NELAP		OH001	06-30-20
New York	NELAP	2	10975	03-31-20
New York	NELAP		10975	03-31-20
Ohio VAP	State Program	5	CL0024	06-05-21
Oregon	NELAP	10	4062	02-23-20
Oregon	NELAP		4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Pennsylvania	NELAP		68-00340	08-31-19
Texas	NELAP	6	T104704517-18-10	08-31-19 *
Texas	NELAP		T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19 *
Virginia	NELAP		010101	09-14-19
Washington	State		C971	01-12-20
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State		210	12-31-19
West Virginia DEP	State Program	3	210	12-31-19

Laboratory: Eurofins TestAmerica, Nashville

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704077	08-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Sample Summary

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

Job ID: 180-92094-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-92094-1	SSP/AP MW-1	Water	06/27/19 09:15	06/29/19 11:15	
180-92094-2	SSP MW-2	Water	06/28/19 12:25	06/29/19 11:15	
180-92094-3	SSP MW-3	Water	06/27/19 11:10	06/29/19 11:15	
180-92094-4	SSP MW-4	Water	06/27/19 09:20	06/29/19 11:15	
180-92094-5	SFL MW-6	Water	06/28/19 10:40	06/29/19 11:15	
180-92094-6	EQBK-SCM-062719	Water	06/27/19 15:15	06/29/19 11:15	
180-92094-7	EQBK-JMV-062719	Water	06/27/19 15:35	06/29/19 11:15	
180-92094-8	EQBK-SCM-062819	Water	06/28/19 12:55	06/29/19 11:15	

Method Summary

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SSP/AP MW-1
Lab Sample ID: 180-92094-1
Date Collected: 06/27/19 09:15
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			284118	07/08/19 13:35	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		100			284118	07/08/19 13:52	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 16:51	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			390262	07/08/19 16:53	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			391786	07/17/19 12:28	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	283915	07/03/19 18:02	TAM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: SSP MW-2
Lab Sample ID: 180-92094-2
Date Collected: 06/28/19 12:25
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			284118	07/08/19 14:43	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		100			284118	07/08/19 15:00	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 16:55	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			390262	07/08/19 16:58	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		20			391786	07/17/19 12:30	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	284016	07/05/19 12:13	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: SSP MW-3
Lab Sample ID: 180-92094-3
Date Collected: 06/27/19 11:10
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			284118	07/08/19 15:17	CMR	TAL PIT
	Instrument ID: CHICS2000									

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SSP MW-3
Lab Sample ID: 180-92094-3
Date Collected: 06/27/19 11:10
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		100			284118	07/08/19 15:34	CMR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 17:00	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			390262	07/08/19 17:02	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		20			391786	07/17/19 12:33	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	283897	07/03/19 15:20	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: SSP MW-4
Lab Sample ID: 180-92094-4
Date Collected: 06/27/19 09:20
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			284118	07/08/19 15:51	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		100			284118	07/08/19 16:08	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 17:05	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		20			391786	07/17/19 12:35	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	283915	07/03/19 18:02	TAM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: SFL MW-6
Lab Sample ID: 180-92094-5
Date Collected: 06/28/19 10:40
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			284118	07/08/19 16:24	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		100			284118	07/08/19 16:41	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 17:07	DSH	TAL CAN
	Instrument ID: I14									

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SFL MW-6
Lab Sample ID: 180-92094-5
Date Collected: 06/28/19 10:40
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			390262	07/08/19 17:09	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			391786	07/17/19 12:37	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389860	07/05/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			390339	07/09/19 09:45	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	15 mL	100 mL	284016	07/05/19 12:13	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: EQBK-SCM-062719
Lab Sample ID: 180-92094-6
Date Collected: 06/27/19 15:15
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			284118	07/08/19 16:58	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 17:12	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	283897	07/03/19 15:20	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: EQBK-JMV-062719
Lab Sample ID: 180-92094-7
Date Collected: 06/27/19 15:35
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			284118	07/08/19 17:15	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 17:19	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	283897	07/03/19 15:20	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: EQBK-SCM-062819
Lab Sample ID: 180-92094-8
Date Collected: 06/28/19 12:55
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			284118	07/08/19 18:06	CMR	TAL PIT
	Instrument ID: CHICS2000									

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: EQBK-SCM-062819
Lab Sample ID: 180-92094-8
Date Collected: 06/28/19 12:55
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	389589	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 17:21	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	284016	07/05/19 12:13	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL CAN

Batch Type: Prep

MRL = Matthew Loeb

Batch Type: Analysis

DSH = David Heakin

WKD = William Dillon

Lab: TAL PIT

Batch Type: Analysis

AVS = Abbey Smith

CMR = Carl Reagle

TAM = Tessa Mastalski

Client Sample Results

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SSP/AP MW-1
Lab Sample ID: 180-92094-1
Date Collected: 06/27/19 09:15
Matrix: Water
Date Received: 06/29/19 11:15

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1640**		100		mg/L			07/08/19 13:52	100
Fluoride	ND		1.00		mg/L			07/08/19 13:35	10
Sulfate	**2980**		100		mg/L			07/08/19 13:52	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 16:51	1
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 16:51	1
Boron	**0.811**		0.200		mg/L		07/03/19 14:00	07/17/19 12:28	10
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 16:51	1
Calcium	**659**		5.00		mg/L		07/03/19 14:00	07/08/19 16:53	5
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 16:51	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 16:51	1
Lithium	**1.39**		0.00800		mg/L		07/03/19 14:00	07/08/19 16:51	1
Thallium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 16:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**7240**		50.0		mg/L			07/03/19 18:02	1

Client Sample Results

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SSP MW-2
Lab Sample ID: 180-92094-2
Date Collected: 06/28/19 12:25
Matrix: Water
Date Received: 06/29/19 11:15

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1640**		100		mg/L			07/08/19 15:00	100
Fluoride	ND		1.00		mg/L			07/08/19 14:43	10
Sulfate	**2300**		100		mg/L			07/08/19 15:00	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 16:55	1
Beryllium	**0.0713**		0.00100		mg/L		07/03/19 14:00	07/08/19 16:55	1
Boron	**1.14**		0.400		mg/L		07/03/19 14:00	07/17/19 12:30	20
Cadmium	**0.00689**		0.00100		mg/L		07/03/19 14:00	07/08/19 16:55	1
Calcium	**658**		5.00		mg/L		07/03/19 14:00	07/08/19 16:58	5
Cobalt	**0.190**		0.00100		mg/L		07/03/19 14:00	07/08/19 16:55	1
Lead	**0.00539**		0.00100		mg/L		07/03/19 14:00	07/08/19 16:55	1
Lithium	**0.597**		0.00800		mg/L		07/03/19 14:00	07/08/19 16:55	1
Thallium	**0.00112**		0.00100		mg/L		07/03/19 14:00	07/08/19 16:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6100**		50.0		mg/L			07/05/19 12:13	1

Client Sample Results

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SSP MW-3
Lab Sample ID: 180-92094-3
Date Collected: 06/27/19 11:10
Matrix: Water
Date Received: 06/29/19 11:15

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1870**		100		mg/L			07/08/19 15:34	100
Fluoride	ND		1.00		mg/L			07/08/19 15:17	10
Sulfate	**2370**		100		mg/L			07/08/19 15:34	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 17:00	1
Beryllium	**0.107**		0.00100		mg/L		07/03/19 14:00	07/08/19 17:00	1
Boron	**2.94**		0.400		mg/L		07/03/19 14:00	07/17/19 12:33	20
Cadmium	**0.0711**		0.00100		mg/L		07/03/19 14:00	07/08/19 17:00	1
Calcium	**712**		5.00		mg/L		07/03/19 14:00	07/08/19 17:02	5
Cobalt	**0.524**		0.00100		mg/L		07/03/19 14:00	07/08/19 17:00	1
Lead	**0.00440**		0.00100		mg/L		07/03/19 14:00	07/08/19 17:00	1
Lithium	**0.587**		0.00800		mg/L		07/03/19 14:00	07/08/19 17:00	1
Thallium	**0.00760**		0.00100		mg/L		07/03/19 14:00	07/08/19 17:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**5780**		50.0		mg/L			07/03/19 15:20	1

Client Sample Results

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SSP MW-4
Lab Sample ID: 180-92094-4
Date Collected: 06/27/19 09:20
Matrix: Water
Date Received: 06/29/19 11:15

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1120**		100		mg/L			07/08/19 16:08	100
Fluoride	ND		1.00		mg/L			07/08/19 15:51	10
Sulfate	**1060**		100		mg/L			07/08/19 16:08	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 17:05	1
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:05	1
Boron	**1.51**		0.400		mg/L		07/03/19 14:00	07/17/19 12:35	20
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:05	1
Calcium	**414**		1.00		mg/L		07/03/19 14:00	07/08/19 17:05	1
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:05	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:05	1
Lithium	**0.919**		0.00800		mg/L		07/03/19 14:00	07/08/19 17:05	1
Thallium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4040**		40.0		mg/L			07/03/19 18:02	1

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SFL MW-6
Lab Sample ID: 180-92094-5
Date Collected: 06/28/19 10:40
Matrix: Water
Date Received: 06/29/19 11:15

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3240**		100		mg/L			07/08/19 16:41	100
Fluoride	ND		1.00		mg/L			07/08/19 16:24	10
Sulfate	**1870**		100		mg/L			07/08/19 16:41	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.0496**		0.00100		mg/L		07/03/19 14:00	07/08/19 17:07	1
Boron	**0.290**		0.100		mg/L		07/03/19 14:00	07/17/19 12:37	5
Cadmium	**0.00945**		0.00100		mg/L		07/03/19 14:00	07/08/19 17:07	1
Calcium	**800**		5.00		mg/L		07/03/19 14:00	07/08/19 17:09	5
Cobalt	**0.105**		0.00100		mg/L		07/03/19 14:00	07/08/19 17:07	1
Lead	**0.0115**		0.00100		mg/L		07/03/19 14:00	07/08/19 17:07	1
Lithium	**0.663**		0.00800		mg/L		07/03/19 14:00	07/08/19 17:07	1
Thallium	**0.00264**		0.00100		mg/L		07/03/19 14:00	07/08/19 17:07	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/05/19 14:00	07/09/19 09:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**7040**		66.7		mg/L			07/05/19 12:13	1

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: EQBK-SCM-062719
Lab Sample ID: 180-92094-6
Date Collected: 06/27/19 15:15
Matrix: Water
Date Received: 06/29/19 11:15

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/08/19 16:58	1
Fluoride	ND		0.100		mg/L			07/08/19 16:58	1
Sulfate	ND		1.00		mg/L			07/08/19 16:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 17:12	1
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:12	1
Boron	ND	^	0.0200		mg/L		07/03/19 14:00	07/08/19 17:12	1
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:12	1
Calcium	ND		1.00		mg/L		07/03/19 14:00	07/08/19 17:12	1
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:12	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:12	1
Lithium	ND		0.00800		mg/L		07/03/19 14:00	07/08/19 17:12	1
Thallium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/03/19 15:20	1

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: EQBK-JMV-062719
Lab Sample ID: 180-92094-7
Date Collected: 06/27/19 15:35
Matrix: Water
Date Received: 06/29/19 11:15

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/08/19 17:15	1
Fluoride	ND		0.100		mg/L			07/08/19 17:15	1
Sulfate	ND		1.00		mg/L			07/08/19 17:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 17:19	1
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:19	1
Boron	ND	^	0.0200		mg/L		07/03/19 14:00	07/08/19 17:19	1
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:19	1
Calcium	ND		1.00		mg/L		07/03/19 14:00	07/08/19 17:19	1
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:19	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:19	1
Lithium	ND		0.00800		mg/L		07/03/19 14:00	07/08/19 17:19	1
Thallium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/03/19 15:20	1

Client Sample Results

Client: Wood E&I Solutions Inc
Job ID: 180-92094-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: EQBK-SCM-062819
Lab Sample ID: 180-92094-8
Date Collected: 06/28/19 12:55
Matrix: Water
Date Received: 06/29/19 11:15

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/08/19 18:06	1
Fluoride	ND		0.100		mg/L			07/08/19 18:06	1
Sulfate	ND		1.00		mg/L			07/08/19 18:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 17:21	1
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:21	1
Boron	ND	^	0.0200		mg/L		07/03/19 14:00	07/08/19 17:21	1
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:21	1
Calcium	ND		1.00		mg/L		07/03/19 14:00	07/08/19 17:21	1
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:21	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:21	1
Lithium	ND		0.00800		mg/L		07/03/19 14:00	07/08/19 17:21	1
Thallium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 17:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/05/19 12:13	1

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-284118/6
Matrix: Water
Analysis Batch: 284118

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/08/19 11:20	1
Fluoride	ND		0.100		mg/L			07/08/19 11:20	1
Sulfate	ND		1.00		mg/L			07/08/19 11:20	1

Lab Sample ID: LCS 180-284118/5
Matrix: Water
Analysis Batch: 284118

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.89		mg/L		108	80 - 120
Fluoride	1.25	1.239		mg/L		99	80 - 120
Sulfate	25.0	23.33		mg/L		93	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-389589/1-A
Matrix: Water
Analysis Batch: 390262

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 389589

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 16:24	1
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 16:24	1
Boron	ND	^	0.0200		mg/L		07/03/19 14:00	07/08/19 16:24	1
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 16:24	1
Calcium	ND		1.00		mg/L		07/03/19 14:00	07/08/19 16:24	1
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 16:24	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 16:24	1
Lithium	ND		0.00800		mg/L		07/03/19 14:00	07/08/19 16:24	1
Thallium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 16:24	1

Lab Sample ID: LCS 240-389589/2-A
Matrix: Water
Analysis Batch: 390262

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 389589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.1062		mg/L		106	80 - 120
Arsenic	1.00	1.106		mg/L		111	80 - 120
Barium	1.00	1.121		mg/L		112	80 - 120
Beryllium	0.500	0.5272		mg/L		105	80 - 120
Boron	0.100	0.09729	^	mg/L		97	80 - 120
Cadmium	0.500	0.5406		mg/L		108	80 - 120
Calcium	25.0	26.10		mg/L		104	80 - 120
Chromium	0.500	0.5469		mg/L		109	80 - 120
Cobalt	0.500	0.5166		mg/L		103	80 - 120
Lead	0.500	0.5612		mg/L		112	80 - 120
Lithium	0.500	0.4902		mg/L		98	80 - 120
Molybdenum	0.500	0.5645		mg/L		113	80 - 120
Selenium	1.00	1.004		mg/L		100	80 - 120
Thallium	1.00	1.047		mg/L		105	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-389860/1-A
Matrix: Water
Analysis Batch: 390339

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 389860

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/05/19 14:00	07/09/19 08:52	1

Lab Sample ID: LCS 240-389860/2-A
Matrix: Water
Analysis Batch: 390339

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 389860

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.004654		mg/L		93	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-283897/2
Matrix: Water
Analysis Batch: 283897

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/03/19 15:20	1

Lab Sample ID: LCS 180-283897/1
Matrix: Water
Analysis Batch: 283897

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	201	170.0		mg/L		85	80 - 120

Lab Sample ID: MB 180-283915/2
Matrix: Water
Analysis Batch: 283915

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/03/19 18:02	1

Lab Sample ID: LCS 180-283915/1
Matrix: Water
Analysis Batch: 283915

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	201	176.0		mg/L		88	80 - 120

Lab Sample ID: MB 180-284016/2
Matrix: Water
Analysis Batch: 284016

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/05/19 12:13	1

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

Job ID: 180-92094-2

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 180-284016/1
Matrix: Water
Analysis Batch: 284016

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	201	196.0		mg/L		98	80 - 120

HPLC/IC

Analysis Batch: 284118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92094-1	SSP/AP MW-1	Total/NA	Water	EPA 9056A	
180-92094-1	SSP/AP MW-1	Total/NA	Water	EPA 9056A	
180-92094-2	SSP MW-2	Total/NA	Water	EPA 9056A	
180-92094-2	SSP MW-2	Total/NA	Water	EPA 9056A	
180-92094-3	SSP MW-3	Total/NA	Water	EPA 9056A	
180-92094-3	SSP MW-3	Total/NA	Water	EPA 9056A	
180-92094-4	SSP MW-4	Total/NA	Water	EPA 9056A	
180-92094-4	SSP MW-4	Total/NA	Water	EPA 9056A	
180-92094-5	SFL MW-6	Total/NA	Water	EPA 9056A	
180-92094-5	SFL MW-6	Total/NA	Water	EPA 9056A	
180-92094-6	EQBK-SCM-062719	Total/NA	Water	EPA 9056A	
180-92094-7	EQBK-JMV-062719	Total/NA	Water	EPA 9056A	
180-92094-8	EQBK-SCM-062819	Total/NA	Water	EPA 9056A	
MB 180-284118/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-284118/5	Lab Control Sample	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 389589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92094-1	SSP/AP MW-1	Total Recoverable	Water	3005A	
180-92094-2	SSP MW-2	Total Recoverable	Water	3005A	
180-92094-3	SSP MW-3	Total Recoverable	Water	3005A	
180-92094-4	SSP MW-4	Total Recoverable	Water	3005A	
180-92094-5	SFL MW-6	Total Recoverable	Water	3005A	
180-92094-6	EQBK-SCM-062719	Total Recoverable	Water	3005A	
180-92094-7	EQBK-JMV-062719	Total Recoverable	Water	3005A	
180-92094-8	EQBK-SCM-062819	Total Recoverable	Water	3005A	
MB 240-389589/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-389589/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 389860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92094-5	SFL MW-6	Total/NA	Water	7470A	
MB 240-389860/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-389860/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 390262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92094-1	SSP/AP MW-1	Total Recoverable	Water	6020A	389589
180-92094-1	SSP/AP MW-1	Total Recoverable	Water	6020A	389589
180-92094-2	SSP MW-2	Total Recoverable	Water	6020A	389589
180-92094-2	SSP MW-2	Total Recoverable	Water	6020A	389589
180-92094-3	SSP MW-3	Total Recoverable	Water	6020A	389589
180-92094-3	SSP MW-3	Total Recoverable	Water	6020A	389589
180-92094-4	SSP MW-4	Total Recoverable	Water	6020A	389589
180-92094-5	SFL MW-6	Total Recoverable	Water	6020A	389589
180-92094-5	SFL MW-6	Total Recoverable	Water	6020A	389589
180-92094-6	EQBK-SCM-062719	Total Recoverable	Water	6020A	389589
180-92094-7	EQBK-JMV-062719	Total Recoverable	Water	6020A	389589
180-92094-8	EQBK-SCM-062819	Total Recoverable	Water	6020A	389589

Metals (Continued)

Analysis Batch: 390262 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-389589/1-A	Method Blank	Total Recoverable	Water	6020A	389589
LCS 240-389589/2-A	Lab Control Sample	Total Recoverable	Water	6020A	389589

Analysis Batch: 390339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92094-5	SFL MW-6	Total/NA	Water	7470A	389860
MB 240-389860/1-A	Method Blank	Total/NA	Water	7470A	389860
LCS 240-389860/2-A	Lab Control Sample	Total/NA	Water	7470A	389860

Analysis Batch: 391786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92094-1	SSP/AP MW-1	Total Recoverable	Water	6020A	389589
180-92094-2	SSP MW-2	Total Recoverable	Water	6020A	389589
180-92094-3	SSP MW-3	Total Recoverable	Water	6020A	389589
180-92094-4	SSP MW-4	Total Recoverable	Water	6020A	389589
180-92094-5	SFL MW-6	Total Recoverable	Water	6020A	389589

General Chemistry

Analysis Batch: 283897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92094-3	SSP MW-3	Total/NA	Water	SM 2540C	
180-92094-6	EQBK-SCM-062719	Total/NA	Water	SM 2540C	
180-92094-7	EQBK-JMV-062719	Total/NA	Water	SM 2540C	
MB 180-283897/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-283897/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 283915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92094-1	SSP/AP MW-1	Total/NA	Water	SM 2540C	
180-92094-4	SSP MW-4	Total/NA	Water	SM 2540C	
MB 180-283915/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-283915/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 284016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92094-2	SSP MW-2	Total/NA	Water	SM 2540C	
180-92094-5	SFL MW-6	Total/NA	Water	SM 2540C	
180-92094-8	EQBK-SCM-062819	Total/NA	Water	SM 2540C	
MB 180-284016/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-284016/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Samuel Macon/Mac Vilas	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-101645-24956.1
Client Contact: Greg Seifert	Phone: 512-413-3876	E-Mail: gail.lage@testamericainc.com		Page: Page 1 of 1
Company: Wood E&I Solutions Inc				Job #: SCM
Address: 3755 South Capital of Texas Highway Suite 375	Due Date Requested:			
City: Austin	TAT Requested (days):			
State, Zip: TX, 78704				
Phone:	PO #: Purchase Order Requested			
Email: greg.seifert@woodplc.com	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: Texas	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, 904.0	9056A_ORGFM_28D - Chloride, Fluoride, Sulfate	6020A, 7470A	2540C_Calcd - Total Dissolved Solids	Total Number of containers	Spec
			Preservation Code:				D	N	D	N		
SSP/AP MW-1	6-27-19	0915	G	W	N	N	X	X	X	X		
SSP MW-2	6-28-19	1225										
SSP MW-3	6-27-19	1110										
SSP MW-4	6-27-19	0920										
SFL MW-6	6-28-19	1040										
EQBK-SCM-062719	6-27-19	1515										
EQBK-~~SCM~~ JMV-062719	6-27-19	1535										
EQBK-SCM-062819	6-28-19	1255	↓	↓	↓	↓	↓	↓	↓	↓		

180-92094 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Samuel C. Macon	6-28-19 @ 1620	Wood	Williamston	6-29-19	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 1115	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 180-367542.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: gail.lage@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-92094-2
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 7/15/2019			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: AMEC Gibbons Creek Stream	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastefoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A/3005A (MOD) Copy Analytes	7470A/7470A_Prep Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:							SIY
SSP/AP MW-1 (180-92094-1)	6/27/19	09:15 Central		Water			X		1	
SSP MW-2 (180-92094-2)	6/28/19	12:25 Central		Water			X		1	
SSP MW-3 (180-92094-3)	6/27/19	11:10 Central		Water			X		1	
SSP MW-4 (180-92094-4)	6/27/19	09:20 Central		Water			X		1	
SFL MW-6 (180-92094-5)	6/28/19	10:40 Central		Water			X	X	1	
EQBK-SCM-062719 (180-92094-6)	6/27/19	15:15 Central		Water			X		1	
EQBK-JMV-062719 (180-92094-7)	6/27/19	15:35 Central		Water			X		1	
EQBK-SCM-062819 (180-92094-8)	6/28/19	12:55 Central		Water			X		1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		7/1/19 1700	TA PGH		7-2-19 940	ETAC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____

Canton Facility

Client ETA Pittsburg Site Name _____ Cooler unpacked by: MJN

Cooler Received on 7-2-19 Opened on 7-2-19

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 14 Foam Box Client Cooler Box Other _____

Packing material used: (Bubble Wrap) Foam (Plastic Bag) None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-8 (CF **+0.1** °C) Observed Cooler Temp. 4.4 °C Corrected Cooler Temp. 4.5 °C

IR GUN #36 (CF **+0.6**°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity_____	Yes (No)	
-Were the seals on the outside of the cooler(s) signed & dated?	Yes No (NA)	
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes (No)	
-Were tamper/custody seals intact and uncompromised?	Yes No (NA)	
3. Shippers' packing slip attached to the cooler(s)?	(Yes) No	
4. Did custody papers accompany the sample(s)?	(Yes) No	
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes) No	
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes (No)	
7. Did all bottles arrive in good condition (Unbroken)?	(Yes) No	
8. Could all bottle labels be reconciled with the COC?	(Yes) No	
9. Were correct bottle(s) used for the test(s) indicated?	(Yes) No	
10. Sufficient quantity received to perform indicated analyses?	(Yes) No	
11. Are these work share samples?	(Yes) No	
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?	Yes No NA	pH Strip Lot# **HC984738**
13. Were VOAs on the COC?	Yes No	
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes No NA	
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____	Yes No	
16. Was a LL Hg or Me Hg trip blank present? _____	Yes No	

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by:

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-92094-2

Login Number: 92094
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

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ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-92094-1
Client Project/Site: AMEC CCR TMPA Gibbons Creek
Sampling Event: CCR

For:
Wood E&I Solutions Inc
3755 South Capital of Texas Highway
Suite 375
Austin, Texas 78704

Attn: Greg Seifert

Authorized for release by:
8/26/2019 3:56:10 PM

Gail Lage, Senior Project Manager
(615)301-5741
gail.lage@testamericainc.com

PA Lab ID: 02-00416

Table of Contents

Job ID: 180-92094-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-92094-1

Comments
No additional comments.

Receipt
The samples were received on 6/29/2019 11:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.7º C and 2.3º C.

RAD
Method(s) 903.0: Ra-226 Prep Batch 160-433679
The following sample did not meet the requested limit (RL) due to the reduced sample volume attributed to the presence of matrix interferences (see prep NCM 160-171309). The data have been reported with this narrative. SFL MW-6 (180-92094-5)

Method(s) 903.0: Ra-226 Prep Batch 160-433679
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
SSP/AP MW-1 (180-92094-1), SSP MW-2 (180-92094-2), SSP MW-3 (180-92094-3), SSP MW-4 (180-92094-4), SFL MW-6 (180-92094-5), EQBK-SCM-062719 (180-92094-6), EQBK-JMV-062719 (180-92094-7), EQBK-SCM-062819 (180-92094-8), (LCS 160-433679/1-A), (LCSD 160-433679/2-A) and (MB 160-433679/22-A)

Method(s) 904.0: Ra-228 Prep Batch 160-433682
The following sample did not meet the requested limit (RL) due to the reduced sample volume attributed to the presence of matrix interferences (see prep NCM 160-171310). The data have been reported with this narrative. SFL MW-6 (180-92094-5)

Method(s) 904.0: Ra-228 Prep Batch 160-433682
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
SSP/AP MW-1 (180-92094-1), SSP MW-2 (180-92094-2), SSP MW-3 (180-92094-3), SSP MW-4 (180-92094-4), SFL MW-6 (180-92094-5), EQBK-SCM-062719 (180-92094-6), EQBK-SCM-062819 (180-92094-8), (LCS 160-433682/1-A), (LCSD 160-433682/2-A) and (MB 160-433682/22-A)

Method(s) 904.0, 9320: Ra-228 Prep Batch 160-440183
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
EQBK-JMV-062719 (180-92094-7), (LCS 160-440183/1-A), (LCSD 160-440183/2-A) and (MB 160-440183/5-A)

Method(s) PrecSep_0: Radium 228 Prep Batch 160- 433682:
Insufficient sample volume was available to perform a sample duplicate for the following samples: SSP/AP MW-1 (180-92094-1), SSP MW-2 (180-92094-2), SSP MW-3 (180-92094-3), SSP MW-4 (180-92094-4), SFL MW-6 (180-92094-5), EQBK-SCM-062719 (180-92094-6), EQBK-JMV-062719 (180-92094-7) and EQBK-SCM-062819 (180-92094-8). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision

Job ID: 180-92094-1 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

Method(s) PrecSep_0: Radium 226 Prep Batch 160- 433682:
The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: SFL MW-6 (180-92094-5).

Method(s) PrecSep_0: Radium 228 Prep Batch 160-440183:
The following samples were prepared at a reduced aliquot due to re-prep: EQBK-JMV-062719 (180-92094-7). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method(s) PrecSep-21: Radium 226 Prep Batch 160- 433679:
Insufficient sample volume was available to perform a sample duplicate for the following samples: SSP/AP MW-1 (180-92094-1), SSP MW-2 (180-92094-2), SSP MW-3 (180-92094-3), SSP MW-4 (180-92094-4), SFL MW-6 (180-92094-5), EQBK-SCM-062719 (180-92094-6), EQBK-JMV-062719 (180-92094-7) and EQBK-SCM-062819 (180-92094-8). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep-21: Radium 226 Prep Batch 160- 433679:
The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: SFL MW-6 (180-92094-5).

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

Definitions/Glossary

Client: Wood E&I Solutions Inc
Job ID: 180-92094-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

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

Accreditation/Certification Summary

Client: Wood E&I Solutions Inc
Job ID: 180-92094-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

Laboratory: Eurofins TestAmerica, Nashville

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704077	08-31-19

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	DoD	L2305	04-06-22
ANAB	DOE	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-19
Arizona	State Program	AZ0813	12-08-19
California	State	2886	06-30-20
California	State Program	2886	06-30-20
Connecticut	State	PH-0241	03-31-21
Connecticut	State Program	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-20
Florida	NELAP	E87689	06-30-20
Hawaii	State Program	NA	06-30-20
Illinois	NELAP	200023	11-30-19
Illinois	NELAP	004553	11-30-19
Iowa	State Program	373	12-01-20
Kansas	NELAP	E-10236	10-31-19
Kentucky (DW)	State	KY90125	12-31-19
Kentucky (DW)	State Program	KY90125	12-31-19
Louisiana	NELAP	04080	06-30-20
Louisiana (DW)	NELAP	LA011	12-31-19
Louisiana (DW)	State	LA011	12-31-19
Maryland	State	310	09-30-20
Maryland	State Program	310	09-30-20
Michigan	State Program	9005	06-30-20
Missouri	State	780	06-30-22
Missouri	State Program	780	06-30-20
Nevada	State	MO000542020-1	07-31-20
New Jersey	NELAP	MO002	06-30-20
New Jersey	NELAP	MO002	06-30-20
New York	NELAP	11616	03-31-20
New York	NELAP	11616	04-01-20
North Dakota	State	R-207	06-30-20
North Dakota	State Program	R207	06-30-20
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-19
Oklahoma	State Program	9997	08-31-19 *
Pennsylvania	NELAP	68-00540	02-28-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Wood E&I Solutions Inc
Job ID: 180-92094-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Laboratory: Eurofins TestAmerica, St. Louis (Continued)

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

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	68-00540	02-28-20
South Carolina	State Program	85002001	06-30-20
Texas	NELAP	T104704193-19-14	07-31-20
Texas	NELAP	T104704193-19-13	07-31-20
US Fish & Wildlife	Federal	058448	07-31-20
USDA	Federal	P330-17-0028	02-02-20
Utah	NELAP	MO000542019-11	07-31-20
Virginia	NELAP	460230	06-14-20
Virginia	NELAP	10310	06-14-20
Washington	State Program	C592	08-30-19
West Virginia DEP	State Program	381	08-31-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Sample Summary

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

Job ID: 180-92094-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-92094-1	SSP/AP MW-1	Water	06/27/19 09:15	06/29/19 11:15	
180-92094-2	SSP MW-2	Water	06/28/19 12:25	06/29/19 11:15	
180-92094-3	SSP MW-3	Water	06/27/19 11:10	06/29/19 11:15	
180-92094-4	SSP MW-4	Water	06/27/19 09:20	06/29/19 11:15	
180-92094-5	SFL MW-6	Water	06/28/19 10:40	06/29/19 11:15	
180-92094-6	EQBK-SCM-062719	Water	06/27/19 15:15	06/29/19 11:15	
180-92094-7	EQBK-JMV-062719	Water	06/27/19 15:35	06/29/19 11:15	
180-92094-8	EQBK-SCM-062819	Water	06/28/19 12:55	06/29/19 11:15	

Method Summary

Client: Wood E&I Solutions Inc
Job ID: 180-92094-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92094-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SSP/AP MW-1
Lab Sample ID: 180-92094-1
Date Collected: 06/27/19 09:15
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.43 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440092	08/20/19 17:43	CDR	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			1000.43 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440088	08/20/19 09:03	CDR	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			440753	08/26/19 14:27	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: SSP MW-2
Lab Sample ID: 180-92094-2
Date Collected: 06/28/19 12:25
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.23 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440092	08/20/19 17:43	CDR	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			1000.23 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440089	08/20/19 09:05	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			440753	08/26/19 14:27	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: SSP MW-3
Lab Sample ID: 180-92094-3
Date Collected: 06/27/19 11:10
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.33 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 17:44	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.33 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440089	08/20/19 09:06	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			440753	08/26/19 14:27	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: SSP MW-4
Lab Sample ID: 180-92094-4
Date Collected: 06/27/19 09:20
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.41 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 17:45	CDR	TAL SL
	Instrument ID: GFPCBLUE									

Client Sample ID: SSP MW-4

Lab Sample ID: 180-92094-4

Date Collected: 06/27/19 09:20

Matrix: Water

Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.41 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440089	08/20/19 09:06	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			440753	08/26/19 14:27	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: SFL MW-6

Lab Sample ID: 180-92094-5

Date Collected: 06/28/19 10:40

Matrix: Water

Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.88 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 17:45	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			500.88 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440089	08/20/19 09:06	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			440753	08/26/19 14:27	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: EQBK-SCM-062719

Lab Sample ID: 180-92094-6

Date Collected: 06/27/19 15:15

Matrix: Water

Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.36 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 17:45	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.36 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440089	08/20/19 09:06	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			440753	08/26/19 14:27	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: EQBK-JMV-062719

Lab Sample ID: 180-92094-7

Date Collected: 06/27/19 15:35

Matrix: Water

Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.18 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 17:45	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			750.77 mL	1.0 g	440183	08/21/19 16:44	ORM	TAL SL
Total/NA	Analysis	904.0		1			440717	08/26/19 08:51	KLS	TAL SL
	Instrument ID: GFPCORANGE									

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92094-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: EQBK-JMV-062719
Lab Sample ID: 180-92094-7
Date Collected: 06/27/19 15:35
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			440753	08/26/19 14:27	SMP	TAL SL

Client Sample ID: EQBK-SCM-062819
Lab Sample ID: 180-92094-8
Date Collected: 06/28/19 12:55
Matrix: Water
Date Received: 06/29/19 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.21 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 17:47	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.21 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440097	08/20/19 09:09	CDR	TAL SL
	Instrument ID: GFPCPROTEAN									
Total/NA	Analysis	Ra226_Ra228		1			440753	08/26/19 14:27	SMP	TAL SL
	Instrument ID: NOEQUIP									

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Analyst References:

Lab: TAL SL

Batch Type: Prep

KAW = Kayla Walker

ORM = Octavia Moore

Batch Type: Analysis

CDR = Conrad Reuscher

KLS = Kody Saulters

SMP = Siobhan Perry

Client Sample ID: SSP/AP MW-1
Lab Sample ID: 180-92094-1

Date Collected: 06/27/19 09:15
Matrix: Water

Date Received: 06/29/19 11:15

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.216	U	0.203	0.204	1.00	0.312	pCi/L	07/03/19 14:47	08/20/19 17:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.0*		*40 - 110*	*07/03/19 14:47*	*08/20/19 17:43*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.856**		0.326	0.335	1.00	0.455	pCi/L	07/03/19 15:28	08/20/19 09:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.0*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:03*	*1*
Y Carrier	*83.0*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:03*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.07**		0.384	0.392	5.00	0.455	pCi/L		08/26/19 14:27	1

Client Sample ID: SSP MW-2
Lab Sample ID: 180-92094-2

Date Collected: 06/28/19 12:25
Matrix: Water
Date Received: 06/29/19 11:15

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.322	U	0.237	0.239	1.00	0.341	pCi/L	07/03/19 14:47	08/20/19 17:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.8*		*40 - 110*	*07/03/19 14:47*	*08/20/19 17:43*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.30**		0.368	0.387	1.00	0.475	pCi/L	07/03/19 15:28	08/20/19 09:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.8*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:05*	*1*
Y Carrier	*85.2*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:05*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.62**		0.438	0.455	5.00	0.475	pCi/L		08/26/19 14:27	1

Client Sample ID: SSP MW-3
Lab Sample ID: 180-92094-3

Date Collected: 06/27/19 11:10
Matrix: Water
Date Received: 06/29/19 11:15

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.90		0.800	0.960	1.00	0.428	pCi/L	07/03/19 14:47	08/20/19 17:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.6*		*40 - 110*	*07/03/19 14:47*	*08/20/19 17:44*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	27.5		1.27	2.83	1.00	0.488	pCi/L	07/03/19 15:28	08/20/19 09:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.6*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:06*	*1*
Y Carrier	*89.0*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:06*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	33.4		1.50	2.99	5.00	0.488	pCi/L		08/26/19 14:27	1

Client Sample ID: SSP MW-4
Date Collected: 06/27/19 09:20
Date Received: 06/29/19 11:15

Lab Sample ID: 180-92094-4
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.346	U	0.320	0.322	1.00	0.501	pCi/L	07/03/19 14:47	08/20/19 17:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*67.8*		*40 - 110*	*07/03/19 14:47*	*08/20/19 17:45*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.68**		0.408	0.436	1.00	0.468	pCi/L	07/03/19 15:28	08/20/19 09:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*67.8*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:06*	*1*
Y Carrier	*86.4*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:06*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**2.02**		0.519	0.542	5.00	0.501	pCi/L		08/26/19 14:27	1

Client Sample ID: SFL MW-6
Lab Sample ID: 180-92094-5

Date Collected: 06/28/19 10:40
Matrix: Water
Date Received: 06/29/19 11:15

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.53	G	1.03	1.06	1.00	1.11	pCi/L	07/03/19 14:47	08/20/19 17:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*44.4*		*40 - 110*	*07/03/19 14:47*	*08/20/19 17:45*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	9.27	G	1.67	1.87	1.00	1.77	pCi/L	07/03/19 15:28	08/20/19 09:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*44.4*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:06*	*1*
Y Carrier	*84.9*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:06*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	11.8		1.96	2.15	5.00	1.77	pCi/L		08/26/19 14:27	1

Client Sample ID: EQBK-SCM-062719
Lab Sample ID: 180-92094-6

Date Collected: 06/27/19 15:15
Matrix: Water
Date Received: 06/29/19 11:15

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.203	U	0.211	0.212	1.00	0.488	pCi/L	07/03/19 14:47	08/20/19 17:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.8*		*40 - 110*	*07/03/19 14:47*	*08/20/19 17:45*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0876	U	0.286	0.286	1.00	0.497	pCi/L	07/03/19 15:28	08/20/19 09:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.8*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:06*	*1*
Y Carrier	*87.5*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:06*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.116	U	0.355	0.356	5.00	0.497	pCi/L		08/26/19 14:27	1

Client Sample ID: EQBK-JMV-062719
Lab Sample ID: 180-92094-7

Date Collected: 06/27/19 15:35
Matrix: Water
Date Received: 06/29/19 11:15

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.133	U	0.168	0.168	1.00	0.398	pCi/L	07/03/19 14:47	08/20/19 17:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.5*		*40 - 110*	*07/03/19 14:47*	*08/20/19 17:45*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0861	U	0.302	0.302	1.00	0.524	pCi/L	08/21/19 16:44	08/26/19 08:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.2*		*40 - 110*	*08/21/19 16:44*	*08/26/19 08:51*	*1*
Y Carrier	*88.6*		*40 - 110*	*08/21/19 16:44*	*08/26/19 08:51*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0472	U	0.346	0.346	5.00	0.524	pCi/L		08/26/19 14:27	1

Client Sample ID: EQBK-SCM-062819
Lab Sample ID: 180-92094-8
Date Collected: 06/28/19 12:55
Matrix: Water
Date Received: 06/29/19 11:15

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0135	U	0.149	0.149	1.00	0.305	pCi/L	07/03/19 14:47	08/20/19 17:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.2*		*40 - 110*	*07/03/19 14:47*	*08/20/19 17:47*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.125	U	0.258	0.258	1.00	0.479	pCi/L	07/03/19 15:28	08/20/19 09:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.2*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:09*	*1*
Y Carrier	*91.2*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:09*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.111	U	0.298	0.298	5.00	0.479	pCi/L		08/26/19 14:27	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-433679/22-A
Matrix: Water
Analysis Batch: 440089

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433679

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1564	U	0.186	0.187	1.00	0.304	pCi/L	07/03/19 14:47	08/20/19 17:47	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.7*		*40 - 110*	*07/03/19 14:47*	*08/20/19 17:47*	*1*

Lab Sample ID: LCS 160-433679/1-A
Matrix: Water
Analysis Batch: 440089

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 433679

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	9.453		1.33	1.00	0.480	pCi/L	83	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*74.0*		*40 - 110*

Lab Sample ID: LCSD 160-433679/2-A
Matrix: Water
Analysis Batch: 440089

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 433679

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.4	9.452		1.26	1.00	0.325	pCi/L	83	75 - 125	0	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*85.6*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-433682/22-A
Matrix: Water
Analysis Batch: 440097

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433682

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3998	U	0.300	0.303	1.00	0.475	pCi/L	07/03/19 15:28	08/20/19 09:09	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.7*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:09*	*1*
Y Carrier	*86.7*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:09*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-433682/1-A
Matrix: Water
Analysis Batch: 440088

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 433682

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.92	9.239		1.14	1.00	0.487	pCi/L	104	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*74.0*		*40 - 110*
Y Carrier	*88.2*		*40 - 110*

Lab Sample ID: LCSD 160-433682/2-A
Matrix: Water
Analysis Batch: 440088

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 433682

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			8.92	9.546		1.14	1.00	0.475	pCi/L	107	75 - 125	0.13	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*85.6*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

Lab Sample ID: MB 160-440183/5-A
Matrix: Water
Analysis Batch: 440717

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 440183

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1978	U	0.321	0.322	1.00	0.542	pCi/L	08/21/19 16:44	08/26/19 08:51	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.9*		*40 - 110*	*08/21/19 16:44*	*08/26/19 08:51*	*1*
Y Carrier	*87.1*		*40 - 110*	*08/21/19 16:44*	*08/26/19 08:51*	*1*

Lab Sample ID: LCS 160-440183/1-A
Matrix: Water
Analysis Batch: 440717

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 440183

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			12.9	13.09		1.50	1.00	0.535	pCi/L	102	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*92.9*		*40 - 110*
Y Carrier	*90.5*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-440183/2-A
Matrix: Water
Analysis Batch: 440717

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 440183

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			12.9	12.04		1.42	1.00	0.619	pCi/L	94	75 - 125	0.36	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*94.4*		*40 - 110*
Y Carrier	*89.7*		*40 - 110*

QC Association Summary

Client: Wood E&I Solutions Inc
Job ID: 180-92094-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Rad

Prep Batch: 433679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92094-1	SSP/AP MW-1	Total/NA	Water	PrecSep-21	
180-92094-2	SSP MW-2	Total/NA	Water	PrecSep-21	
180-92094-3	SSP MW-3	Total/NA	Water	PrecSep-21	
180-92094-4	SSP MW-4	Total/NA	Water	PrecSep-21	
180-92094-5	SFL MW-6	Total/NA	Water	PrecSep-21	
180-92094-6	EQBK-SCM-062719	Total/NA	Water	PrecSep-21	
180-92094-7	EQBK-JMV-062719	Total/NA	Water	PrecSep-21	
180-92094-8	EQBK-SCM-062819	Total/NA	Water	PrecSep-21	
MB 160-433679/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-433679/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-433679/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 433682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92094-1	SSP/AP MW-1	Total/NA	Water	PrecSep_0	
180-92094-2	SSP MW-2	Total/NA	Water	PrecSep_0	
180-92094-3	SSP MW-3	Total/NA	Water	PrecSep_0	
180-92094-4	SSP MW-4	Total/NA	Water	PrecSep_0	
180-92094-5	SFL MW-6	Total/NA	Water	PrecSep_0	
180-92094-6	EQBK-SCM-062719	Total/NA	Water	PrecSep_0	
180-92094-8	EQBK-SCM-062819	Total/NA	Water	PrecSep_0	
MB 160-433682/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-433682/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-433682/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 440183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92094-7	EQBK-JMV-062719	Total/NA	Water	PrecSep_0	
MB 160-440183/5-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-440183/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-440183/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

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Client Information	Sampler: Samuel Macon/Mac Vilas	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-101645-24956.1
Client Contact: Greg Seifert	Phone: 512-413-3876	E-Mail: gail.lage@testamericainc.com		Page: Page 1 of 1
Company: Wood E&I Solutions Inc				Job #: SCM
Address: 3755 South Capital of Texas Highway Suite 375	Due Date Requested:			
City: Austin	TAT Requested (days):			
State, Zip: TX, 78704				
Phone:	PO #: Purchase Order Requested			
Email: greg.seifert@woodplc.com	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: Texas	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, 904.0	9056A_ORGFM_28D - Chloride, Fluoride, Sulfate	6020A, 7470A	2540C_Calcd - Total Dissolved Solids	Total Number of containers	Spec
			Preservation Code:				D	N	D	N		
SSP/AP MW-1	6-27-19	0915	G	W	N	N	X	X	X	X		
SSP MW-2	6-28-19	1225										
SSP MW-3	6-27-19	1110										
SSP MW-4	6-27-19	0920										
SFL MW-6	6-28-19	1040										
EQBK-SCM-062719	6-27-19	1515										
EQBK-~~SCM~~ JMV-062719	6-27-19	1535										
EQBK-SCM-062819	6-28-19	1255	↓	↓	↓	↓	↓	↓	↓	↓		

180-92094 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: Samuel C. Macon	6-28-19 @ 1620	Wood	Dillon Watson	6-29-19	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 1115	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 180-367580.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: gail.lage@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-92094-1
Address: 13715 Rider Trail North,	Due Date Requested: 8/1/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: AMEC Gibbons Creek Stream	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226Ra228_GFPC	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
SSP/AP MW-1 (180-92094-1)	6/27/19	09:15 Central		Water			X	X	X	2	
SSP MW-2 (180-92094-2)	6/28/19	12:25 Central		Water			X	X	X	2	
SSP MW-3 (180-92094-3)	6/27/19	11:10 Central		Water			X	X	X	2	
SSP MW-4 (180-92094-4)	6/27/19	09:20 Central		Water			X	X	X	2	
SFL MW-6 (180-92094-5)	6/28/19	10:40 Central		Water			X	X	X	2	
EQBK-SCM-062719 (180-92094-6)	6/27/19	15:15 Central		Water			X	X	X	2	
EQBK-JMV-062719 (180-92094-7)	6/27/19	15:35 Central		Water			X	X	X	2	
EQBK-SCM-062819 (180-92094-8)	6/28/19	12:55 Central		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	7/1/19 1700	TA P.ITT		7-2-19 09:30	TA STL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-92094-1

Login Number: 92094
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-92094-1

Login Number: 92094
List Number: 2
Creator: Hellm, Michael

List Source: Eurofins TestAmerica, St. Louis
List Creation: 07/02/19 10:59 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	20.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-92069-2
Client Project/Site: AMEC CCR TMPA Gibbons Creek
Sampling Event: CCR

For:
Wood E&I Solutions Inc
3755 South Capital of Texas Highway
Suite 375
Austin, Texas 78704

Attn: Greg Seifert

Authorized for release by:
7/23/2019 7:00:29 PM

Gail Lage, Senior Project Manager
(615)301-5741
gail.lage@testamericainc.com

PA Lab ID: 02-00416

Table of Contents

Job ID: 180-92069-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-92069-2

Comments
No additional comments.

Receipt
The samples were received on 6/28/2019 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.5º C, 3.5º C, 3.6º C and 3.7º C.

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

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

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

Definitions/Glossary

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F2	MS/MSD RPD exceeds control limits

Glossary

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

Accreditation/Certification Summary

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704528-15-2	03-31-20

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704517-18-10	08-31-19 *

Laboratory: Eurofins TestAmerica, Nashville

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

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	ISO/IEC 17025		0453.07	12-31-19
A2LA	ISO/IEC 17025		0453.07	12-31-19
Alaska (UST)	State Program	10	UST-087	09-30-19
Arizona	State Program	9	AZ0473	05-05-20
Arkansas DEQ	State Program	6	88-0737	04-25-20
California	State Program	9	2938	06-30-19 *
Connecticut	State Program	1	PH-0220	12-31-19
Florida	NELAP	4	E87358	06-30-20
Georgia	State Program	4	E87358(FL)/453.07(A2LA)	06-30-20
Illinois	NELAP	5	200010	12-09-19
Iowa	State Program	7	131	04-01-20
Kansas	NELAP	7	E-10229	10-31-19
Kentucky (UST)	State Program	4	19	06-30-20
Kentucky (WW)	State Program	4	90038	12-31-19
Louisiana	NELAP	6	30613	06-30-20
Maine	State Program	1	TN00032	11-03-19
Maryland	State Program	3	316	03-31-20
Massachusetts	State Program	1	M-TN032	06-30-20
Minnesota	NELAP	5	047-999-345	12-31-19
Mississippi	State Program	4	N/A	06-30-19 *
Nevada	State Program	9	TN00032	07-31-19 *
New Hampshire	NELAP	1	2963	10-09-19
New Jersey	NELAP	2	TN965	06-30-20
New York	NELAP	2	11342	03-31-20
North Carolina (WW/SW)	State Program	4	387	12-31-19
North Dakota	State Program	8	R-146	06-30-19 *
Oklahoma	State Program	6	9412	08-31-19 *
Oregon	NELAP	10	TN200001	04-26-20
Pennsylvania	NELAP	3	68-00585	07-31-19 *
Rhode Island	State Program	1	LAO00268	12-30-19
South Carolina	State Program	4	84009 (001)	02-28-19 *
Tennessee	State Program	4	2008	02-23-20
Texas	NELAP	6	T104704077	08-31-19
USDA	Federal		P330-13-00306	04-10-20
Utah	NELAP	8	TN00032	07-31-19
Virginia	NELAP	3	460152	06-14-20
Washington	State Program	10	C789	07-19-19 *
West Virginia DEP	State Program	3	219	02-28-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Laboratory: Eurofins TestAmerica, Nashville (Continued)

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	998020430	08-31-19 *
Wyoming (UST)	A2LA	8	453.07	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Sample Summary

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-92069-1	AP MW-1D	Water	06/25/19 10:10	06/28/19 09:00	
180-92069-2	AP MW-3	Water	06/25/19 16:00	06/28/19 09:00	
180-92069-3	AP MW-4	Water	06/27/19 14:30	06/28/19 09:00	
180-92069-4	AP MW-5	Water	06/25/19 11:40	06/28/19 09:00	
180-92069-5	AP MW-6	Water	06/25/19 13:25	06/28/19 09:00	
180-92069-6	SFL MW-2	Water	06/26/19 15:00	06/28/19 09:00	
180-92069-7	SFL MW-3	Water	06/26/19 10:15	06/28/19 09:00	
180-92069-8	SFL MW-4	Water	06/26/19 09:00	06/28/19 09:00	
180-92069-9	SFL MW-5	Water	06/26/19 13:05	06/28/19 09:00	
180-92069-10	SFL MW-7	Water	06/26/19 09:30	06/28/19 09:00	
180-92069-11	MNW-15	Water	06/26/19 11:35	06/28/19 09:00	
180-92069-12	MNW-18	Water	06/26/19 12:40	06/28/19 09:00	
180-92069-13	Dup 1	Water	06/25/19 00:00	06/28/19 09:00	
180-92069-14	Dup 2	Water	06/26/19 00:00	06/28/19 09:00	
180-92069-15	EQBK-SCM-062519	Water	06/25/19 16:05	06/28/19 09:00	
180-92069-16	EQBK-SCM-062619	Water	06/26/19 16:05	06/28/19 09:00	
180-92069-17	EQBK-JMV-062519	Water	06/25/19 16:10	06/28/19 09:00	
180-92069-18	EQBK-JMV-062619	Water	06/26/19 16:10	06/28/19 09:00	

Method Summary

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: AP MW-1D
Lab Sample ID: 180-92069-1
Date Collected: 06/25/19 10:10
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5			283962	07/05/19 11:14	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		25			283962	07/05/19 11:31	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 22:22	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		100			391786	07/17/19 13:01	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 12:50	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	283616	07/01/19 17:22	TAM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP MW-3
Lab Sample ID: 180-92069-2
Date Collected: 06/25/19 16:00
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5			283962	07/05/19 12:22	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		25			283962	07/05/19 12:39	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 22:25	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		50			391786	07/17/19 13:03	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 12:52	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	283618	07/01/19 18:25	TAM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP MW-4
Lab Sample ID: 180-92069-3
Date Collected: 06/27/19 14:30
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			283962	07/05/19 14:03	CMR	TAL PIT
	Instrument ID: CHICS2000									

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: AP MW-4
Date Collected: 06/27/19 14:30
Date Received: 06/28/19 09:00

Lab Sample ID: 180-92069-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		50			283962	07/05/19 14:20	CMR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 22:32	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		50			391786	07/17/19 13:05	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:09	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 12:54	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	283915	07/03/19 18:02	TAM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP MW-5
Date Collected: 06/25/19 11:40
Date Received: 06/28/19 09:00

Lab Sample ID: 180-92069-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			283962	07/05/19 14:37	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		50			283962	07/05/19 14:54	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 22:34	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		50			391786	07/17/19 13:08	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:11	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 12:56	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	283618	07/01/19 18:25	TAM	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

Job ID: 180-92069-2

Client Sample ID: AP MW-6

Date Collected: 06/25/19 13:25
Date Received: 06/28/19 09:00

Lab Sample ID: 180-92069-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			283962	07/05/19 15:45	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		50			283962	07/05/19 16:02	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 22:37	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		20			391786	07/17/19 13:10	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:13	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 13:02	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	283618	07/01/19 18:25	TAM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: SFL MW-2

Date Collected: 06/26/19 15:00
Date Received: 06/28/19 09:00

Lab Sample ID: 180-92069-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			283962	07/05/19 16:52	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		100			283962	07/05/19 17:09	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 22:11	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			391786	07/17/19 12:44	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 12:43	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	15 mL	100 mL	283889	07/03/19 14:22	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SFL MW-3
Lab Sample ID: 180-92069-7
Date Collected: 06/26/19 10:15
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			283962	07/05/19 18:00	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		100			283962	07/05/19 18:17	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 22:39	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		50			391786	07/17/19 13:13	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:16	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 13:04	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	283889	07/03/19 14:22	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: SFL MW-4
Lab Sample ID: 180-92069-8
Date Collected: 06/26/19 09:00
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			283962	07/05/19 19:08	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		100			283962	07/05/19 19:25	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 22:41	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			391786	07/17/19 13:15	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:18	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 13:06	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	283889	07/03/19 14:22	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SFL MW-5
Lab Sample ID: 180-92069-9
Date Collected: 06/26/19 13:05
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			283962	07/05/19 19:42	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		100			283962	07/05/19 19:59	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 22:44	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		100			391786	07/17/19 13:17	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:20	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 13:09	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	15 mL	100 mL	283897	07/03/19 15:20	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: SFL MW-7
Lab Sample ID: 180-92069-10
Date Collected: 06/26/19 09:30
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			283962	07/05/19 20:15	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		100			283962	07/05/19 20:32	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 22:46	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			391786	07/17/19 13:25	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:23	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 13:11	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	283897	07/03/19 15:20	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: MNW-15
Lab Sample ID: 180-92069-11
Date Collected: 06/26/19 11:35
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			283962	07/05/19 20:49	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		50			283962	07/05/19 21:06	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 22:48	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		100			391786	07/17/19 13:27	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:25	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 13:13	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	283897	07/03/19 15:20	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: MNW-18
Lab Sample ID: 180-92069-12
Date Collected: 06/26/19 12:40
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5			283962	07/05/19 12:56	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		25			283962	07/05/19 13:13	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 22:51	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			391786	07/17/19 13:29	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:32	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 13:15	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	283897	07/03/19 15:20	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: Dup 1

Lab Sample ID: 180-92069-13

Date Collected: 06/25/19 00:00

Matrix: Water

Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			283962	07/05/19 16:19	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		50			283962	07/05/19 16:35	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 22:53	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			391786	07/17/19 13:32	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:35	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 13:17	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	283618	07/01/19 18:25	TAM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: Dup 2

Lab Sample ID: 180-92069-14

Date Collected: 06/26/19 00:00

Matrix: Water

Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5			283962	07/05/19 13:29	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Analysis	EPA 9056A		25			283962	07/05/19 13:46	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 23:00	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			391786	07/17/19 13:34	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:37	DSH	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 13:19	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	283897	07/03/19 15:20	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: EQBK-SCM-062519
Lab Sample ID: 180-92069-15
Date Collected: 06/25/19 16:05
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			283962	07/05/19 10:06	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 23:02	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:39	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391955	07/18/19 13:13	RKT	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 13:21	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	283618	07/01/19 18:25	TAM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: EQBK-SCM-062619
Lab Sample ID: 180-92069-16
Date Collected: 06/26/19 16:05
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			283962	07/05/19 10:23	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 23:05	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:42	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391955	07/18/19 13:15	RKT	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 13:27	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	283889	07/03/19 14:22	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: EQBK-JMV-062519
Lab Sample ID: 180-92069-17
Date Collected: 06/25/19 16:10
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			283962	07/05/19 10:40	CMR	TAL PIT
	Instrument ID: CHICS2000									

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: EQBK-JMV-062519
Lab Sample ID: 180-92069-17
Date Collected: 06/25/19 16:10
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 23:07	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:44	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391955	07/18/19 13:18	RKT	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 13:29	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	283618	07/01/19 18:25	TAM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: EQBK-JMV-062619
Lab Sample ID: 180-92069-18
Date Collected: 06/26/19 16:10
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			283962	07/05/19 10:57	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			390262	07/08/19 23:10	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391786	07/17/19 14:47	DSH	TAL CAN
	Instrument ID: I14									
Total Recoverable	Prep	3005A			50 mL	50 mL	389576	07/03/19 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			391955	07/18/19 13:20	RKT	TAL CAN
	Instrument ID: I14									
Total/NA	Prep	7470A			50 mL	50 mL	389579	07/03/19 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			389928	07/05/19 13:31	WKD	TAL CAN
	Instrument ID: H2									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	283889	07/03/19 14:22	AVS	TAL PIT
	Instrument ID: NOEQUIP									

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Analyst References:

Lab: TAL CAN
- Batch Type: Prep
  - MRL = Matthew Loeb
- Batch Type: Analysis
  - DSH = David Heakin
  - RKT = Roger Toth
  - WKD = William Dillon

Lab: TAL PIT
- Batch Type: Analysis
  - AVS = Abbey Smith
  - CMR = Carl Reagle
  - TAM = Tessa Mastalski

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: AP MW-1D
Lab Sample ID: 180-92069-1
Date Collected: 06/25/19 10:10
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**178**		2.50		mg/L			07/05/19 11:14	2.5
Fluoride	**0.532**		0.250		mg/L			07/05/19 11:14	2.5
Sulfate	**511**		25.0		mg/L			07/05/19 11:31	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00912**		0.00500		mg/L		07/03/19 14:00	07/08/19 22:22	1
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:22	1
Boron	**4.84**		2.00		mg/L		07/03/19 14:00	07/17/19 13:01	100
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:22	1
Calcium	**93.3**		1.00		mg/L		07/03/19 14:00	07/08/19 22:22	1
Cobalt	**0.0143**		0.00100		mg/L		07/03/19 14:00	07/08/19 22:22	1
Lithium	**0.0328**		0.00800		mg/L		07/03/19 14:00	07/08/19 22:22	1
Molybdenum	**0.0177**		0.00500		mg/L		07/03/19 14:00	07/08/19 22:22	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 12:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1410**		10.0		mg/L			07/01/19 17:22	1

Client Sample Results

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

Job ID: 180-92069-2

Client Sample ID: AP MW-3

Date Collected: 06/25/19 16:00
Date Received: 06/28/19 09:00

Lab Sample ID: 180-92069-2

Matrix: Water

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**147**		2.50		mg/L			07/05/19 12:22	2.5
Fluoride	ND		0.250		mg/L			07/05/19 12:22	2.5
Sulfate	**637**		25.0		mg/L			07/05/19 12:39	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 22:25	1
Beryllium	**0.00241**		0.00100		mg/L		07/03/19 14:00	07/08/19 22:25	1
Boron	**4.18**		1.00		mg/L		07/03/19 14:00	07/17/19 13:03	50
Cadmium	**0.00414**		0.00100		mg/L		07/03/19 14:00	07/08/19 22:25	1
Calcium	**134**		1.00		mg/L		07/03/19 14:00	07/08/19 22:25	1
Cobalt	**0.0240**		0.00100		mg/L		07/03/19 14:00	07/08/19 22:25	1
Lithium	**0.0461**		0.00800		mg/L		07/03/19 14:00	07/08/19 22:25	1
Molybdenum	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 22:25	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000250**		0.000200		mg/L		07/03/19 14:00	07/05/19 12:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1390**		10.0		mg/L			07/01/19 18:25	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: AP MW-4
Lab Sample ID: 180-92069-3
Date Collected: 06/27/19 14:30
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**435**		50.0		mg/L			07/05/19 14:20	50
Fluoride	ND		0.500		mg/L			07/05/19 14:03	5
Sulfate	**2140**		50.0		mg/L			07/05/19 14:20	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 22:32	1
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:09	1
Boron	**2.45**		1.00		mg/L		07/03/19 14:00	07/17/19 13:05	50
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:32	1
Calcium	**498**		1.00		mg/L		07/03/19 14:00	07/08/19 22:32	1
Cobalt	**0.00109**		0.00100		mg/L		07/03/19 14:00	07/17/19 14:09	1
Lithium	**0.781**		0.00800		mg/L		07/03/19 14:00	07/08/19 22:32	1
Molybdenum	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 22:32	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 12:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4080**		40.0		mg/L			07/03/19 18:02	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: AP MW-5
Lab Sample ID: 180-92069-4
Date Collected: 06/25/19 11:40
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	368		5.00		mg/L			07/05/19 14:37	5
Fluoride	1.57		0.500		mg/L			07/05/19 14:37	5
Sulfate	2180		50.0		mg/L			07/05/19 14:54	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 22:34	1
Beryllium	0.0600		0.00100		mg/L		07/03/19 14:00	07/17/19 14:11	1
Boron	3.57		1.00		mg/L		07/03/19 14:00	07/17/19 13:08	50
Cadmium	0.00583		0.00100		mg/L		07/03/19 14:00	07/08/19 22:34	1
Calcium	369		1.00		mg/L		07/03/19 14:00	07/08/19 22:34	1
Cobalt	0.129		0.00100		mg/L		07/03/19 14:00	07/17/19 14:11	1
Lithium	0.360		0.00800		mg/L		07/03/19 14:00	07/08/19 22:34	1
Molybdenum	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 22:34	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000878		0.000200		mg/L		07/03/19 14:00	07/05/19 12:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4380		40.0		mg/L			07/01/19 18:25	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: AP MW-6
Lab Sample ID: 180-92069-5
Date Collected: 06/25/19 13:25
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**996**		50.0		mg/L			07/05/19 16:02	50
Fluoride	ND		0.500		mg/L			07/05/19 15:45	5
Sulfate	**1080**		50.0		mg/L			07/05/19 16:02	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 22:37	1
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:13	1
Boron	**0.920**		0.400		mg/L		07/03/19 14:00	07/17/19 13:10	20
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:37	1
Calcium	**398**		1.00		mg/L		07/03/19 14:00	07/08/19 22:37	1
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:13	1
Lithium	**0.514**		0.00800		mg/L		07/03/19 14:00	07/08/19 22:37	1
Molybdenum	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 22:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 13:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**3790**		40.0		mg/L			07/01/19 18:25	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SFL MW-2
Lab Sample ID: 180-92069-6
Date Collected: 06/26/19 15:00
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3140**		100		mg/L			07/05/19 17:09	100
Fluoride	ND		1.00		mg/L			07/05/19 16:52	10
Sulfate	**1720**		100		mg/L			07/05/19 17:09	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.00444**		0.00100		mg/L		07/03/19 14:00	07/08/19 22:11	1
Boron	**0.515**	**F2**	0.200		mg/L		07/03/19 14:00	07/17/19 12:44	10
Cadmium	**0.00268**		0.00100		mg/L		07/03/19 14:00	07/08/19 22:11	1
Calcium	**937**	**F2**	10.0		mg/L		07/03/19 14:00	07/17/19 12:44	10
Cobalt	**0.0187**		0.00100		mg/L		07/03/19 14:00	07/08/19 22:11	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:11	1
Lithium	**0.447**		0.00800		mg/L		07/03/19 14:00	07/08/19 22:11	1
Thallium	**0.00103**		0.00100		mg/L		07/03/19 14:00	07/08/19 22:11	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 12:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**7630**		66.7		mg/L			07/03/19 14:22	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SFL MW-3
Lab Sample ID: 180-92069-7
Date Collected: 06/26/19 10:15
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1090		100		mg/L			07/05/19 18:17	100
Fluoride	ND		1.00		mg/L			07/05/19 18:00	10
Sulfate	2100		100		mg/L			07/05/19 18:17	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.0334		0.00100		mg/L		07/03/19 14:00	07/17/19 14:16	1
Boron	3.85		1.00		mg/L		07/03/19 14:00	07/17/19 13:13	50
Cadmium	0.00560		0.00100		mg/L		07/03/19 14:00	07/08/19 22:39	1
Calcium	661		50.0		mg/L		07/03/19 14:00	07/17/19 13:13	50
Cobalt	0.0622		0.00100		mg/L		07/03/19 14:00	07/17/19 14:16	1
Lead	0.0178		0.00100		mg/L		07/03/19 14:00	07/08/19 22:39	1
Lithium	0.263		0.00800		mg/L		07/03/19 14:00	07/08/19 22:39	1
Thallium	0.00450		0.00100		mg/L		07/03/19 14:00	07/08/19 22:39	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00338		0.000200		mg/L		07/03/19 14:00	07/05/19 13:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4480		40.0		mg/L			07/03/19 14:22	1

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

Job ID: 180-92069-2

Client Sample ID: SFL MW-4

Date Collected: 06/26/19 09:00
Date Received: 06/28/19 09:00

Lab Sample ID: 180-92069-8

Matrix: Water

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1660**		100		mg/L			07/05/19 19:25	100
Fluoride	ND		1.00		mg/L			07/05/19 19:08	10
Sulfate	**2080**		100		mg/L			07/05/19 19:25	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:18	1
Boron	**0.702**		0.200		mg/L		07/03/19 14:00	07/17/19 13:15	10
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:41	1
Calcium	**801**		10.0		mg/L		07/03/19 14:00	07/17/19 13:15	10
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:18	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:41	1
Lithium	**0.377**		0.00800		mg/L		07/03/19 14:00	07/08/19 22:41	1
Thallium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:41	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 13:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**5310**		50.0		mg/L			07/03/19 14:22	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SFL MW-5
Lab Sample ID: 180-92069-9
Date Collected: 06/26/19 13:05
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3180**		100		mg/L			07/05/19 19:59	100
Fluoride	ND		1.00		mg/L			07/05/19 19:42	10
Sulfate	**2100**		100		mg/L			07/05/19 19:59	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.0123**		0.00100		mg/L		07/03/19 14:00	07/17/19 14:20	1
Boron	**6.04**		2.00		mg/L		07/03/19 14:00	07/17/19 13:17	100
Cadmium	**0.00511**		0.00100		mg/L		07/03/19 14:00	07/08/19 22:44	1
Calcium	**857**		100		mg/L		07/03/19 14:00	07/17/19 13:17	100
Cobalt	**0.0559**		0.00100		mg/L		07/03/19 14:00	07/17/19 14:20	1
Lead	**0.00459**		0.00100		mg/L		07/03/19 14:00	07/08/19 22:44	1
Lithium	**0.643**		0.00800		mg/L		07/03/19 14:00	07/08/19 22:44	1
Thallium	**0.00115**		0.00100		mg/L		07/03/19 14:00	07/08/19 22:44	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 13:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6890**		66.7		mg/L			07/03/19 15:20	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SFL MW-7
Lab Sample ID: 180-92069-10
Date Collected: 06/26/19 09:30
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2700**		100		mg/L			07/05/19 20:32	100
Fluoride	ND		1.00		mg/L			07/05/19 20:15	10
Sulfate	**630**		100		mg/L			07/05/19 20:32	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:23	1
Boron	**0.879**		0.200		mg/L		07/03/19 14:00	07/17/19 13:25	10
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:46	1
Calcium	**588**		10.0		mg/L		07/03/19 14:00	07/17/19 13:25	10
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:23	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:46	1
Lithium	**0.408**		0.00800		mg/L		07/03/19 14:00	07/08/19 22:46	1
Thallium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:46	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 13:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**5410**		50.0		mg/L			07/03/19 15:20	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: MNW-15
Lab Sample ID: 180-92069-11
Date Collected: 06/26/19 11:35
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**578**		50.0		mg/L			07/05/19 21:06	50
Fluoride	**0.718**		0.500		mg/L			07/05/19 20:49	5
Sulfate	**1210**		50.0		mg/L			07/05/19 21:06	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.0818**		0.00100		mg/L		07/03/19 14:00	07/17/19 14:25	1
Boron	**9.64**		2.00		mg/L		07/03/19 14:00	07/17/19 13:27	100
Cadmium	**0.0269**		0.00100		mg/L		07/03/19 14:00	07/08/19 22:48	1
Calcium	**272**		1.00		mg/L		07/03/19 14:00	07/08/19 22:48	1
Cobalt	**0.359**		0.00100		mg/L		07/03/19 14:00	07/17/19 14:25	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:48	1
Lithium	**0.0898**		0.00800		mg/L		07/03/19 14:00	07/08/19 22:48	1
Thallium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:48	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 13:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**2690**		40.0		mg/L			07/03/19 15:20	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: MNW-18
Lab Sample ID: 180-92069-12
Date Collected: 06/26/19 12:40
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**146**		2.50		mg/L			07/05/19 12:56	2.5
Fluoride	ND		0.250		mg/L			07/05/19 12:56	2.5
Sulfate	**520**		25.0		mg/L			07/05/19 13:13	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:32	1
Boron	**0.297**		0.100		mg/L		07/03/19 14:00	07/17/19 13:29	5
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:51	1
Calcium	**104**		1.00		mg/L		07/03/19 14:00	07/08/19 22:51	1
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:32	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:51	1
Lithium	**0.179**		0.00800		mg/L		07/03/19 14:00	07/08/19 22:51	1
Thallium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:51	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 13:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1270**		10.0		mg/L			07/03/19 15:20	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: Dup 1
Lab Sample ID: 180-92069-13
Date Collected: 06/25/19 00:00
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1060**		50.0		mg/L			07/05/19 16:35	50
Fluoride	ND		0.500		mg/L			07/05/19 16:19	5
Sulfate	**1050**		50.0		mg/L			07/05/19 16:35	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 22:53	1
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:35	1
Boron	**0.913**		0.200		mg/L		07/03/19 14:00	07/17/19 13:32	10
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:53	1
Calcium	**391**		1.00		mg/L		07/03/19 14:00	07/08/19 22:53	1
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:35	1
Lithium	**0.510**		0.00800		mg/L		07/03/19 14:00	07/08/19 22:53	1
Molybdenum	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 22:53	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 13:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**3640**		40.0		mg/L			07/01/19 18:25	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: Dup 2
Date Collected: 06/26/19 00:00
Date Received: 06/28/19 09:00

Lab Sample ID: 180-92069-14
Matrix: Water

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**144**		2.50		mg/L			07/05/19 13:29	2.5
Fluoride	ND		0.250		mg/L			07/05/19 13:29	2.5
Sulfate	**503**		25.0		mg/L			07/05/19 13:46	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:37	1
Boron	**0.293**		0.100		mg/L		07/03/19 14:00	07/17/19 13:34	5
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 23:00	1
Calcium	**94.6**		1.00		mg/L		07/03/19 14:00	07/08/19 23:00	1
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:37	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 23:00	1
Lithium	**0.166**		0.00800		mg/L		07/03/19 14:00	07/08/19 23:00	1
Thallium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 23:00	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 13:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1270**		10.0		mg/L			07/03/19 15:20	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: EQBK-SCM-062519
Lab Sample ID: 180-92069-15
Date Collected: 06/25/19 16:05
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/05/19 10:06	1
Fluoride	ND		0.100		mg/L			07/05/19 10:06	1
Sulfate	ND		1.00		mg/L			07/05/19 10:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 23:02	1
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:39	1
Boron	ND		0.0200		mg/L		07/03/19 14:00	07/18/19 13:13	1
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 23:02	1
Calcium	ND		1.00		mg/L		07/03/19 14:00	07/08/19 23:02	1
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:39	1
Lithium	ND		0.00800		mg/L		07/03/19 14:00	07/08/19 23:02	1
Molybdenum	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 23:02	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 13:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/01/19 18:25	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: EQBK-SCM-062619
Lab Sample ID: 180-92069-16
Date Collected: 06/26/19 16:05
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/05/19 10:23	1
Fluoride	ND		0.100		mg/L			07/05/19 10:23	1
Sulfate	ND		1.00		mg/L			07/05/19 10:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:42	1
Boron	ND		0.0200		mg/L		07/03/19 14:00	07/18/19 13:15	1
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 23:05	1
Calcium	ND		1.00		mg/L		07/03/19 14:00	07/08/19 23:05	1
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:42	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 23:05	1
Lithium	ND		0.00800		mg/L		07/03/19 14:00	07/08/19 23:05	1
Thallium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 23:05	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 13:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/03/19 14:22	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: EQBK-JMV-062519
Lab Sample ID: 180-92069-17
Date Collected: 06/25/19 16:10
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/05/19 10:40	1
Fluoride	ND		0.100		mg/L			07/05/19 10:40	1
Sulfate	ND		1.00		mg/L			07/05/19 10:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 23:07	1
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:44	1
Boron	ND		0.0200		mg/L		07/03/19 14:00	07/18/19 13:18	1
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 23:07	1
Calcium	ND		1.00		mg/L		07/03/19 14:00	07/08/19 23:07	1
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:44	1
Lithium	ND		0.00800		mg/L		07/03/19 14:00	07/08/19 23:07	1
Molybdenum	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 23:07	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 13:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/01/19 18:25	1

Client Sample Results

Client: Wood E&I Solutions Inc
Job ID: 180-92069-2
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: EQBK-JMV-062619
Lab Sample ID: 180-92069-18
Date Collected: 06/26/19 16:10
Matrix: Water
Date Received: 06/28/19 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/05/19 10:57	1
Fluoride	ND		0.100		mg/L			07/05/19 10:57	1
Sulfate	ND		1.00		mg/L			07/05/19 10:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:47	1
Boron	ND		0.0200		mg/L		07/03/19 14:00	07/18/19 13:20	1
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 23:10	1
Calcium	ND		1.00		mg/L		07/03/19 14:00	07/08/19 23:10	1
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/17/19 14:47	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 23:10	1
Lithium	ND		0.00800		mg/L		07/03/19 14:00	07/08/19 23:10	1
Thallium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 23:10	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 13:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/03/19 14:22	1

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-283962/6
Matrix: Water
Analysis Batch: 283962

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/05/19 08:59	1
Fluoride	ND		0.100		mg/L			07/05/19 08:59	1
Sulfate	ND		1.00		mg/L			07/05/19 08:59	1

Lab Sample ID: LCS 180-283962/5
Matrix: Water
Analysis Batch: 283962

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.55		mg/L		106	80 - 120
Fluoride	1.25	1.229		mg/L		98	80 - 120
Sulfate	25.0	22.60		mg/L		90	80 - 120

Lab Sample ID: 180-92069-6 MS
Matrix: Water
Analysis Batch: 283962

Client Sample ID: SFL MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	3140		2500	5547		mg/L		96	80 - 120
Fluoride	ND		125	121.0		mg/L		97	80 - 120
Sulfate	1720		2500	4337		mg/L		105	80 - 120

Lab Sample ID: 180-92069-6 MSD
Matrix: Water
Analysis Batch: 283962

Client Sample ID: SFL MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	3140		2500	5639		mg/L		100	80 - 120	2	15
Fluoride	ND		125	122.4		mg/L		98	80 - 120	1	15
Sulfate	1720		2500	4395		mg/L		107	80 - 120	1	15

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-389576/1-A
Matrix: Water
Analysis Batch: 390262

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 389576

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 22:07	1
Beryllium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:07	1
Cadmium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:07	1
Calcium	ND		1.00		mg/L		07/03/19 14:00	07/08/19 22:07	1
Cobalt	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:07	1
Lead	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:07	1
Lithium	ND		0.00800		mg/L		07/03/19 14:00	07/08/19 22:07	1
Molybdenum	ND		0.00500		mg/L		07/03/19 14:00	07/08/19 22:07	1
Thallium	ND		0.00100		mg/L		07/03/19 14:00	07/08/19 22:07	1

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

Lab Sample ID: MB 240-389576/1-A
Matrix: Water
Analysis Batch: 391786

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 389576

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.0200		mg/L		07/03/19 14:00	07/17/19 12:40	1

Lab Sample ID: LCS 240-389576/2-A
Matrix: Water
Analysis Batch: 390262

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 389576

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.09891		mg/L		99	80 - 120
Arsenic	1.00	1.026		mg/L		103	80 - 120
Barium	1.00	1.090		mg/L		109	80 - 120
Beryllium	0.500	0.5215		mg/L		104	80 - 120
Cadmium	0.500	0.4980		mg/L		100	80 - 120
Calcium	25.0	25.55		mg/L		102	80 - 120
Chromium	0.500	0.5226		mg/L		105	80 - 120
Cobalt	0.500	0.5065		mg/L		101	80 - 120
Lead	0.500	0.5328		mg/L		107	80 - 120
Lithium	0.500	0.4823		mg/L		96	80 - 120
Molybdenum	0.500	0.5318		mg/L		106	80 - 120
Selenium	1.00	0.9697		mg/L		97	80 - 120
Thallium	1.00	0.9941		mg/L		99	80 - 120

Lab Sample ID: LCS 240-389576/2-A
Matrix: Water
Analysis Batch: 391786

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 389576

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.100	0.1015		mg/L		102	80 - 120

Lab Sample ID: 180-92069-6 MS
Matrix: Water
Analysis Batch: 390262

Client Sample ID: SFL MW-2
Prep Type: Total Recoverable
Prep Batch: 389576

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.100	0.09441		mg/L		94	75 - 125
Arsenic	ND		1.00	1.111		mg/L		111	75 - 125
Barium	0.0252		1.00	1.032		mg/L		101	75 - 125
Beryllium	0.00444		0.500	0.5035		mg/L		100	75 - 125
Cadmium	0.00268		0.500	0.4467		mg/L		89	75 - 125
Chromium	ND		0.500	0.4836		mg/L		97	75 - 125
Cobalt	0.0187		0.500	0.5566		mg/L		108	75 - 125
Lead	ND		0.500	0.4798		mg/L		96	75 - 125
Lithium	0.447		0.500	0.9197		mg/L		94	75 - 125
Molybdenum	ND		0.500	0.5674		mg/L		113	75 - 125
Selenium	ND		1.00	0.9381		mg/L		94	75 - 125
Thallium	0.00103		1.00	0.8928		mg/L		89	75 - 125

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

Lab Sample ID: 180-92069-6 MS
Matrix: Water
Analysis Batch: 391786

Client Sample ID: SFL MW-2
Prep Type: Total Recoverable
Prep Batch: 389576

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.515	F2	0.100	0.4380	4	mg/L		-77	75 - 125
Calcium	937	F2	25.0	451.9	4	mg/L		-1939	75 - 125

Lab Sample ID: 180-92069-6 MSD
Matrix: Water
Analysis Batch: 390262

Client Sample ID: SFL MW-2
Prep Type: Total Recoverable
Prep Batch: 389576

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		0.100	0.09618		mg/L		96	75 - 125	2	20
Arsenic	ND		1.00	1.105		mg/L		110	75 - 125	1	20
Barium	0.0252		1.00	1.085		mg/L		106	75 - 125	5	20
Beryllium	0.00444		0.500	0.5106		mg/L		101	75 - 125	1	20
Cadmium	0.00268		0.500	0.4506		mg/L		90	75 - 125	1	20
Chromium	ND		0.500	0.4810		mg/L		96	75 - 125	1	20
Cobalt	0.0187		0.500	0.5508		mg/L		106	75 - 125	1	20
Lead	ND		0.500	0.4836		mg/L		97	75 - 125	1	20
Lithium	0.447		0.500	0.9418		mg/L		99	75 - 125	2	20
Molybdenum	ND		0.500	0.5659		mg/L		113	75 - 125	0	20
Selenium	ND		1.00	0.9473		mg/L		95	75 - 125	1	20
Thallium	0.00103		1.00	0.8985		mg/L		90	75 - 125	1	20

Lab Sample ID: 180-92069-6 MSD
Matrix: Water
Analysis Batch: 391786

Client Sample ID: SFL MW-2
Prep Type: Total Recoverable
Prep Batch: 389576

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.515	F2	0.100	0.5905	4 F2	mg/L		75	75 - 125	30	20
Calcium	937	F2	25.0	571.2	4 F2	mg/L		-1462	75 - 125	23	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-389579/1-A
Matrix: Water
Analysis Batch: 389928

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 389579

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		07/03/19 14:00	07/05/19 12:39	1

Lab Sample ID: LCS 240-389579/2-A
Matrix: Water
Analysis Batch: 389928

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 389579

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.004070		mg/L		81	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 180-92069-6 MS
Matrix: Water
Analysis Batch: 389928

Client Sample ID: SFL MW-2
Prep Type: Total/NA
Prep Batch: 389579

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00100	0.001107		mg/L		111	80 - 120

Lab Sample ID: 180-92069-6 MSD
Matrix: Water
Analysis Batch: 389928

Client Sample ID: SFL MW-2
Prep Type: Total/NA
Prep Batch: 389579

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00100	0.001047		mg/L		105	80 - 120	6	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-283616/2
Matrix: Water
Analysis Batch: 283616

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/01/19 17:22	1

Lab Sample ID: LCS 180-283616/1
Matrix: Water
Analysis Batch: 283616

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	201	224.0		mg/L		111	80 - 120

Lab Sample ID: MB 180-283618/2
Matrix: Water
Analysis Batch: 283618

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/01/19 18:25	1

Lab Sample ID: LCS 180-283618/1
Matrix: Water
Analysis Batch: 283618

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	201	208.0		mg/L		103	80 - 120

Lab Sample ID: MB 180-283889/2
Matrix: Water
Analysis Batch: 283889

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/03/19 14:22	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 180-283889/1
Matrix: Water
Analysis Batch: 283889

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			201	240.0		mg/L		119	80 - 120		

Lab Sample ID: 180-92069-6 DU
Matrix: Water
Analysis Batch: 283889

Client Sample ID: SFL MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	7630			7260		mg/L				5	10

Lab Sample ID: MB 180-283897/2
Matrix: Water
Analysis Batch: 283897

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/03/19 15:20	1

Lab Sample ID: LCS 180-283897/1
Matrix: Water
Analysis Batch: 283897

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			201	170.0		mg/L		85	80 - 120		

Lab Sample ID: MB 180-283915/2
Matrix: Water
Analysis Batch: 283915

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			07/03/19 18:02	1

Lab Sample ID: LCS 180-283915/1
Matrix: Water
Analysis Batch: 283915

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			201	176.0		mg/L		88	80 - 120		

Lab Sample ID: 180-92069-3 DU
Matrix: Water
Analysis Batch: 283915

Client Sample ID: AP MW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	4080			4220		mg/L				3	10

HPLC/IC

Analysis Batch: 283962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-1	AP MW-1D	Total/NA	Water	EPA 9056A	
180-92069-1	AP MW-1D	Total/NA	Water	EPA 9056A	
180-92069-2	AP MW-3	Total/NA	Water	EPA 9056A	
180-92069-2	AP MW-3	Total/NA	Water	EPA 9056A	
180-92069-3	AP MW-4	Total/NA	Water	EPA 9056A	
180-92069-3	AP MW-4	Total/NA	Water	EPA 9056A	
180-92069-4	AP MW-5	Total/NA	Water	EPA 9056A	
180-92069-4	AP MW-5	Total/NA	Water	EPA 9056A	
180-92069-5	AP MW-6	Total/NA	Water	EPA 9056A	
180-92069-5	AP MW-6	Total/NA	Water	EPA 9056A	
180-92069-6	SFL MW-2	Total/NA	Water	EPA 9056A	
180-92069-6	SFL MW-2	Total/NA	Water	EPA 9056A	
180-92069-7	SFL MW-3	Total/NA	Water	EPA 9056A	
180-92069-7	SFL MW-3	Total/NA	Water	EPA 9056A	
180-92069-8	SFL MW-4	Total/NA	Water	EPA 9056A	
180-92069-8	SFL MW-4	Total/NA	Water	EPA 9056A	
180-92069-9	SFL MW-5	Total/NA	Water	EPA 9056A	
180-92069-9	SFL MW-5	Total/NA	Water	EPA 9056A	
180-92069-10	SFL MW-7	Total/NA	Water	EPA 9056A	
180-92069-10	SFL MW-7	Total/NA	Water	EPA 9056A	
180-92069-11	MNW-15	Total/NA	Water	EPA 9056A	
180-92069-11	MNW-15	Total/NA	Water	EPA 9056A	
180-92069-12	MNW-18	Total/NA	Water	EPA 9056A	
180-92069-12	MNW-18	Total/NA	Water	EPA 9056A	
180-92069-13	Dup 1	Total/NA	Water	EPA 9056A	
180-92069-13	Dup 1	Total/NA	Water	EPA 9056A	
180-92069-14	Dup 2	Total/NA	Water	EPA 9056A	
180-92069-14	Dup 2	Total/NA	Water	EPA 9056A	
180-92069-15	EQBK-SCM-062519	Total/NA	Water	EPA 9056A	
180-92069-16	EQBK-SCM-062619	Total/NA	Water	EPA 9056A	
180-92069-17	EQBK-JMV-062519	Total/NA	Water	EPA 9056A	
180-92069-18	EQBK-JMV-062619	Total/NA	Water	EPA 9056A	
MB 180-283962/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-283962/5	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-92069-6 MS	SFL MW-2	Total/NA	Water	EPA 9056A	
180-92069-6 MSD	SFL MW-2	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 389576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-1	AP MW-1D	Total Recoverable	Water	3005A	
180-92069-2	AP MW-3	Total Recoverable	Water	3005A	
180-92069-3	AP MW-4	Total Recoverable	Water	3005A	
180-92069-4	AP MW-5	Total Recoverable	Water	3005A	
180-92069-5	AP MW-6	Total Recoverable	Water	3005A	
180-92069-6	SFL MW-2	Total Recoverable	Water	3005A	
180-92069-7	SFL MW-3	Total Recoverable	Water	3005A	
180-92069-8	SFL MW-4	Total Recoverable	Water	3005A	
180-92069-9	SFL MW-5	Total Recoverable	Water	3005A	
180-92069-10	SFL MW-7	Total Recoverable	Water	3005A	

Metals (Continued)

Prep Batch: 389576 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-11	MNW-15	Total Recoverable	Water	3005A	
180-92069-12	MNW-18	Total Recoverable	Water	3005A	
180-92069-13	Dup 1	Total Recoverable	Water	3005A	
180-92069-14	Dup 2	Total Recoverable	Water	3005A	
180-92069-15	EQBK-SCM-062519	Total Recoverable	Water	3005A	
180-92069-16	EQBK-SCM-062619	Total Recoverable	Water	3005A	
180-92069-17	EQBK-JMV-062519	Total Recoverable	Water	3005A	
180-92069-18	EQBK-JMV-062619	Total Recoverable	Water	3005A	
MB 240-389576/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-389576/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-92069-6 MS	SFL MW-2	Total Recoverable	Water	3005A	
180-92069-6 MSD	SFL MW-2	Total Recoverable	Water	3005A	

Prep Batch: 389579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-1	AP MW-1D	Total/NA	Water	7470A	
180-92069-2	AP MW-3	Total/NA	Water	7470A	
180-92069-3	AP MW-4	Total/NA	Water	7470A	
180-92069-4	AP MW-5	Total/NA	Water	7470A	
180-92069-5	AP MW-6	Total/NA	Water	7470A	
180-92069-6	SFL MW-2	Total/NA	Water	7470A	
180-92069-7	SFL MW-3	Total/NA	Water	7470A	
180-92069-8	SFL MW-4	Total/NA	Water	7470A	
180-92069-9	SFL MW-5	Total/NA	Water	7470A	
180-92069-10	SFL MW-7	Total/NA	Water	7470A	
180-92069-11	MNW-15	Total/NA	Water	7470A	
180-92069-12	MNW-18	Total/NA	Water	7470A	
180-92069-13	Dup 1	Total/NA	Water	7470A	
180-92069-14	Dup 2	Total/NA	Water	7470A	
180-92069-15	EQBK-SCM-062519	Total/NA	Water	7470A	
180-92069-16	EQBK-SCM-062619	Total/NA	Water	7470A	
180-92069-17	EQBK-JMV-062519	Total/NA	Water	7470A	
180-92069-18	EQBK-JMV-062619	Total/NA	Water	7470A	
MB 240-389579/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-389579/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-92069-6 MS	SFL MW-2	Total/NA	Water	7470A	
180-92069-6 MSD	SFL MW-2	Total/NA	Water	7470A	

Analysis Batch: 389928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-1	AP MW-1D	Total/NA	Water	7470A	389579
180-92069-2	AP MW-3	Total/NA	Water	7470A	389579
180-92069-3	AP MW-4	Total/NA	Water	7470A	389579
180-92069-4	AP MW-5	Total/NA	Water	7470A	389579
180-92069-5	AP MW-6	Total/NA	Water	7470A	389579
180-92069-6	SFL MW-2	Total/NA	Water	7470A	389579
180-92069-7	SFL MW-3	Total/NA	Water	7470A	389579
180-92069-8	SFL MW-4	Total/NA	Water	7470A	389579
180-92069-9	SFL MW-5	Total/NA	Water	7470A	389579
180-92069-10	SFL MW-7	Total/NA	Water	7470A	389579
180-92069-11	MNW-15	Total/NA	Water	7470A	389579

Metals (Continued)

Analysis Batch: 389928 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-12	MNW-18	Total/NA	Water	7470A	389579
180-92069-13	Dup 1	Total/NA	Water	7470A	389579
180-92069-14	Dup 2	Total/NA	Water	7470A	389579
180-92069-15	EQBK-SCM-062519	Total/NA	Water	7470A	389579
180-92069-16	EQBK-SCM-062619	Total/NA	Water	7470A	389579
180-92069-17	EQBK-JMV-062519	Total/NA	Water	7470A	389579
180-92069-18	EQBK-JMV-062619	Total/NA	Water	7470A	389579
MB 240-389579/1-A	Method Blank	Total/NA	Water	7470A	389579
LCS 240-389579/2-A	Lab Control Sample	Total/NA	Water	7470A	389579
180-92069-6 MS	SFL MW-2	Total/NA	Water	7470A	389579
180-92069-6 MSD	SFL MW-2	Total/NA	Water	7470A	389579

Analysis Batch: 390262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-1	AP MW-1D	Total Recoverable	Water	6020A	389576
180-92069-2	AP MW-3	Total Recoverable	Water	6020A	389576
180-92069-3	AP MW-4	Total Recoverable	Water	6020A	389576
180-92069-4	AP MW-5	Total Recoverable	Water	6020A	389576
180-92069-5	AP MW-6	Total Recoverable	Water	6020A	389576
180-92069-6	SFL MW-2	Total Recoverable	Water	6020A	389576
180-92069-7	SFL MW-3	Total Recoverable	Water	6020A	389576
180-92069-8	SFL MW-4	Total Recoverable	Water	6020A	389576
180-92069-9	SFL MW-5	Total Recoverable	Water	6020A	389576
180-92069-10	SFL MW-7	Total Recoverable	Water	6020A	389576
180-92069-11	MNW-15	Total Recoverable	Water	6020A	389576
180-92069-12	MNW-18	Total Recoverable	Water	6020A	389576
180-92069-13	Dup 1	Total Recoverable	Water	6020A	389576
180-92069-14	Dup 2	Total Recoverable	Water	6020A	389576
180-92069-15	EQBK-SCM-062519	Total Recoverable	Water	6020A	389576
180-92069-16	EQBK-SCM-062619	Total Recoverable	Water	6020A	389576
180-92069-17	EQBK-JMV-062519	Total Recoverable	Water	6020A	389576
180-92069-18	EQBK-JMV-062619	Total Recoverable	Water	6020A	389576
MB 240-389576/1-A	Method Blank	Total Recoverable	Water	6020A	389576
LCS 240-389576/2-A	Lab Control Sample	Total Recoverable	Water	6020A	389576
180-92069-6 MS	SFL MW-2	Total Recoverable	Water	6020A	389576
180-92069-6 MSD	SFL MW-2	Total Recoverable	Water	6020A	389576

Analysis Batch: 391786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-1	AP MW-1D	Total Recoverable	Water	6020A	389576
180-92069-2	AP MW-3	Total Recoverable	Water	6020A	389576
180-92069-3	AP MW-4	Total Recoverable	Water	6020A	389576
180-92069-3	AP MW-4	Total Recoverable	Water	6020A	389576
180-92069-4	AP MW-5	Total Recoverable	Water	6020A	389576
180-92069-4	AP MW-5	Total Recoverable	Water	6020A	389576
180-92069-5	AP MW-6	Total Recoverable	Water	6020A	389576
180-92069-5	AP MW-6	Total Recoverable	Water	6020A	389576
180-92069-6	SFL MW-2	Total Recoverable	Water	6020A	389576
180-92069-7	SFL MW-3	Total Recoverable	Water	6020A	389576
180-92069-7	SFL MW-3	Total Recoverable	Water	6020A	389576
180-92069-8	SFL MW-4	Total Recoverable	Water	6020A	389576

Metals (Continued)

Analysis Batch: 391786 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-8	SFL MW-4	Total Recoverable	Water	6020A	389576
180-92069-9	SFL MW-5	Total Recoverable	Water	6020A	389576
180-92069-9	SFL MW-5	Total Recoverable	Water	6020A	389576
180-92069-10	SFL MW-7	Total Recoverable	Water	6020A	389576
180-92069-10	SFL MW-7	Total Recoverable	Water	6020A	389576
180-92069-11	MNW-15	Total Recoverable	Water	6020A	389576
180-92069-11	MNW-15	Total Recoverable	Water	6020A	389576
180-92069-12	MNW-18	Total Recoverable	Water	6020A	389576
180-92069-12	MNW-18	Total Recoverable	Water	6020A	389576
180-92069-13	Dup 1	Total Recoverable	Water	6020A	389576
180-92069-13	Dup 1	Total Recoverable	Water	6020A	389576
180-92069-14	Dup 2	Total Recoverable	Water	6020A	389576
180-92069-14	Dup 2	Total Recoverable	Water	6020A	389576
180-92069-15	EQBK-SCM-062519	Total Recoverable	Water	6020A	389576
180-92069-16	EQBK-SCM-062619	Total Recoverable	Water	6020A	389576
180-92069-17	EQBK-JMV-062519	Total Recoverable	Water	6020A	389576
180-92069-18	EQBK-JMV-062619	Total Recoverable	Water	6020A	389576
MB 240-389576/1-A	Method Blank	Total Recoverable	Water	6020A	389576
LCS 240-389576/2-A	Lab Control Sample	Total Recoverable	Water	6020A	389576
180-92069-6 MS	SFL MW-2	Total Recoverable	Water	6020A	389576
180-92069-6 MSD	SFL MW-2	Total Recoverable	Water	6020A	389576

Analysis Batch: 391955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-15	EQBK-SCM-062519	Total Recoverable	Water	6020A	389576
180-92069-16	EQBK-SCM-062619	Total Recoverable	Water	6020A	389576
180-92069-17	EQBK-JMV-062519	Total Recoverable	Water	6020A	389576
180-92069-18	EQBK-JMV-062619	Total Recoverable	Water	6020A	389576

General Chemistry

Analysis Batch: 283616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-1	AP MW-1D	Total/NA	Water	SM 2540C	
MB 180-283616/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-283616/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 283618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-2	AP MW-3	Total/NA	Water	SM 2540C	
180-92069-4	AP MW-5	Total/NA	Water	SM 2540C	
180-92069-5	AP MW-6	Total/NA	Water	SM 2540C	
180-92069-13	Dup 1	Total/NA	Water	SM 2540C	
180-92069-15	EQBK-SCM-062519	Total/NA	Water	SM 2540C	
180-92069-17	EQBK-JMV-062519	Total/NA	Water	SM 2540C	
MB 180-283618/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-283618/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 283889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-6	SFL MW-2	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 283889 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-7	SFL MW-3	Total/NA	Water	SM 2540C	
180-92069-8	SFL MW-4	Total/NA	Water	SM 2540C	
180-92069-16	EQBK-SCM-062619	Total/NA	Water	SM 2540C	
180-92069-18	EQBK-JMV-062619	Total/NA	Water	SM 2540C	
MB 180-283889/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-283889/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-92069-6 DU	SFL MW-2	Total/NA	Water	SM 2540C	

Analysis Batch: 283897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-9	SFL MW-5	Total/NA	Water	SM 2540C	
180-92069-10	SFL MW-7	Total/NA	Water	SM 2540C	
180-92069-11	MNW-15	Total/NA	Water	SM 2540C	
180-92069-12	MNW-18	Total/NA	Water	SM 2540C	
180-92069-14	Dup 2	Total/NA	Water	SM 2540C	
MB 180-283897/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-283897/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 283915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-3	AP MW-4	Total/NA	Water	SM 2540C	
MB 180-283915/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-283915/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-92069-3 DU	AP MW-4	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Samuel Mason / Mac Vilas	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-101645-24956.1
Client Contact: Greg Seifert	Phone: 512-413-3876	E-Mail: gail.lage@testamericainc.com		Page: Page 1 of 3
Company: Wood E&I Solutions Inc				Job #: 5[illegible]
Address: 3755 South Capital of Texas Highway Suite 375	Due Date Requested:			
City: Austin	TAT Requested (days):			
State, Zip: TX, 78704				
Phone:	PO #: Purchase Order Requested			
Email: greg.seifert@woodplc.com	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: Texas	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, 904.0	9056A_ORGFM_28D - Chloride, Fluoride, Sulfate		6020A, 7470A		2540C_Calcd - Total Dissolved Solids		Total Number of containers	Note:
Preservation Code:								D	N	D	N				
AP MW-1D	6-25-19	1010	G	W				X	X	X	X				
AP MW-3	6-25-19	1600													
AP MW-4	6-27-19	1430													
AP MW-5	6-25-19	11:40													
AP MW-6	6-25-19	1325													
SFL MW-2	6-26-19	1500				X									
SFL MW-3	6-26-19	1015													
SFL MW-4	6-26-19	0900													
SFL MW-5	6-26-19	13:05													
SFL MW-7	6-26-19	0930													
MNW-15	6-26-19	11:35													

180-92069 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Samuel C. Mason	6-27-19 @1820	Wood	Debbie Watts	6-28-19	TAP-H
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 900	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Samuel Macon/Meg Vilas	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-101645-24956.2
Client Contact: Greg Seifert	Phone: 512-413-3876 SCM	E-Mail: gail.lage@testamericainc.com		Page: Page 2 of 3
Company: Wood E&I Solutions Inc				Job #: SCM
Address: 3755 South Capital of Texas Highway Suite 375	Due Date Requested:			
City: Austin	TAT Requested (days):			
State, Zip: TX, 78704				
Phone:	PO #: Purchase Order Requested			
Email: greg.seifert@woodplc.com	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: Texas	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, 904.0	9056A_ORGFM_28D - Chloride, Fluoride, Sulfate	6020A, 7470A	2540C_Calcd - Total Dissolved Solids	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MNW-18	6-26-19	1240	G	W			X	X	X	X		
DUP-1	6-25-19	-										
DUP-2	6-26-19	-										
EQBK-SCM-062519	6-25-19	1605										
EQBK-SCM-062619	6-26-19	1605										
EQBK-JMV-062519	6-25-19	1610										
EQBK-JMV-062619	6-26-19	1619										

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Samuel C. Macon	6-27-19 @ 1820 SCM	Wood	Allyn Watson	6-28-19 900	TAL PIT
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

4.4/4.3

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 180-367543.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: gail.lage@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-92069-2
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 7/12/2019			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: AMEC Gibbons Creek Stream	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A/3005A (MOD) Copy Analytes	7470A/7470A_Prep Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:							S12
SFL MW-2 (180-92069-6MS)	6/26/19	15:00 Central	MS	Water			X	X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		7/1/19 1700	TA Pitt		7-2-19 940	ETAC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____

Canton Facility

Client ETA Pittsburg Site Name _____ Cooler unpacked by: MAT

Cooler Received on 7-2-19 Opened on 7-2-19

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

Packing material used: (Bubble Wrap) Foam (Plastic Bag) None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-8 (CF **+0.1** °C) Observed Cooler Temp. 4.4 °C Corrected Cooler Temp. 4.5 °C

IR GUN #36 (CF **+0.6**°C) Observed Cooler Temp._____ °C Corrected Cooler Temp._____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity_____	Yes (No)	
-Were the seals on the outside of the cooler(s) signed & dated?	Yes No (NA)	
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes (No)	
-Were tamper/custody seals intact and uncompromised?	Yes No (NA)	
3. Shippers' packing slip attached to the cooler(s)?	(Yes) No	
4. Did custody papers accompany the sample(s)?	(Yes) No	
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes) No	
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes (No)	
7. Did all bottles arrive in good condition (Unbroken)?	(Yes) No	
8. Could all bottle labels be reconciled with the COC?	(Yes) No	
9. Were correct bottle(s) used for the test(s) indicated?	(Yes) No	
10. Sufficient quantity received to perform indicated analyses?	(Yes) No	
11. Are these work share samples?	(Yes) No	
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?	Yes No NA	pH Strip Lot# **HC984738**
13. Were VOAs on the COC?	Yes No	
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes No NA	
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____	Yes No	
16. Was a LL Hg or Me Hg trip blank present? _____	Yes No	

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by:

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 180-367542.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: gail.lage@testamericainc.com	State of Origin: Texas	Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-92069-2
Address: 4101 Shuffel Street NW,	Due Date Requested: 7/12/2019			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: AMEC Gibbons Creek Stream	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A/3005A (MOD) Copy Analytes	7470A/7470A_Prep Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:							S14
AP MW-1D (180-92069-1)	6/25/19	10:10 Central		Water			X	X	1	
AP MW-3 (180-92069-2)	6/25/19	16:00 Central		Water			X	X	1	
AP MW-4 (180-92069-3)	6/27/19	14:30 Central		Water			X	X	1	
AP MW-5 (180-92069-4)	6/25/19	11:40 Central		Water			X	X	1	
AP MW-6 (180-92069-5)	6/25/19	13:25 Central		Water			X	X	1	
SFL MW-2 (180-92069-6)	6/26/19	15:00 Central		Water			X	X	1	
SFL MW-2 (180-92069-6MSD)	6/26/19	15:00 Central	MSD	Water			X	X	1	
SFL MW-3 (180-92069-7)	6/26/19	10:15 Central		Water			X	X	1	
SFL MW-4 (180-92069-8)	6/26/19	09:00 Central		Water			X	X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 7/1/19 1700	Company TA PITT	Received by:	Date/Time: 7-2-19 940	Company ETAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 180-367542.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: gail.lage@testamericainc.com	State of Origin: Texas	Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-92069-2
Address: 4101 Shuffel Street NW,	Due Date Requested: 7/12/2019			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: AMEC Gibbons Creek Stream	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A/3005A (MOD) Copy Analytes	7470A/7470A_Prep Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
SFL MW-5 (180-92069-9)	6/26/19	13:05 Central		Water			X	X	1	
SFL MW-7 (180-92069-10)	6/26/19	09:30 Central		Water			X	X	1	
MNW-15 (180-92069-11)	6/26/19	11:35 Central		Water			X	X	1	
MNW-18 (180-92069-12)	6/26/19	12:40 Central		Water			X	X	1	
Dup 1 (180-92069-13)	6/25/19	Central		Water			X	X	1	
Dup 2 (180-92069-14)	6/26/19	Central		Water			X	X	1	
EQBK-SCM-062519 (180-92069-15)	6/25/19	16:05 Central		Water			X	X	1	
EQBK-SCM-062619 (180-92069-16)	6/26/19	16:05 Central		Water			X	X	1	
EQBK-JMV-062519 (180-92069-17)	6/25/19	16:10 Central		Water			X	X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	7/1/19 1700	TA PTT	[signature]	7-2-19 940	ETAC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 180-367542.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: gail.lage@testamericainc.com	State of Origin: Texas	Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-92069-2
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 7/12/2019			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: AMEC Gibbons Creek Stream	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A/3005A (MOD) Copy Analytes	7470A/7470A_Prep Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EQBK-JMV-062619 (180-92069-18)	6/26/19	16:10 Central		Water			X	X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	7/1/19 1900	TA PIT		7-2-19 940	EPAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____

Canton Facility

Client EIA Pittsburg Site Name _____ Cooler unpacked by: MJT

Cooler Received on 7-2-19 Opened on 7-2-19

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

Packing material used: (Bubble Wrap) Foam (Plastic Bag) None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-8 (CF **+0.1** °C) Observed Cooler Temp. 4.4 °C Corrected Cooler Temp. 4.5 °C

IR GUN #36 (CF **+0.6**°C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity_____	Yes (No)	
-Were the seals on the outside of the cooler(s) signed & dated?	Yes No (NA)	
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes (No)	
-Were tamper/custody seals intact and uncompromised?	Yes No (NA)	
3. Shippers' packing slip attached to the cooler(s)?	(Yes) No	
4. Did custody papers accompany the sample(s)?	(Yes) No	
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes) No	
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes (No)	
7. Did all bottles arrive in good condition (Unbroken)?	(Yes) No	
8. Could all bottle labels be reconciled with the COC?	(Yes) No	
9. Were correct bottle(s) used for the test(s) indicated?	(Yes) No	
10. Sufficient quantity received to perform indicated analyses?	(Yes) No	
11. Are these work share samples?	(Yes) No	
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?	Yes No NA	pH Strip Lot# **HC984738**
13. Were VOAs on the COC?	Yes No	
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes No NA	
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____	Yes No	
16. Was a LL Hg or Me Hg trip blank present? _____	Yes No	

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by:

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s):_____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-92069-2

Login Number: 92069
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

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ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-92069-1
Client Project/Site: AMEC CCR TMPA Gibbons Creek
Sampling Event: CCR

For:
Wood E&I Solutions Inc
3755 South Capital of Texas Highway
Suite 375
Austin, Texas 78704

Attn: Greg Seifert

Authorized for release by:
8/21/2019 11:46:22 PM

Gail Lage, Senior Project Manager
(615)301-5741
gail.lage@testamericainc.com

PA Lab ID: 02-00416

Table of Contents

Job ID: 180-92069-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-92069-1

Comments
No additional comments.

Receipt
The samples were received on 6/28/2019 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.5º C, 3.5º C, 3.6º C and 3.7º C.

RAD
Method(s) 903.0, 9315: Ra-226 Prep Batch 160-433618
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
AP MW-1D (180-92069-1), AP MW-3 (180-92069-2), AP MW-4 (180-92069-3), AP MW-5 (180-92069-4), AP MW-6 (180-92069-5), SFL MW-2 (180-92069-6), SFL MW-2 (180-92069-6[DU]), SFL MW-3 (180-92069-7), (LCS 160-433618/1-A) and (MB 160-433618/18-A)

Method(s) 903.0, 9315: Ra-226 Prep Batch 160-435520
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
SFL MW-5 (180-92069-9), (LCS 160-435520/1-A), (LCSD 160-435520/2-A) and (MB 160-435520/15-A)

Method(s) 903.0: Ra-226 Prep Batch 160-433679
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
SFL MW-4 (180-92069-8), SFL MW-7 (180-92069-10), MNW-15 (180-92069-11), MNW-18 (180-92069-12), Dup 1 (180-92069-13), Dup 2 (180-92069-14), EQBK-SCM-062519 (180-92069-15), EQBK-SCM-062619 (180-92069-16), EQBK-JMV-062519 (180-92069-17), EQBK-JMV-062619 (180-92069-18), (LCS 160-433679/1-A), (LCSD 160-433679/2-A) and (MB 160-433679/22-A)

Method(s) 904.0, 9320: Ra-228 Prep Batch 160-433646
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
AP MW-1D (180-92069-1), AP MW-3 (180-92069-2), AP MW-4 (180-92069-3), AP MW-5 (180-92069-4), AP MW-6 (180-92069-5), SFL MW-2 (180-92069-6), SFL MW-2 (180-92069-6[DU]), SFL MW-3 (180-92069-7), (LCS 160-433646/1-A) and (MB 160-433646/18-A)

Method(s) 904.0, 9320: Ra-228 Prep Batch 160-435524
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
SFL MW-5 (180-92069-9), (LCS 160-435524/1-A), (LCSD 160-435524/2-A) and (MB 160-435524/15-A)

Job ID: 180-92069-1 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

Method(s) 904.0: Ra-228 Prep Batch 160-433682
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
SFL MW-4 (180-92069-8), SFL MW-7 (180-92069-10), MNW-15 (180-92069-11), MNW-18 (180-92069-12), Dup 1 (180-92069-13), Dup 2 (180-92069-14), EQBK-SCM-062519 (180-92069-15), EQBK-SCM-062619 (180-92069-16), EQBK-JMV-062519 (180-92069-17), EQBK-JMV-062619 (180-92069-18), (LCS 160-433682/1-A), (LCSD 160-433682/2-A) and (MB 160-433682/22-A)

Method(s) PrecSep_0: Radium 228 Prep Batch 160- 433682:
Insufficient sample volume was available to perform a sample duplicate for the following samples: SFL MW-4 (180-92069-8), SFL MW-5 (180-92069-9), SFL MW-7 (180-92069-10), MNW-15 (180-92069-11), MNW-18 (180-92069-12), Dup 1 (180-92069-13), Dup 2 (180-92069-14), EQBK-SCM-062519 (180-92069-15), EQBK-SCM-062619 (180-92069-16), EQBK-JMV-062519 (180-92069-17) and EQBK-JMV-062619 (180-92069-18). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision

Method(s) PrecSep_0: Radium 226 Prep Batch 160- 433682:
The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: SFL MW-5 (180-92069-9).

Method(s) PrecSep_0: Radium 228 Prep Batch 160-435524:
The following samples were prepared at a reduced aliquot due to limited volume: SFL MW-5 (180-92069-9). Sample 180-92069-9 was reduced due to yellow discoloration. A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep_0: Radium 228 Prep Batch 160-435524:
Insufficient sample volume was available to perform a sample duplicate for the following samples: SFL MW-5 (180-92069-9). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision

Method(s) PrecSep-21: Radium 226 Prep Batch 160- 433679:
Insufficient sample volume was available to perform a sample duplicate for the following samples: SFL MW-4 (180-92069-8), SFL MW-5 (180-92069-9), SFL MW-7 (180-92069-10), MNW-15 (180-92069-11), MNW-18 (180-92069-12), Dup 1 (180-92069-13), Dup 2 (180-92069-14), EQBK-SCM-062519 (180-92069-15), EQBK-SCM-062619 (180-92069-16), EQBK-JMV-062519 (180-92069-17) and EQBK-JMV-062619 (180-92069-18). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep-21: Radium 226 Prep Batch 160- 433679:
The following samples were prepared at a reduced aliquot due to discoloration and heavy sediment levels: SFL MW-5 (180-92069-9).

Method(s) PrecSep-21: Radium 226 Prep Batch 160-435520:
The following samples were prepared at a reduced aliquot due to limited volume: SFL MW-5 (180-92069-9). Sample 180-92069-9 was reduced due to yellow discoloration. A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep-21: Radium 226 Prep Batch 160-435520:
Insufficient sample volume was available to perform a sample duplicate for the following samples: SFL MW-5 (180-92069-9). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

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

Definitions/Glossary

Client: Wood E&I Solutions Inc
Job ID: 180-92069-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Accreditation/Certification Summary

Client: Wood E&I Solutions Inc
Job ID: 180-92069-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
Arkansas DEQ	State Program	88-0690	06-27-20
California	State	2891	04-30-20
California	State Program	2891	04-30-20
Connecticut	State	PH-0688	09-30-20
Connecticut	State Program	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Florida	NELAP	E871008	06-30-20
Illinois	NELAP	200005	06-30-20
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	01-31-20
Kansas	NELAP	E-10350	03-31-20
Kentucky (UST)	State Program	162013	04-30-20
Kentucky (WW)	State	KY98043	12-31-19
Kentucky (WW)	State Program	KY98043	12-31-19
Louisiana	NELAP	04041	06-30-20
Minnesota	NELAP	042-999-482	12-31-19
Minnesota	NELAP	042-999-482	12-31-19
Nevada	State	PA00164	07-31-20
Nevada	State Program	PA00164	07-31-20
New Hampshire	NELAP	2030	04-04-20
New Jersey	NELAP	PA005	06-30-20
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	03-31-20
New York	NELAP	11182	04-01-20
North Carolina (WW/SW)	State Program	434	12-31-19
North Dakota	State	R-227	04-30-20
North Dakota	State Program	R-227	04-30-20
Oregon	NELAP	PA-2151	02-06-20
Oregon	NELAP	PA-2151	02-06-20
Pennsylvania	NELAP	02-00416	04-30-20
Pennsylvania	NELAP	02-00416	04-30-20
Rhode Island	State	LAO00362	12-30-19
Rhode Island	State Program	LAO00362	12-30-19
South Carolina	State Program	89014	04-30-20
Texas	NELAP	T104704528-15-2	03-31-20
Texas	NELAP	T104704528	03-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462015-4	05-31-20
Utah	NELAP	PA001462019-8	05-31-20
Virginia	NELAP	460189	09-14-19
Virginia	NELAP	10043	09-14-19
West Virginia DEP	State	142	01-31-20
West Virginia DEP	State Program	142	01-31-20
Wisconsin	State	998027800	08-31-19
Wisconsin	State Program	998027800	08-31-19

Accreditation/Certification Summary

Client: Wood E&I Solutions Inc
Job ID: 180-92069-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Laboratory: Eurofins TestAmerica, Nashville

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

Authority	Program	Identification Number	Expiration Date
A2LA	ISO/IEC 17025	0453.07	12-31-19
A2LA	ISO/IEC 17025	0453.07	12-31-19
Alaska (UST)	State Program	UST-087	06-30-20
Arizona	State Program	AZ0473	05-05-20
Arkansas DEQ	State Program	88-0737	04-25-20
California	State Program	2938	06-30-20
Connecticut	State Program	PH-0220	12-31-19
Florida	NELAP	E87358	06-30-20
Georgia	State Program	E87358(FL)/453.07(A2LA)	06-30-20
Illinois	NELAP	200010	12-09-19
Iowa	State Program	131	04-01-20
Kansas	NELAP	E-10229	10-31-19
Kentucky (UST)	State Program	19	06-30-20
Kentucky (WW)	State Program	90038	12-31-19
Louisiana	NELAP	30613	06-30-20
Maine	State Program	TN00032	11-03-19
Maryland	State Program	316	03-31-20
Massachusetts	State Program	M-TN032	06-30-20
Minnesota	NELAP	047-999-345	12-31-19
Mississippi	State Program	N/A	06-30-20
Nevada	State Program	TN00032	07-31-20
New Hampshire	NELAP	2963	10-09-19
New Jersey	NELAP	TN965	06-30-20
New York	NELAP	11342	03-31-20
North Carolina (WW/SW)	State Program	387	12-31-19
North Dakota	State Program	R-146	06-30-20
Oklahoma	State Program	9412	08-31-19 *
Oregon	NELAP	TN200001	04-26-20
Pennsylvania	NELAP	68-00585	07-31-20
Rhode Island	State Program	LAO00268	12-30-19
South Carolina	State Program	84009 (001)	02-28-20
Tennessee	State Program	2008	02-23-20
Texas	NELAP	T104704077	08-31-19
USDA	Federal	P330-13-00306	04-10-20
Virginia	NELAP	460152	06-14-20
Washington	State Program	C789	07-19-20
West Virginia DEP	State Program	219	02-28-20
Wisconsin	State Program	998020430	08-31-20
Wyoming (UST)	A2LA	453.07	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Wood E&I Solutions Inc
Job ID: 180-92069-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	DoD	L2305	04-06-22
ANAB	DOE	L2305.01	04-06-22
Arizona	State	AZ0813	12-08-19
Arizona	State Program	AZ0813	12-08-19
California	State	2886	06-30-20
California	State Program	2886	06-30-20
Connecticut	State	PH-0241	03-31-21
Connecticut	State Program	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-20
Florida	NELAP	E87689	06-30-20
Hawaii	State Program	NA	06-30-20
Illinois	NELAP	200023	11-30-19
Illinois	NELAP	004553	11-30-19
Iowa	State Program	373	12-01-20
Kansas	NELAP	E-10236	10-31-19
Kentucky (DW)	State	KY90125	12-31-19
Kentucky (DW)	State Program	KY90125	12-31-19
Louisiana	NELAP	04080	06-30-20
Louisiana (DW)	NELAP	LA011	12-31-19
Louisiana (DW)	State	LA011	12-31-19
Maryland	State	310	09-30-20
Maryland	State Program	310	09-30-20
Michigan	State Program	9005	06-30-20
Missouri	State	780	06-30-22
Missouri	State Program	780	06-30-20
Nevada	State	MO000542020-1	07-31-20
New Jersey	NELAP	MO002	06-30-20
New Jersey	NELAP	MO002	06-30-20
New York	NELAP	11616	03-31-20
New York	NELAP	11616	04-01-20
North Dakota	State	R-207	06-30-20
North Dakota	State Program	R207	06-30-20
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-19
Oklahoma	State Program	9997	08-31-19 *
Pennsylvania	NELAP	68-00540	02-28-20
Pennsylvania	NELAP	68-00540	02-28-20
South Carolina	State Program	85002001	06-30-20
Texas	NELAP	T104704193-19-14	07-31-20
Texas	NELAP	T104704193-19-13	07-31-20
US Fish & Wildlife	Federal	058448	07-31-20
USDA	Federal	P330-17-0028	02-02-20
Utah	NELAP	MO000542019-11	07-31-20
Virginia	NELAP	460230	06-14-20
Virginia	NELAP	10310	06-14-20
Washington	State Program	C592	08-30-19
West Virginia DEP	State Program	381	08-31-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Sample Summary

Client: Wood E&I Solutions Inc
Project/Site: AMEC CCR TMPA Gibbons Creek

Job ID: 180-92069-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-92069-1	AP MW-1D	Water	06/25/19 10:10	06/28/19 09:00	
180-92069-2	AP MW-3	Water	06/25/19 16:00	06/28/19 09:00	
180-92069-3	AP MW-4	Water	06/27/19 14:30	06/28/19 09:00	
180-92069-4	AP MW-5	Water	06/25/19 11:40	06/28/19 09:00	
180-92069-5	AP MW-6	Water	06/25/19 13:25	06/28/19 09:00	
180-92069-6	SFL MW-2	Water	06/26/19 15:00	06/28/19 09:00	
180-92069-7	SFL MW-3	Water	06/26/19 10:15	06/28/19 09:00	
180-92069-8	SFL MW-4	Water	06/26/19 09:00	06/28/19 09:00	
180-92069-9	SFL MW-5	Water	06/26/19 13:05	06/28/19 09:00	
180-92069-10	SFL MW-7	Water	06/26/19 09:30	06/28/19 09:00	
180-92069-11	MNW-15	Water	06/26/19 11:35	06/28/19 09:00	
180-92069-12	MNW-18	Water	06/26/19 12:40	06/28/19 09:00	
180-92069-13	Dup 1	Water	06/25/19 00:00	06/28/19 09:00	
180-92069-14	Dup 2	Water	06/26/19 00:00	06/28/19 09:00	
180-92069-15	EQBK-SCM-062519	Water	06/25/19 16:05	06/28/19 09:00	
180-92069-16	EQBK-SCM-062619	Water	06/26/19 16:05	06/28/19 09:00	
180-92069-17	EQBK-JMV-062519	Water	06/25/19 16:10	06/28/19 09:00	
180-92069-18	EQBK-JMV-062619	Water	06/26/19 16:10	06/28/19 09:00	

Method Summary

Client: Wood E&I Solutions Inc
Job ID: 180-92069-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92069-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: AP MW-1D
Lab Sample ID: 180-92069-1
Date Collected: 06/25/19 10:10
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.02 mL	1.0 g	433618	07/03/19 10:15	KAW	TAL SL
Total/NA	Analysis	903.0		1			439521	08/14/19 22:34	KLS	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.02 mL	1.0 g	433646	07/03/19 10:58	KAW	TAL SL
Total/NA	Analysis	904.0		1			438157	08/05/19 13:11	CDR	TAL SL
	Instrument ID: GFPCPROTEAN									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP MW-3
Lab Sample ID: 180-92069-2
Date Collected: 06/25/19 16:00
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.54 mL	1.0 g	433618	07/03/19 10:15	KAW	TAL SL
Total/NA	Analysis	903.0		1			439521	08/14/19 22:34	KLS	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.54 mL	1.0 g	433646	07/03/19 10:58	KAW	TAL SL
Total/NA	Analysis	904.0		1			438157	08/05/19 13:11	CDR	TAL SL
	Instrument ID: GFPCPROTEAN									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP MW-4
Lab Sample ID: 180-92069-3
Date Collected: 06/27/19 14:30
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.43 mL	1.0 g	433618	07/03/19 10:15	KAW	TAL SL
Total/NA	Analysis	903.0		1			439521	08/14/19 22:34	KLS	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.43 mL	1.0 g	433646	07/03/19 10:58	KAW	TAL SL
Total/NA	Analysis	904.0		1			438157	08/05/19 13:11	CDR	TAL SL
	Instrument ID: GFPCPROTEAN									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP MW-5
Lab Sample ID: 180-92069-4
Date Collected: 06/25/19 11:40
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.56 mL	1.0 g	433618	07/03/19 10:15	KAW	TAL SL
Total/NA	Analysis	903.0		1			439521	08/14/19 22:34	KLS	TAL SL
	Instrument ID: GFPCBLUE									

Client Sample ID: AP MW-5

Lab Sample ID: 180-92069-4

Date Collected: 06/25/19 11:40

Matrix: Water

Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.56 mL	1.0 g	433646	07/03/19 10:58	KAW	TAL SL
Total/NA	Analysis	904.0		1			438001	08/05/19 13:13	JLW	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP MW-6

Lab Sample ID: 180-92069-5

Date Collected: 06/25/19 13:25

Matrix: Water

Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.47 mL	1.0 g	433618	07/03/19 10:15	KAW	TAL SL
Total/NA	Analysis	903.0		1			439521	08/14/19 22:35	KLS	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.47 mL	1.0 g	433646	07/03/19 10:58	KAW	TAL SL
Total/NA	Analysis	904.0		1			438001	08/05/19 13:13	JLW	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: SFL MW-2

Lab Sample ID: 180-92069-6

Date Collected: 06/26/19 15:00

Matrix: Water

Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.59 mL	1.0 g	433618	07/03/19 10:15	KAW	TAL SL
Total/NA	Analysis	903.0		1			439521	08/14/19 22:35	KLS	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.59 mL	1.0 g	433646	07/03/19 10:58	KAW	TAL SL
Total/NA	Analysis	904.0		1			438001	08/05/19 13:14	JLW	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: SFL MW-3

Lab Sample ID: 180-92069-7

Date Collected: 06/26/19 10:15

Matrix: Water

Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.71 mL	1.0 g	433618	07/03/19 10:15	KAW	TAL SL
Total/NA	Analysis	903.0		1			439521	08/14/19 22:35	KLS	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.71 mL	1.0 g	433646	07/03/19 10:58	KAW	TAL SL
Total/NA	Analysis	904.0		1			438001	08/05/19 13:14	JLW	TAL SL
	Instrument ID: GFPCBLUE									

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92069-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: SFL MW-3
Lab Sample ID: 180-92069-7
Date Collected: 06/26/19 10:15
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL

Client Sample ID: SFL MW-4
Lab Sample ID: 180-92069-8
Date Collected: 06/26/19 09:00
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.72 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 15:57	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.72 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440088	08/20/19 09:01	CDR	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: SFL MW-5
Lab Sample ID: 180-92069-9
Date Collected: 06/26/19 13:05
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.65 mL	1.0 g	435520	07/18/19 13:16	ORM	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 11:50	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			500.65 mL	1.0 g	435524	07/18/19 13:45	ORM	TAL SL
Total/NA	Analysis	904.0		1			439901	08/19/19 08:47	CDR	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: SFL MW-7
Lab Sample ID: 180-92069-10
Date Collected: 06/26/19 09:30
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.11 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 15:57	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.11 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440088	08/20/19 09:01	CDR	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92069-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: MNW-15
Lab Sample ID: 180-92069-11
Date Collected: 06/26/19 11:35
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.00 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 15:58	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.00 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440088	08/20/19 09:01	CDR	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: MNW-18
Lab Sample ID: 180-92069-12
Date Collected: 06/26/19 12:40
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.32 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 15:58	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.32 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440088	08/20/19 09:01	CDR	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: Dup 1
Lab Sample ID: 180-92069-13
Date Collected: 06/25/19 00:00
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.48 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 15:58	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.48 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440088	08/20/19 09:02	CDR	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: Dup 2
Lab Sample ID: 180-92069-14
Date Collected: 06/26/19 00:00
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.03 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 15:58	CDR	TAL SL
	Instrument ID: GFPCBLUE									

Client Sample ID: Dup 2
Lab Sample ID: 180-92069-14
Date Collected: 06/26/19 00:00
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.03 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440088	08/20/19 09:02	CDR	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: EQBK-SCM-062519
Lab Sample ID: 180-92069-15
Date Collected: 06/25/19 16:05
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.33 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 16:00	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.33 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440088	08/20/19 09:02	CDR	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: EQBK-SCM-062619
Lab Sample ID: 180-92069-16
Date Collected: 06/26/19 16:05
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.21 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 16:00	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.21 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440088	08/20/19 09:02	CDR	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: EQBK-JMV-062519
Lab Sample ID: 180-92069-17
Date Collected: 06/25/19 16:10
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.35 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440089	08/20/19 16:00	CDR	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.35 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440088	08/20/19 09:03	CDR	TAL SL
	Instrument ID: GFPCPURPLE									

Lab Chronicle

Client: Wood E&I Solutions Inc
Job ID: 180-92069-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: EQBK-JMV-062519
Lab Sample ID: 180-92069-17
Date Collected: 06/25/19 16:10
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL

Client Sample ID: EQBK-JMV-062619
Lab Sample ID: 180-92069-18
Date Collected: 06/26/19 16:10
Matrix: Water
Date Received: 06/28/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.19 mL	1.0 g	433679	07/03/19 14:47	KAW	TAL SL
Total/NA	Analysis	903.0		1			440092	08/20/19 17:43	CDR	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Prep	PrecSep_0			1000.19 mL	1.0 g	433682	07/03/19 15:28	KAW	TAL SL
Total/NA	Analysis	904.0		1			440088	08/20/19 09:03	CDR	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			440104	08/21/19 07:46	SMP	TAL SL
	Instrument ID: NOEQUIP									

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Analyst References:

Lab: TAL SL

Batch Type: Prep

KAW = Kayla Walker

ORM = Octavia Moore

Batch Type: Analysis

CDR = Conrad Reuscher

JLW = Jody Watson

KLS = Kody Saulters

SMP = Siobhan Perry

Client Sample ID: AP MW-1D
Lab Sample ID: 180-92069-1

Date Collected: 06/25/19 10:10
Matrix: Water

Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.219		0.103	0.105	1.00	0.124	pCi/L	07/03/19 10:15	08/14/19 22:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.8*		*40 - 110*	*07/03/19 10:15*	*08/14/19 22:34*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.44		0.398	0.420	1.00	0.507	pCi/L	07/03/19 10:58	08/05/19 13:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.8*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:11*	*1*
Y Carrier	*85.2*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:11*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.66		0.411	0.433	5.00	0.507	pCi/L		08/21/19 07:46	1

Client Sample ID: AP MW-3
Lab Sample ID: 180-92069-2

Date Collected: 06/25/19 16:00
Matrix: Water
Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.284		0.112	0.114	1.00	0.118	pCi/L	07/03/19 10:15	08/14/19 22:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*40 - 110*	*07/03/19 10:15*	*08/14/19 22:34*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.79		0.448	0.477	1.00	0.537	pCi/L	07/03/19 10:58	08/05/19 13:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.2*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:11*	*1*
Y Carrier	*72.1*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:11*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.07		0.462	0.490	5.00	0.537	pCi/L		08/21/19 07:46	1

Client Sample ID: AP MW-4
Lab Sample ID: 180-92069-3

Date Collected: 06/27/19 14:30
Matrix: Water
Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.267		0.128	0.130	1.00	0.168	pCi/L	07/03/19 10:15	08/14/19 22:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.7*		*40 - 110*	*07/03/19 10:15*	*08/14/19 22:34*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.991		0.378	0.389	1.00	0.530	pCi/L	07/03/19 10:58	08/05/19 13:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.7*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:11*	*1*
Y Carrier	*84.1*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:11*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.26		0.399	0.410	5.00	0.530	pCi/L		08/21/19 07:46	1

Client Sample ID: AP MW-5
Lab Sample ID: 180-92069-4

Date Collected: 06/25/19 11:40
Matrix: Water
Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.333		0.130	0.134	1.00	0.150	pCi/L	07/03/19 10:15	08/14/19 22:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.8*		*40 - 110*	*07/03/19 10:15*	*08/14/19 22:34*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.833		0.376	0.384	1.00	0.550	pCi/L	07/03/19 10:58	08/05/19 13:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.8*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:13*	*1*
Y Carrier	*84.1*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:13*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.17		0.398	0.407	5.00	0.550	pCi/L		08/21/19 07:46	1

Client Sample ID: AP MW-6
Lab Sample ID: 180-92069-5

Date Collected: 06/25/19 13:25
Matrix: Water
Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.113		0.0776	0.0783	1.00	0.106	pCi/L	07/03/19 10:15	08/14/19 22:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.7*		*40 - 110*	*07/03/19 10:15*	*08/14/19 22:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.612		0.320	0.325	1.00	0.477	pCi/L	07/03/19 10:58	08/05/19 13:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.7*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:13*	*1*
Y Carrier	*83.4*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:13*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.725		0.329	0.334	5.00	0.477	pCi/L		08/21/19 07:46	1

Client Sample ID: SFL MW-2
Lab Sample ID: 180-92069-6
Date Collected: 06/26/19 15:00
Matrix: Water
Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.55		0.243	0.280	1.00	0.121	pCi/L	07/03/19 10:15	08/14/19 22:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.4*		*40 - 110*	*07/03/19 10:15*	*08/14/19 22:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	6.02		0.742	0.926	1.00	0.632	pCi/L	07/03/19 10:58	08/05/19 13:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.4*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:14*	*1*
Y Carrier	*65.4*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:14*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	7.57		0.781	0.967	5.00	0.632	pCi/L		08/21/19 07:46	1

Client Sample ID: SFL MW-3
Lab Sample ID: 180-92069-7

Date Collected: 06/26/19 10:15
Matrix: Water

Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.941		0.201	0.219	1.00	0.142	pCi/L	07/03/19 10:15	08/14/19 22:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.6*		*40 - 110*	*07/03/19 10:15*	*08/14/19 22:35*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.49		0.621	0.745	1.00	0.562	pCi/L	07/03/19 10:58	08/05/19 13:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*70.6*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:14*	*1*
Y Carrier	*81.5*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:14*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.43		0.653	0.777	5.00	0.562	pCi/L		08/21/19 07:46	1

Client Sample ID: SFL MW-4
Lab Sample ID: 180-92069-8

Date Collected: 06/26/19 09:00
Matrix: Water
Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.174	U	0.276	0.277	1.00	0.473	pCi/L	07/03/19 14:47	08/20/19 15:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.8*		*40 - 110*	*07/03/19 14:47*	*08/20/19 15:57*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.11**		0.349	0.363	1.00	0.462	pCi/L	07/03/19 15:28	08/20/19 09:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.8*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:01*	*1*
Y Carrier	*83.4*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:01*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.28**		0.445	0.457	5.00	0.473	pCi/L		08/21/19 07:46	1

Client Sample ID: SFL MW-5
Lab Sample ID: 180-92069-9

Date Collected: 06/26/19 13:05
Matrix: Water
Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.24		0.643	0.674	1.00	0.669	pCi/L	07/18/19 13:16	08/20/19 11:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.0*		*40 - 110*	*07/18/19 13:16*	*08/20/19 11:50*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	8.97		0.983	1.28	1.00	0.745	pCi/L	07/18/19 13:45	08/19/19 08:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.0*		*40 - 110*	*07/18/19 13:45*	*08/19/19 08:47*	*1*
Y Carrier	*86.4*		*40 - 110*	*07/18/19 13:45*	*08/19/19 08:47*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	11.2		1.17	1.45	5.00	0.745	pCi/L		08/21/19 07:46	1

Client Sample ID: SFL MW-7
Lab Sample ID: 180-92069-10

Date Collected: 06/26/19 09:30
Matrix: Water
Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.478	U	0.339	0.342	1.00	0.492	pCi/L	07/03/19 14:47	08/20/19 15:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*66.7*		*40 - 110*	*07/03/19 14:47*	*08/20/19 15:57*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.72**		0.437	0.465	1.00	0.531	pCi/L	07/03/19 15:28	08/20/19 09:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*66.7*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:01*	*1*
Y Carrier	*87.1*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:01*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**2.20**		0.553	0.577	5.00	0.531	pCi/L		08/21/19 07:46	1

Client Sample ID: MNW-15
Date Collected: 06/26/19 11:35
Date Received: 06/28/19 09:00

Lab Sample ID: 180-92069-11
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0146	U	0.161	0.161	1.00	0.330	pCi/L	07/03/19 14:47	08/20/19 15:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.7*		*40 - 110*	*07/03/19 14:47*	*08/20/19 15:58*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.275	U	0.288	0.289	1.00	0.470	pCi/L	07/03/19 15:28	08/20/19 09:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.7*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:01*	*1*
Y Carrier	*86.4*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:01*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.290	U	0.330	0.331	5.00	0.470	pCi/L		08/21/19 07:46	1

Client Sample ID: MNW-18
Date Collected: 06/26/19 12:40
Date Received: 06/28/19 09:00

Lab Sample ID: 180-92069-12
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.174	U	0.208	0.208	1.00	0.339	pCi/L	07/03/19 14:47	08/20/19 15:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.8*		*40 - 110*	*07/03/19 14:47*	*08/20/19 15:58*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.296	U	0.277	0.279	1.00	0.447	pCi/L	07/03/19 15:28	08/20/19 09:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.8*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:01*	*1*
Y Carrier	*87.1*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:01*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.470**		0.346	0.348	5.00	0.447	pCi/L		08/21/19 07:46	1

Client Sample ID: Dup 1
Lab Sample ID: 180-92069-13

Date Collected: 06/25/19 00:00
Matrix: Water
Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0515	U	0.206	0.206	1.00	0.442	pCi/L	07/03/19 14:47	08/20/19 15:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*65.5*		*40 - 110*	*07/03/19 14:47*	*08/20/19 15:58*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.914**		0.403	0.412	1.00	0.581	pCi/L	07/03/19 15:28	08/20/19 09:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*65.5*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:02*	*1*
Y Carrier	*84.9*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:02*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.863**		0.453	0.461	5.00	0.581	pCi/L		08/21/19 07:46	1

Client Sample ID: Dup 2
Lab Sample ID: 180-92069-14

Date Collected: 06/26/19 00:00
Matrix: Water
Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.140	U	0.204	0.205	1.00	0.348	pCi/L	07/03/19 14:47	08/20/19 15:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.7*		*40 - 110*	*07/03/19 14:47*	*08/20/19 15:58*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.255	U	0.235	0.236	1.00	0.377	pCi/L	07/03/19 15:28	08/20/19 09:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.7*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:02*	*1*
Y Carrier	*88.6*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:02*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.394**		0.311	0.313	5.00	0.377	pCi/L		08/21/19 07:46	1

Client Sample ID: EQBK-SCM-062519
Lab Sample ID: 180-92069-15

Date Collected: 06/25/19 16:05
Matrix: Water

Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.206	U	0.168	0.169	1.00	0.417	pCi/L	07/03/19 14:47	08/20/19 16:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.4*		*40 - 110*	*07/03/19 14:47*	*08/20/19 16:00*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00438	U	0.225	0.225	1.00	0.404	pCi/L	07/03/19 15:28	08/20/19 09:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.4*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:02*	*1*
Y Carrier	*89.0*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:02*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.211	U	0.281	0.281	5.00	0.417	pCi/L		08/21/19 07:46	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: EQBK-SCM-062619
Lab Sample ID: 180-92069-16
Date Collected: 06/26/19 16:05
Matrix: Water
Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0622	U	0.149	0.149	1.00	0.341	pCi/L	07/03/19 14:47	08/20/19 16:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.9*		*40 - 110*	*07/03/19 14:47*	*08/20/19 16:00*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.285	U	0.246	0.248	1.00	0.393	pCi/L	07/03/19 15:28	08/20/19 09:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.9*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:02*	*1*
Y Carrier	*88.6*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:02*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.223	U	0.288	0.289	5.00	0.393	pCi/L		08/21/19 07:46	1

Client Sample ID: EQBK-JMV-062519
Lab Sample ID: 180-92069-17

Date Collected: 06/25/19 16:10
Matrix: Water
Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.315	U	0.129	0.132	1.00	0.406	pCi/L	07/03/19 14:47	08/20/19 16:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.1*		*40 - 110*	*07/03/19 14:47*	*08/20/19 16:00*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0748	U	0.205	0.205	1.00	0.386	pCi/L	07/03/19 15:28	08/20/19 09:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.1*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:03*	*1*
Y Carrier	*87.1*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:03*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.389	U	0.242	0.244	5.00	0.406	pCi/L		08/21/19 07:46	1

Client: Wood E&I Solutions Inc
Job ID: 180-92069-1
Project/Site: AMEC CCR TMPA Gibbons Creek

Client Sample ID: EQBK-JMV-062619
Lab Sample ID: 180-92069-18
Date Collected: 06/26/19 16:10
Matrix: Water
Date Received: 06/28/19 09:00

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.130	U	0.141	0.141	1.00	0.355	pCi/L	07/03/19 14:47	08/20/19 17:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.4*		*40 - 110*	*07/03/19 14:47*	*08/20/19 17:43*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0610	U	0.216	0.217	1.00	0.402	pCi/L	07/03/19 15:28	08/20/19 09:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.4*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:03*	*1*
Y Carrier	*86.7*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:03*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.191	U	0.258	0.259	5.00	0.402	pCi/L		08/21/19 07:46	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-433618/18-A
Matrix: Water
Analysis Batch: 439521

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433618

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.07845	U	0.0527	0.0532	1.00	0.139	pCi/L	07/03/19 10:15	08/14/19 22:35	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.0*		*40 - 110*	*07/03/19 10:15*	*08/14/19 22:35*	*1*

Lab Sample ID: LCS 160-433618/1-A
Matrix: Water
Analysis Batch: 439520

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 433618

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	9.326		0.992	1.00	0.121	pCi/L	82	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.8*		*40 - 110*

Lab Sample ID: 180-92069-6 DU
Matrix: Water
Analysis Batch: 439521

Client Sample ID: SFL MW-2
Prep Type: Total/NA
Prep Batch: 433618

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	1.55			1.593		0.270	1.00	0.124	pCi/L			0.08	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*83.1*		*40 - 110*

Lab Sample ID: MB 160-433679/22-A
Matrix: Water
Analysis Batch: 440089

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433679

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1564	U	0.186	0.187	1.00	0.304	pCi/L	07/03/19 14:47	08/20/19 17:47	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.7*		*40 - 110*	*07/03/19 14:47*	*08/20/19 17:47*	*1*

Lab Sample ID: LCS 160-433679/1-A
Matrix: Water
Analysis Batch: 440089

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 433679

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	9.453		1.33	1.00	0.480	pCi/L	83	75 - 125		

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-433679/1-A
Matrix: Water
Analysis Batch: 440089

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 433679

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	74.0		40 - 110

Lab Sample ID: LCSD 160-433679/2-A
Matrix: Water
Analysis Batch: 440089

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 433679

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.4	9.452		1.26	1.00	0.325	pCi/L	83	75 - 125	0	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	85.6		40 - 110

Lab Sample ID: MB 160-435520/15-A
Matrix: Water
Analysis Batch: 440089

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 435520

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.2273	U	0.161	0.162	1.00	0.404	pCi/L	07/18/19 13:16	08/20/19 13:46	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	98.0		40 - 110	07/18/19 13:16	08/20/19 13:46	1

Lab Sample ID: LCS 160-435520/1-A
Matrix: Water
Analysis Batch: 440089

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 435520

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	12.96		1.63	1.00	0.440	pCi/L	86	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	82.2		40 - 110

Lab Sample ID: LCSD 160-435520/2-A
Matrix: Water
Analysis Batch: 440089

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 435520

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	12.77		1.55	1.00	0.299	pCi/L	84	75 - 125	0.06	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	94.9		40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-433646/18-A
Matrix: Water
Analysis Batch: 438157

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433646

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3304	U	0.271	0.273	1.00	0.430	pCi/L	07/03/19 10:58	08/05/19 13:11	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.0*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:11*	*1*
Y Carrier	*81.5*		*40 - 110*	*07/03/19 10:58*	*08/05/19 13:11*	*1*

Lab Sample ID: LCS 160-433646/1-A
Matrix: Water
Analysis Batch: 438157

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 433646

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.96	10.42		1.27	1.00	0.603	pCi/L	116	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.8*		*40 - 110*
Y Carrier	*71.0*		*40 - 110*

Lab Sample ID: 180-92069-6 DU
Matrix: Water
Analysis Batch: 438001

Client Sample ID: SFL MW-2
Prep Type: Total/NA
Prep Batch: 433646

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	6.02			7.598		1.03	1.00	0.550	pCi/L			0.81	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*83.1*		*40 - 110*
Y Carrier	*68.8*		*40 - 110*

Lab Sample ID: MB 160-433682/22-A
Matrix: Water
Analysis Batch: 440097

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433682

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3998	U	0.300	0.303	1.00	0.475	pCi/L	07/03/19 15:28	08/20/19 09:09	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.7*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:09*	*1*
Y Carrier	*86.7*		*40 - 110*	*07/03/19 15:28*	*08/20/19 09:09*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-433682/1-A
Matrix: Water
Analysis Batch: 440088

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 433682

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.92	9.239		1.14	1.00	0.487	pCi/L	104	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*74.0*		*40 - 110*
Y Carrier	*88.2*		*40 - 110*

Lab Sample ID: LCSD 160-433682/2-A
Matrix: Water
Analysis Batch: 440088

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 433682

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			8.92	9.546		1.14	1.00	0.475	pCi/L	107	75 - 125	0.13	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*85.6*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

Lab Sample ID: MB 160-435524/15-A
Matrix: Water
Analysis Batch: 439901

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 435524

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.06348	U	0.259	0.259	1.00	0.456	pCi/L	07/18/19 13:45	08/19/19 08:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.0*		*40 - 110*	*07/18/19 13:45*	*08/19/19 08:53*	*1*
Y Carrier	*84.9*		*40 - 110*	*07/18/19 13:45*	*08/19/19 08:53*	*1*

Lab Sample ID: LCS 160-435524/1-A
Matrix: Water
Analysis Batch: 439901

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 435524

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			12.9	13.79		1.62	1.00	0.647	pCi/L	107	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*82.2*		*40 - 110*
Y Carrier	*83.7*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-435524/2-A
Matrix: Water
Analysis Batch: 439901

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 435524

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			12.9	12.58		1.47	1.00	0.518	pCi/L	98	75 - 125	0.39	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*94.9*		*40 - 110*
Y Carrier	*80.7*		*40 - 110*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Lab Sample ID: 180-92069-6 DU
Matrix: Water
Analysis Batch: 440104

Client Sample ID: SFL MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Combined Radium 226 + 228	7.57			9.191		1.06	5.00	0.550	pCi/L			0.80	

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Prep Batch: 433618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-1	AP MW-1D	Total/NA	Water	PrecSep-21	
180-92069-2	AP MW-3	Total/NA	Water	PrecSep-21	
180-92069-3	AP MW-4	Total/NA	Water	PrecSep-21	
180-92069-4	AP MW-5	Total/NA	Water	PrecSep-21	
180-92069-5	AP MW-6	Total/NA	Water	PrecSep-21	
180-92069-6	SFL MW-2	Total/NA	Water	PrecSep-21	
180-92069-7	SFL MW-3	Total/NA	Water	PrecSep-21	
MB 160-433618/18-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-433618/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
180-92069-6 DU	SFL MW-2	Total/NA	Water	PrecSep-21	

Prep Batch: 433646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-1	AP MW-1D	Total/NA	Water	PrecSep_0	
180-92069-2	AP MW-3	Total/NA	Water	PrecSep_0	
180-92069-3	AP MW-4	Total/NA	Water	PrecSep_0	
180-92069-4	AP MW-5	Total/NA	Water	PrecSep_0	
180-92069-5	AP MW-6	Total/NA	Water	PrecSep_0	
180-92069-6	SFL MW-2	Total/NA	Water	PrecSep_0	
180-92069-7	SFL MW-3	Total/NA	Water	PrecSep_0	
MB 160-433646/18-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-433646/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
180-92069-6 DU	SFL MW-2	Total/NA	Water	PrecSep_0	

Prep Batch: 433679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-8	SFL MW-4	Total/NA	Water	PrecSep-21	
180-92069-10	SFL MW-7	Total/NA	Water	PrecSep-21	
180-92069-11	MNW-15	Total/NA	Water	PrecSep-21	
180-92069-12	MNW-18	Total/NA	Water	PrecSep-21	
180-92069-13	Dup 1	Total/NA	Water	PrecSep-21	
180-92069-14	Dup 2	Total/NA	Water	PrecSep-21	
180-92069-15	EQBK-SCM-062519	Total/NA	Water	PrecSep-21	
180-92069-16	EQBK-SCM-062619	Total/NA	Water	PrecSep-21	
180-92069-17	EQBK-JMV-062519	Total/NA	Water	PrecSep-21	
180-92069-18	EQBK-JMV-062619	Total/NA	Water	PrecSep-21	
MB 160-433679/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-433679/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-433679/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 433682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-8	SFL MW-4	Total/NA	Water	PrecSep_0	
180-92069-10	SFL MW-7	Total/NA	Water	PrecSep_0	
180-92069-11	MNW-15	Total/NA	Water	PrecSep_0	
180-92069-12	MNW-18	Total/NA	Water	PrecSep_0	
180-92069-13	Dup 1	Total/NA	Water	PrecSep_0	
180-92069-14	Dup 2	Total/NA	Water	PrecSep_0	
180-92069-15	EQBK-SCM-062519	Total/NA	Water	PrecSep_0	
180-92069-16	EQBK-SCM-062619	Total/NA	Water	PrecSep_0	
180-92069-17	EQBK-JMV-062519	Total/NA	Water	PrecSep_0	

Rad (Continued)

Prep Batch: 433682 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-18	EQBK-JMV-062619	Total/NA	Water	PrecSep_0	
MB 160-433682/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-433682/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-433682/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 435520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-9	SFL MW-5	Total/NA	Water	PrecSep-21	
MB 160-435520/15-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-435520/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-435520/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 435524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-92069-9	SFL MW-5	Total/NA	Water	PrecSep_0	
MB 160-435524/15-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-435524/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-435524/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Samuel Mason / Mac Vilas	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-101645-24956.1
Client Contact: Greg Seifert	Phone: 512-413-3876	E-Mail: gail.lage@testamericainc.com		Page: Page 1 of 3
Company: Wood E&I Solutions Inc				Job #: 5[illegible]
Address: 3755 South Capital of Texas Highway Suite 375	Due Date Requested:			
City: Austin	TAT Requested (days):			
State, Zip: TX, 78704				
Phone:	PO #: Purchase Order Requested			
Email: greg.seifert@woodplc.com	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: Texas	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, 904.0	9056A_ORGFM_28D - Chloride, Fluoride, Sulfate		6020A, 7470A		2540C_Calcd - Total Dissolved Solids		Total Number of containers	Note:
Preservation Code:							D	N		D	N				
AP MW-1D	6-25-19	1010	G	W			X	X		X	X				
AP MW-3	6-25-19	1600													
AP MW-4	6-27-19	1430													
AP MW-5	6-25-19	11:40													
AP MW-6	6-25-19	1325													
SFL MW-2	6-26-19	1500				X									
SFL MW-3	6-26-19	1015													
SFL MW-4	6-26-19	0900													
SFL MW-5	6-26-19	13:05													
SFL MW-7	6-26-19	0930													
MNW-15	6-26-19	11:35													

180-92069 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Samuel C. Mason	6-27-19 @1820	Wood	Debbie Watts	6-28-19	TAP-H
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 900	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Samuel Macon/Meg Vilas	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-101645-24956.2
Client Contact: Greg Seifert	Phone: 512-413-3876 SCM	E-Mail: gail.lage@testamericainc.com		Page: Page 2 of 3
Company: Wood E&I Solutions Inc				Job #: SCM
Address: 3755 South Capital of Texas Highway Suite 375	Due Date Requested:			
City: Austin	TAT Requested (days):			
State, Zip: TX, 78704				
Phone:	PO #: Purchase Order Requested			
Email: greg.seifert@woodplc.com	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: Texas	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, 904.0	9056A_ORGFM_28D - Chloride, Fluoride, Sulfate	6020A, 7470A	2540C_Calcd - Total Dissolved Solids	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MNW-18	6-26-19	1240	G	W			X	X	X	X		
DUP-1	6-25-19	-										
DUP-2	6-26-19	-										
EQBK-SCM-062519	6-25-19	1605										
EQBK-SCM-062619	6-26-19	1605										
EQBK-JMV-062519	6-25-19	1610										
EQBK-JMV-062619	6-26-19	1619										

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Samuel C. Macon	6-27-19 @ 1820 SCM	Wood	Allyn Watson	6-28-19 900	TAL PIT
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 180-367580.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: gail.lage@testamericainc.com	State of Origin: Texas	Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-92069-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 7/11/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: AMEC Gibbons Creek Stream	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0/PrecSep_0 Standard Target List	903.0/PrecSep_21 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
AP MW-1D (180-92069-1)	6/25/19	10:10 Central		Water			X	X	X	2	
AP MW-3 (180-92069-2)	6/25/19	16:00 Central		Water			X	X	X	2	
AP MW-4 (180-92069-3)	6/27/19	14:30 Central		Water			X	X	X	2	
AP MW-5 (180-92069-4)	6/25/19	11:40 Central		Water			X	X	X	2	
AP MW-6 (180-92069-5)	6/25/19	13:25 Central		Water			X	X	X	2	
SFL MW-2 (180-92069-6)	6/26/19	15:00 Central		Water			X	X	X	2	
SFL MW-2 (180-92069-6DU)	6/26/19	15:00 Central	DU	Water			X	X	X	4	
SFL MW-3 (180-92069-7)	6/26/19	10:15 Central		Water			X	X	X	2	
SFL MW-4 (180-92069-8)	6/26/19	09:00 Central		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 7/1/19 1700	Company: TA PIT	Received by:	Date/Time: 7-2-19	Company: TA STL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 180-367580.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: gail.lage@testamericainc.com	State of Origin: Texas	Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-92069-1
Address: 13715 Rider Trail North, .	Due Date Requested: 7/11/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: AMEC Gibbons Creek Stream	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0/PrecSep_0 Standard Target List	903.0/PrecSep_21 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
SFL MW-5 (180-92069-9)	6/26/19	13:05 Central		Water			X	X	X	2	
SFL MW-7 (180-92069-10)	6/26/19	09:30 Central		Water			X	X	X	2	
MNW-15 (180-92069-11)	6/26/19	11:35 Central		Water			X	X	X	2	
MNW-18 (180-92069-12)	6/26/19	12:40 Central		Water			X	X	X	2	
Dup 1 (180-92069-13)	6/25/19	Central		Water			X	X	X	2	
Dup 2 (180-92069-14)	6/26/19	Central		Water			X	X	X	2	
EQBK-SCM-062519 (180-92069-15)	6/25/19	16:05 Central		Water			X	X	X	2	
EQBK-SCM-062619 (180-92069-16)	6/26/19	16:05 Central		Water			X	X	X	2	
EQBK-JMV-062519 (180-92069-17)	6/25/19	16:10 Central		Water			X	X	X	2	

180-92069-01 Chain of Custody

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	7/1/19 1700	TA Pitt	[signature]	7-2-19 09:30	TA STL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 180-367580.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: gail.lage@testamericainc.com	State of Origin: Texas	Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-92069-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 7/11/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: AMEC CCR TMPA Gibbons Creek	Project #: 49013510			
Site: AMEC Gibbons Creek Stream	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0/PrecSep_0 Standard Target List	903.0/PrecSep_21 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
EQBK-JMV-062619 (180-92069-18)	6/26/19	16:10 Central		Water			X	X	X	2	

180-92069-02 Chain of Custody

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	7/1/19 1700	TA PITT	MHL	7-2-19 0930	TA STL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-92069-1

Login Number: 92069
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-92069-1

Login Number: 92069
List Number: 2
Creator: Hellm, Michael

List Source: Eurofins TestAmerica, St. Louis
List Creation: 07/02/19 10:52 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	20.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-92069-1

Login Number: 92069
List Number: 3
Creator: Hellm, Michael

List Source: Eurofins TestAmerica, St. Louis
List Creation: 07/02/19 10:59 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	20.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	