Annual Groundwater Monitoring and Corrective Action Report

Texas Municipal Power Agency Gibbons Creek Steam Electric Generating Station
Anderson, Texas

Prepared by:

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1. 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 began operating as a 405 Megawatt (MW) capacity power plant burning lignite from the adjacent Bryan Lignite No. 1 mine in 1983. In 1996, the GCSES converted to Powder River Basin coal and the lignite mine was closed.

The GCSES currently operates 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), that 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 receives solid CCR generated by the GCSES. The SSP was constructed in 1982 and began receiving CCR in 1987. The SSP is approximately 7.4 acres in size and 20 feet (ft.) deep. The AP consists of three interconnected ponds that began operation with the start-up of the GCSES in 1987. 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). This is the initial annual report and 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, 2017 through December 31, 2018.

This report contains a discussion of the groundwater monitoring networks for the CCR units, summarizes the 2018 groundwater monitoring events, presents groundwater analytical results, and discusses groundwater flow directions and rates at the CCR units. This report also documents the transition from detection monitoring to assessment monitoring.

2. Groundwater Monitoring

2.1 Monitoring Networks

The groundwater monitoring network at the GCSES is comprised of monitoring wells which are utilized for both water level measurements and groundwater sampling, and piezometers

which are utilized for water level measurements only. Groundwater monitoring networks are in place to monitor upgradient and downgradient groundwater quality at the SFL, AP, and SSP CCR units.

Well and piezometer construction details for groundwater monitoring networks at the CCR Units are summarized in Table 2.1. Borehole and Completion Logs are included in Appendix A.

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 feet below land surface. The elevations of screened intervals in monitoring wells completed in the uppermost aquifer range from approximately 250 feet to 220 feet above mean sea level (amsl). The screened intervals are generally completed in silty sands (SM) 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 on 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 feet below ground surface. The elevation of monitoring well screened intervals in the uppermost aquifer ranges from approximately 240 ft. above mean sea level (amsl) to 220 ft. amsl. The screened intervals are generally completed in silty sands (SM) and sandy clay (CH).

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 on 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 feet below ground surface. The screened intervals are generally completed in in silty sands (SM) and sandy clay (CH).

The general groundwater flow direction at the AP based on site data at the time of the monitoring well network installation indicated a 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 on 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

2.2 Transition from Detection Monitoring to Assessment Monitoring

A statistical evaluation of the groundwater quality data set for Appendix III constituents resulting from detection monitoring accordance with 40 CFR § 257.94 was completed in January 2018. The data set used in the evaluation resulted from the collection and laboratory analysis of eight independent samples from background and downgradient wells in accordance with 40 CFR § 257.94(b). The statistical evaluation was completed using the prediction limit statistical method outlined in 40 CFR § 257.93(f)(3) for the monitoring data obtained at the Site F Landfill, Scrubber Sludge Pond and Ash Pond CCR units. The statistical evaluation concluded that the data indicated initial statistically significant increases over background levels for Appendix III constituents at the Site F Landfill, Scrubber Sludge Pond and Ash Pond CCR units. A summary of the Appendix III constituents is presented in Table 2.2.

An assessment monitoring program was implemented based upon the results of the statistical evaluation. The first assessment monitoring event was conducted in March 2018.

2.3 Monitoring Events

Groundwater monitoring events were completed during March 2018 and June 2018. The well locations relative to each CCR unit, number of samples collected, and sampling dates are summarized in Table 2.3 for the SFL, Table 2.4 for the SSP, and Table 2.5 for the AP.

Groundwater monitoring was completed in accordance with the methods and procedures documented in the Field Sampling Plan dated October 16, 2017. Field data sheets completed during each of the sampling events are included in Appendix A. Laboratory analytical reports can be found in Appendix B.

2.3.1 March 2018 Event

The March 2018 groundwater monitoring event was an assessment monitoring event and was completed between March 19, 2018 and March 21, 2018. Groundwater samples were collected from monitoring wells at the SFL, SSP and AP CCR units. The groundwater samples were analyzed for all Appendix IV constituents. Water levels were measured in all monitoring wells on March 19, 2018 and groundwater samples were collected on March 20 and 21, 2018.

2.3.2 June 2018 Event

The June 2018 groundwater monitoring event was an assessment monitoring event and was completed between June 8, 2018 and June 13, 2018. 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 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, Mercury, Molybdenum, Radium
- SSP: Arsenic, Boron, Beryllium, Cadmium, Cobalt, Lead, Lithium, Thallium, Radium

Water levels were measured in all monitoring wells on June 7, 2018 and groundwater samples were collected between June 9, 2018 and June 13, 2018.

3. Groundwater Monitoring Data Summary

3.1 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 on 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 (%)

3.1.1 Site F Landfill

Groundwater level measurements for the SFL monitoring wells are included in Table 3.1. These measurements were completed on March 19, 2018 and June 7, 2018. Potentiometric surface maps for these sampling events are included as Figures 3.1 and 3.2, 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 0.0011 ft./day, or 0.40 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 0.010 ft./ft., and an estimated effective porosity of 25%.

3.1.2 Scrubber Sludge Pond

Groundwater level measurements for the SSP monitoring wells are included in Table 3.2. Groundwater elevations were generally consistent during the monitoring events. Groundwater levels varied by less than 0.5 feet in most wells. Potentiometric surface maps are included for March 19, 2018 (Figure 3.3) and June 7, 2018 (Figure 3.4).

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 0.365 ft./year. Groundwater flow velocity was determined using an estimated hydraulic conductivity value of 0.028 ft./day, the calculated hydraulic gradient of 0.009 ft./ft. and an estimated effective porosity of 25%.

3.1.3 Ash Ponds

Groundwater level measurements for the AP monitoring wells are included in Table 3.2. Groundwater elevations were generally consistent during the monitoring events. Groundwater levels varied by less than one foot in most wells. The potentiometric surface maps included for the SSP also illustrate the potentiometric surface at the AP on March 19, 2018 (Figure 3.3) and June 7, 2018 (Figure 3.4).

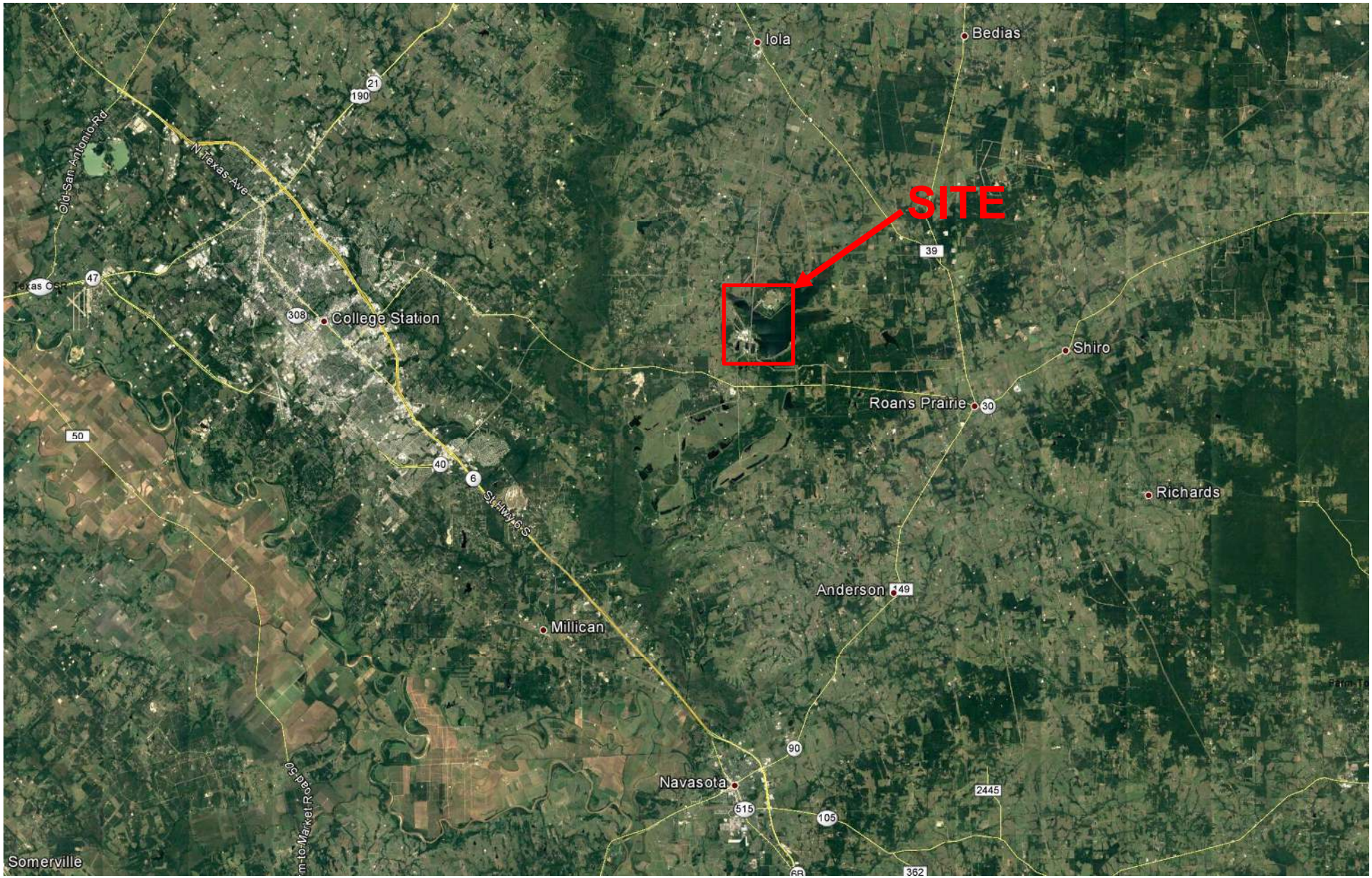
The groundwater flow direction within the AP is generally east with a north-easterly flow direction at the north end of the AP. The average linear velocity of groundwater flow to the east at the AP is 0.001 ft./day, or 0.32 ft./year. The groundwater flow in the eastern direction was calculated using an estimated hydraulic conductivity value of 28 ft./day, a hydraulic gradient of 0.020 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 0.008 ft./ft. and an estimated effective porosity of 25%.

3.2 Groundwater Quality

Laboratory analytical results for all sampling events are included in Appendix C.

Figures



0 5

Approximate Scale in Miles

SOURCE: GOOGLE EARTH

wood.

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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. 6706190003
Date: 1/24/2019

Figure 1.1

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

0 1 mi

Approximate Scale in Miles

Source: Google Earth

wood.

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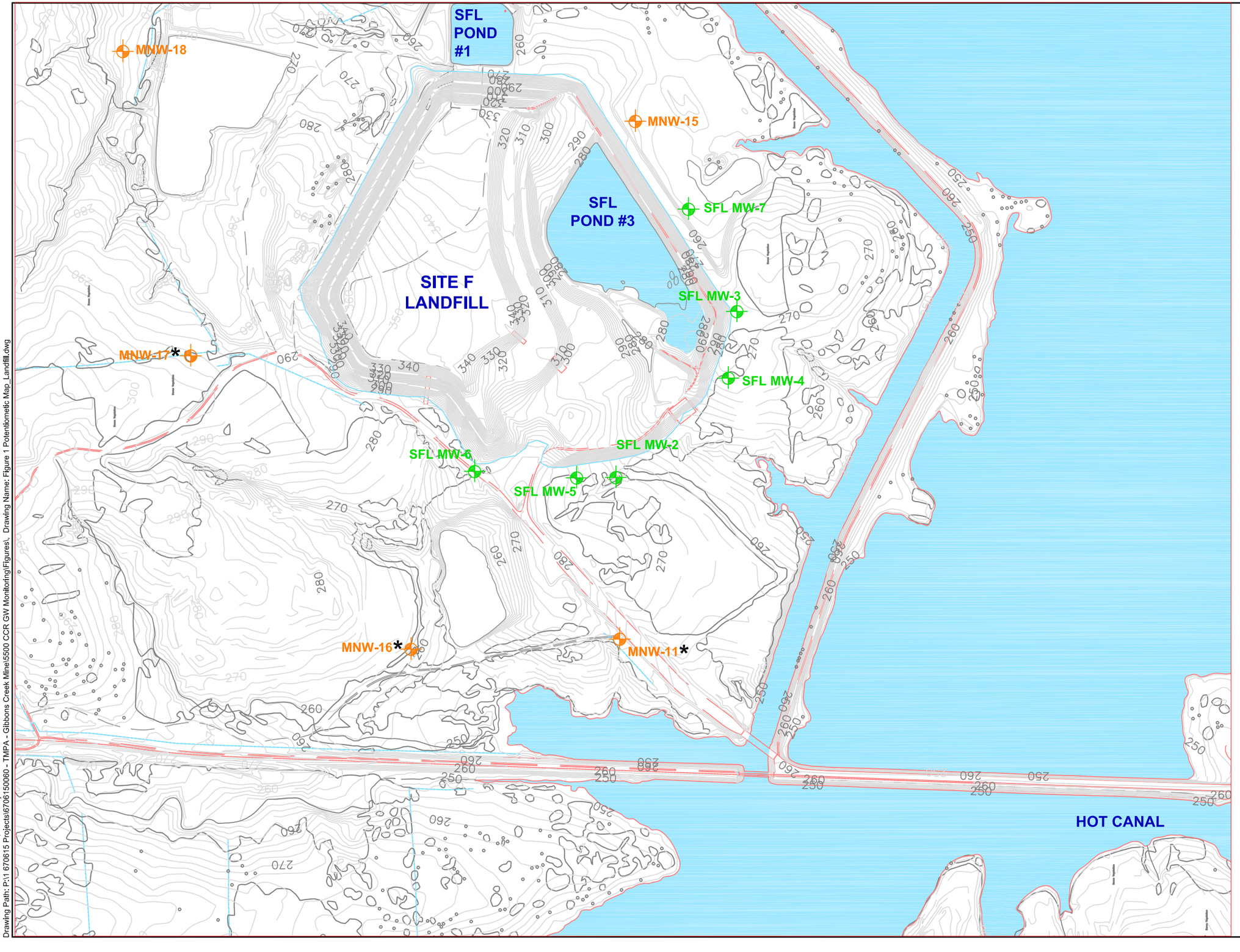
TX Engineering Firm #F-0012
TX Geoscience Firm #50184

CCR UNITS

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

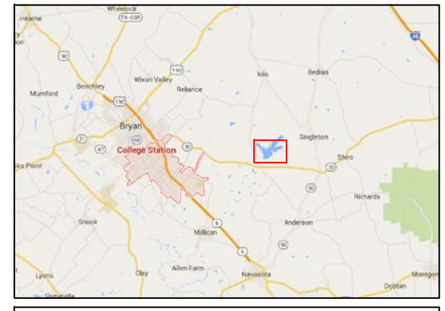
Project No. 6706190003
Date: 1/24/2019

Figure 1.2



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

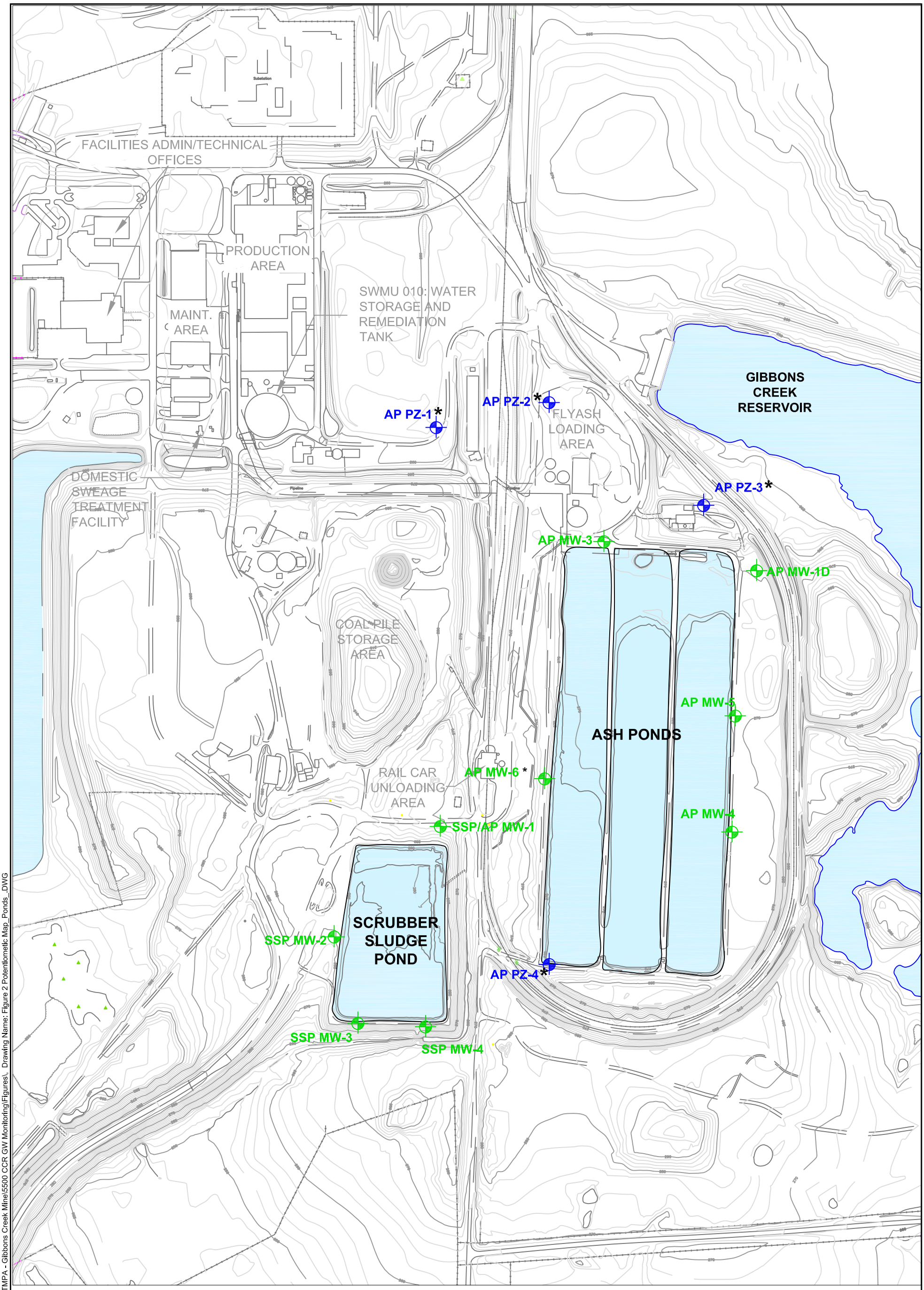
wood.
Environment & Infrastructure Solutions, Inc.
TX Engineering Firm F-0012

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

Project No. 6706190003
Date 1/24/2019

Figure 2-1

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



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.

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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 2.2

Plot Date: 01/29/19 - 8:09am, 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 Potentiometric Map_Ponds_.DWG

SFL POND #1

SFL POND #3

SITE F LANDFILL

MNW-15*
253.61

SFL MW-1
280.55

SFL MW-3
258.24

SFL MW-4
255.10

SFL MW-6
268.09

SFL MW-2
257.43

SFL MW-5
260.45

275'

270'

265'

260'

255'

HOT CANAL

LEGEND

- Monitoring Well
- 257.66 Measured Water Level (Ft. AMSL)
- Potentiometric Surface Contour in Ft. AMSL (Line Dashed Where Inferred)
- * Water Level Monitoring Only
- Indicates Groundwater Flow Direction

STATE OF TEXAS
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GEOLOGY
10077
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PROFESSIONAL GEOSCIENTIST

1/24/19

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
Groundwater Potentiometric Surface Map - March 19, 2018
Texas Municipal Power Agency
Gibbons Creek Steam Electric Station
Grimes County, Texas

Project No. 6706190003
Date: 01/24/2019

Figure 3.1

Plot Date: 01/26/19 - 10:24am, Plotted by: susan.l.brown
Drawing Path: P:\1 670618 Projects\6706180002 - TMPA 2018 CCR Tasks\Figures\, Drawing Name: Figure 1 Potentiometric Map_Landfill -2018.dwg

SFL POND #1

SFL POND #3

SITE F LANDFILL

MNW-15*
253.23

SFL MW-1
279.75

SFL MW-3
258.08

SFL MW-4
254.73

SFL MW-2
257.40

SFL MW-5
268.09

SFL MW-5
260.42

275'

270'

265'

260'

255'

HOT CANAL

LEGEND

- Monitoring Well
- 257.66 Measured Water Level (Ft. AMSL)
- Potentiometric Surface Contour in Ft. AMSL (Line Dashed Where Inferred)
- * Water Level Monitoring Only
- Indicates Groundwater Flow Direction

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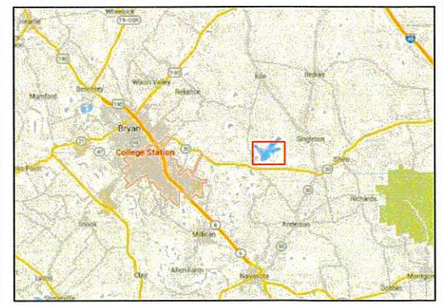
1/29/19



0 250 500
APPROXIMATE SCALE IN FEET

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

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SITE F LANDFILL
Groundwater Potentiometric Surface Map - June 7, 2018
Texas Municipal Power Agency
Gibbons Creek Steam Electric Station
Grimes County, Texas

Project No. 6706190003
Date: 01/24/2019

Figure 3.2

Plot Date: 01/26/19 - 10:18am, Plotted by: susan.l.brown
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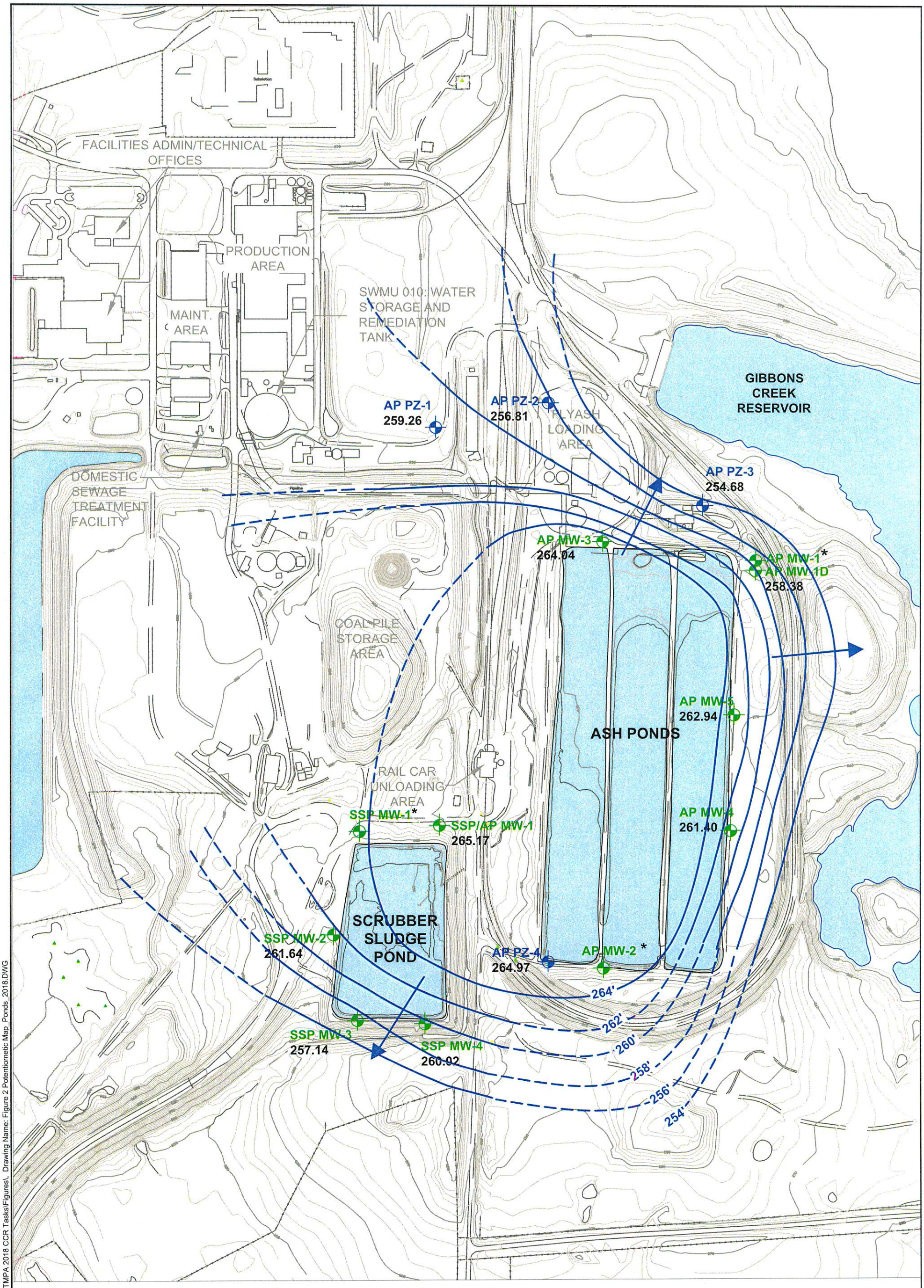

LEGEND

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

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1/29/19

0 200 400
Approximate Scale in Feet

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

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TX Engineering Firm F-0012
TX Geoscience Firm #50184

SCRUBBER SLUDGE POND AND ASH PONDS
Groundwater Potentiometric Surface Map - March 19, 2018
Texas Municipal Power Agency
Gibbons Creek Steam Electric Station
Grimes County, Texas

Project No.: 6706190003
Date: 01/24/2019

Figure 3.3

Plot Date: 01/26/19 - 10:48am, Plotted by: susan.l.brown
Drawing Path: P:\1 670618 Projects\6706180002 - TMPA 2018 CCR Tasks\Figures\, Drawing Name: Figure 2 Potentiometic Map_Ponds_2018.DWG

FACILITIES ADMIN/TECHNICAL OFFICES

PRODUCTION AREA

MAINT. AREA

SWMU 010: WATER STORAGE AND REMEDIATION TANK

AP PZ-1
257.98

AP PZ-2
256.15

FLYASH LOADING AREA

GIBBONS CREEK RESERVOIR

AP PZ-3
254.30

DOMESTIC SEWAGE TREATMENT FACILITY

AP MW-3
264.05

AP MW-1*
AP MW-1D
258.16

COAL PILE STORAGE AREA

AP MW-5
263.01

ASH PONDS

RAIL CAR UNLOADING AREA

SSP MW-1*

SSP/AP MW-1
264.74

AP MW-4
261.07

SCRUBBER SLUDGE POND

SSP MW-2
261.48

AP PZ-4
264.94

AP MW-2 *

264'

262'

260'

258'

256'

254'

SSP MW-3
256.38

SSP MW-4
259.49

LEGEND

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

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1/29/19

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 #50184

SCRUBBER SLUDGE POND AND ASH PONDS
Groundwater Potentiometric Surface Map - June 7, 2018
Texas Municipal Power Agency
Gibbons Creek Steam Electric Station
Grimes County, Texas

Project No.: 6706190003
Date: 01/24/2019

Figure 3.4

Plot Date: 01/26/19 - 10:53am, Plotted by: susan.l.brown
Drawing Path: P:\1 670618 Projects\6706180002 - TMPA 2018 CCR Tasks\Figures\, Drawing Name: Figure 2 Potentiometic Map_Ponds_2018.DWG

Tables

Table 2.1
Well Construction Details
2018 Annual Report
TMPA Gibbons Creek Steam Electric Station
Anderson, Texas

Well ID	Northing[1]	Easting[1]	Date Completed	Well Construction	Well Diameter (in.)	Borehole Diameter (in.)	Land Surface Elevation (ft. amsl)	Measuring Point Elevation (ft. amsl)	Total Well Depth (ft. below TOC)	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[2]	10213602.725	3635630.234	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	10213589.808	3635630.942	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[2]	10211823.900	3635006.796	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	10213665.476	3635026.590	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	10212415.597	3635562.990	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	10212901.968	3635577.940	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	10212689.394	3634726.766	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[2]	10214173.721	3634278.958	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[2]	10214308.029	3634847.514	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[2]	10213822.938	3635414.358	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[2]	10211826.931	3634752.131	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[2]	10212422.989	3633926.027	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	10212007.735	3633835.274	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	10211581.588	3633889.744	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	10211577.225	3634198.516	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	10212432.016	3634290.363	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	10222937.337	3638046.475	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	10220908.018	3636738.712	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	10220174.555	3637846.961	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	10220291.840	3637261.610	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	10221191.234	3636721.834	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	10221819.634	3636700.033	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	10220517.925	3638408.836	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[2]	10220909.018	3635624.897	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	10220778.128	3638974.095	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[2]	10222188.729	3635593.380	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[2]	10223663.517	3637468.447	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	10224118.439	3639397.902	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

[1]Datum - NAD 83 (Conus)

[2]Water level monitoring only, not used in groundwater quality monitoring

Table 2.2
Summary of Appendix III Constituents
with Initial Statistically Significant
Increases Above Background

CCR Unit	**Appendix III Constituents**
Site F Landfill	Calcium, Chloride, Total Dissolved Solids
Scrubber Sludge Pond	Boron, Calcium, Chloride, Total Dissolved Solids
Ash Ponds	Boron

Table 2.3
Site F Landfill Groundwater Sampling Summary
2018 Annual Report
TMPA Gibbons Creek Steam Electric Station
Anderson, Texas

Well	Location	Monitoring Program	Number of Samples*	Sample Collection Dates	
MNW-18	Upgradient	Assessment	2	3/20/2018	06/08/18
SFL MW-2	Downgradient	Assessment	2	3/20/2018	06/12/18
SFL MW-3	Downgradient	Assessment	2	3/20/2018	06/12/18
SFL MW-4	Downgradient	Assessment	2	3/20/2018	06/12/18
SFL MW-5	Downgradient	Assessment	2	3/20/2018	06/08/18
SFL MW-6	Downgradient	Assessment	2	3/20/2018	06/08/18
SFL MW-7	Downgradient	Assessment	2	3/20/2018	06/12/18
MNW-15	Downgradient	Assessment	2	3/20/2018	06/12/18

* does not include duplicate samples for QA

Table 2.4
Scrubber Sludge Pond Groundwater Sampling Summary
2018 Annual Report
TMPA Gibbons Creek Steam Electric Station
Anderson, Texas

Well	Location	Monitoring Program	Number of Samples*	Sample Collection Dates	
SSP/AP MW-1	Upgradient	Assessment	2	3/21/2018	06/09/18
SSP MW-2	Downgradient	Assessment	2	3/20/2018	06/09/18
SSP MW-3	Downgradient	Assessment	2	3/21/2018	06/11/18
SSP MW-4	Downgradient	Assessment	2	3/21/2018	06/11/18

* does not include duplicate samples for QA

Table 2.5
Ash Ponds Groundwater Sampling Summary
2018 Annual Report
TMPA Gibbons Creek Steam Electric Station
Anderson, Texas

Well	Location	Monitoring Program	Number of Samples*	Sample Collection Dates	
SSP/AP MW1	Upgradient	Assessment	2	3/21/2018	06/09/18
AP MW-1D	Downgradient	Assessment	2	3/21/2018	06/13/18
AP MW-3	Downgradient	Assessment	2	3/20/2018	06/08/18
AP MW-4	Downgradient	Assessment	2	3/21/2018	06/13/18
AP MW-5	Downgradient	Assessment	2	3/21/2018	06/13/18

* does not include duplicate samples for QA

Table 3.1
Site F Landfill Groundwater Elevation Summary
2018 Annual Report
TMPA Gibbons Creek Steam Electric Station
Anderson, Texas

Well	Date	Depth to Water (ft. below MP)	Measuring Point Elevation[1] (ft. amsl)	Water Level Elevation (ft. amsl)
MNW-11	3/19/2018	19.74	268.12	248.38
	6/7/2018	19.97	268.12	248.15
MNW-15	3/19/2018	3.93	257.54	253.61
	6/7/2018	4.31	257.54	253.23
MNW-16	3/19/2018	12.31	263.33	251.02
	6/7/2018	12.62	263.33	250.71
MNW-17	3/19/2018	33.13	293.86	260.73
	6/7/2018	45.47	293.86	248.39
MNW-18	3/19/2018	8.42	270.91	262.49
	6/7/2018	8.93	270.91	261.98
SFL MW-2	3/19/2018	10.88	268.31	257.43
	6/7/2018	10.91	268.31	257.40
SFL MW-3	3/19/2018	16.76	275.00	258.24
	6/7/2018	16.92	275.00	258.08
SFL MW-4	3/19/2018	14.43	269.53	255.10
	6/7/2018	14.80	269.53	254.73
SFL MW-5	3/19/2018	15.79	276.25	260.46
	6/7/2018	15.83	276.25	260.42
SFL MW-6	3/19/2018	18.30	286.66	268.36
	6/7/2018	18.57	286.66	268.09
SFL MW-7	3/19/2018	12.97	264.83	251.86
	6/7/2018	13.13	264.83	251.70

Table 3.2
Scrubber Sludge Pond and Ash Ponds Groundwater Elevation Summary
2018 Annual Report
TMPA Gibbons Creek Steam Electric Station
Anderson, Texas

Well	Date	Depth to Water (ft. below MP)	Measuring Point Elevation[1] (ft. amsl)	Water Level Elevation (ft. amsl)
SSP/AP MW-1	3/19/2018	7.36	272.53	265.17
	6/7/2018	7.79	272.53	264.74
SSP MW-2	3/19/2018	22.02	283.66	261.64
	6/7/2018	22.18	283.66	261.48
SSP MW-3	3/19/2018	26.83	283.97	257.14
	6/7/2018	27.59	283.97	256.38
SSP MW-4	3/19/2018	23.84	283.86	260.02
	6/7/2018	24.37	283.86	259.49
AP MW-1D	3/19/2018	13.66	272.04	258.38
	6/7/2018	13.88	272.04	258.16
AP MW-3	3/19/2018	10.64	274.68	264.04
	6/7/2018	10.62	274.68	264.06
AP MW-4	3/19/2018	12.76	274.16	261.40
	6/7/2018	13.09	274.16	261.07
AP MW-5	3/19/2018	11.19	274.13	262.94
	6/7/2018	11.12	274.13	263.01
AP MW-6	3/19/2018	15.76	277.95	262.19
	6/7/2018	16.54	277.95	261.41
AP PZ-1	3/19/2018	6.41	265.67	259.26
	6/7/2018	7.69	265.67	257.98
AP PZ-2	3/19/2018	18.10	274.91	256.81
	6/7/2018	18.76	274.91	256.15
AP PZ-3	3/19/2018	4.43	259.11	254.68
	6/7/2018	4.81	259.11	254.30
AP PZ-4	3/19/2018	8.68	273.65	264.97
	6/7/2018	8.71	273.65	264.94

Appendix A
Field Data Forms

WELL SAMPLING AND/OR DEVELOPMENT RECORD

amec foster wheeler

Well ID: MW-15
Sample ID: – Duplicate ID: –
Sample Depth: –
Project and Task No.: 670618C002
Project Name: TMA GC Mine CCR
Date: 3-20-18
Sampled By: SCM
Method of Purging: Low flow sub
Method of Sampling: Low flow sub

Initial Depth to Water: 4.33'
Depth to Water after Sampling: 4.55'
Total Depth to Well: –
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 color/odor
0837									Start pump
0845		~150		17.97	3.62	3.84	3.12	352	335 Light tan/mild hydrocarbon odor
0850				18.69	3.61	3.90	0.22	319	101 clearing
0855				18.80	3.61	3.95	0.11	316	56.4 "
0900				18.74	3.61	4.00	0.00	315	11.4 clear
0905				18.05	3.61	4.01	0.00	314	2.5 "
★ 0910			~1.5	18.99	3.61	4.04	0.00	315	0.0 " odor still present

→ Sampled @ 0910

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

amec foster wheeler

Well ID: MNW-18
Sample ID: _____ Duplicate ID: _____
Sample Depth: 48.5'
Project and Task No.: 6706180002.30
Project Name: TMPA-Gibbons Creek
Date: March 20, 2018
Sampled By: BL
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 8.39'
Depth to Water after Sampling: 11.75'
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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
0846	48.5	≈150		19.05	6.74	4.95	0.14	-74	42.6	Clear; slight sulfur odor
0851	↓	↓		19.03	6.81	4.96	0.0	-87	28.8	↓
0856				19.01	6.85	4.95	0.0	-93	21.8	
0901				19.01	6.86	4.94	0.0	-95	12.1	
0906				18.96	6.87	4.93	0.0	-96	4.2	
0911	↓	↓	≈1.5	19.00	6.86	4.92	0.0	-96	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 %		DO sensor not working
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

amec foster wheeler

Well ID: SFL MW-7
Sample ID: - Duplicate ID: DUP-1
Sample Depth: -
Project and Task No.: 6106680002
Project Name: TMPA GC Mine CCR
Date: 3-20-18
Sampled By: SCM
Method of Purging: Low flow sub
Method of Sampling: Low flow sub.

Initial Depth to Water: 13.06'
Depth to Water after Sampling: 13.59'
Total Depth to Well: -
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)
0942									MU color/odor
0950		~150		19.55	6.62	6.95	0.98	-128	43.6 Start Pump / Mod. HC odor
1955				19.60	6.50	8.73	0.41	-107	2.9 clear
1000				19.85	6.48	9.05	0.38	-99	0.0 "
1005				20.02	6.48	9.16	0.32	-100	0.0 "
☆☆ 1010			~1.5	20.43	6.47	9.21	0.29	-102	0.0 "

→ Sampled @ 1010

→ DUP-1 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

amec foster wheeler

Well ID: SFL MW-6
Sample ID: _____ Duplicate ID: _____
Sample Depth: 21.0'
Project and Task No.: 6706180002.30
Project Name: TMPA-Gibbons Creek
Date: March 20, 2018
Sampled By: BM
Method of Purging: low flow
Method of Sampling: peristaltic

Initial Depth to Water: 18.46'
Depth to Water after Sampling: 20.83'
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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1008	21.0'	125		20.65	4.06	13.0	0.21	422	15.4	Clear; no odor
1013	↓	↓		20.86	4.01	12.2	0.0	445	12.0	↓
1018				21.07	3.99	13.0	0.0	457	6.6	
1023				21.33	3.98	13.0	0.0	461	2.9	
1028				21.16	3.95	13.1	0.0	461	0.0	
1033	↓	↓	≈1.0	21.05	3.94	13.1	0.0	463	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 %		DO sensor not working
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

amec foster wheeler

Well ID: SFL MW-5
Sample ID: _____ Duplicate ID: _____
Sample Depth: ≈ 22'
Project and Task No.: 6706180002.30
Project Name: TMPA - Gibbons Creek
Date: March 20, 2018
Sampled By: BM
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 16.08'
Depth to Water after Sampling: 18.19'
Total Depth to Well: 24.3'
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 (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1119	≈22	≈150		21.06	4.75	11.4	0.64	369	39.3 Clear; no odor
1124	↓	↓		20.83	4.74	11.4	0.15	373	13.2 ↓
1129				21.58	4.72	11.4	0.0	369	9.6
1134				21.71	4.69	11.4	0.0	369	4.5
1139				21.91	4.68	11.4	0.0	368	2.1
1144	↓	↓	≈1.25	21.98	4.67	11.4	0.0	367	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 %		No DO readings
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

amec foster wheeler

Well ID: SFL MW-3
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 670618A002
Project Name: TMPA GC Mine CCR
Date: 3-20-18
Sampled By: SCM
Method of Purging: Low flow sub
Method of Sampling: Low flow sub

Initial Depth to Water: 17.17'
Depth to Water after Sampling: 17.85'
Total Depth to Well: —
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 / color/odor
1100									Pump started
1110		~150		21.03	3.81	7.05	3.66	442	780 cloudy/tan
1115				22.05	3.82	7.00	0.71	425	512 mild HC odor
1120				22.07	3.81	7.04	0.28	417	303 clearing
1125				22.00	3.82	7.04	0.15	414	201 "
1130				22.26	3.82	7.01	0.05	411	116 "
1135				22.32	3.83	7.01	0.00	411	73.9 "
1140				22.32	3.83	7.00	0.00	411	51.9 NTU hovering
★ 1145			~2.0	22.49	3.83	6.98	0.00	410	40.6 ~ 50
									for ~~10~~ 5 min
									Slow to get
		★ Sampled @ 1145							below 40 NTU

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

amec foster wheeler

Well ID: SFL MW-4
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 671061800002
Project Name: TMPA GC Mine CCR
Date: 3-20-18
Sampled By: SCM
Method of Purging: Low flow Sub.
Method of Sampling: Low flow sub.

Initial Depth to Water: 14.67'
Depth to Water after Sampling: 16.35'
Total Depth to Well: —
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 / Color / odor
1214									Start Pump
1225		~125		20.87	6.36	8.13	1.47	82	1.9 clear
1230				20.99	6.33	8.20	0.92	72	0.0 "
1235				21.39	6.31	8.18	0.78	62	0.0 "
1240				21.57	6.32	8.16	0.98	58	0.0 "
1245				21.58	6.32	8.14	1.07	58	0.0 "
1250			~2.5	21.62	6.31	8.14	0.97	56	0.0 "

Sampled @ 1250

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.:		

1435

Document1

★ EQBK/SCM/032018 Taken @ 1435

WELL SAMPLING AND/OR DEVELOPMENT RECORD

amec foster wheeler

Well ID: SFL MW-2
Sample ID: _____ Duplicate ID: _____
Sample Depth: ≈21.0'
Project and Task No.: 6706180002.30
Project Name: TMPA-Gibbons Creek
Date: March 20, 2018
Sampled By: BG
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 11.20'
Depth to Water after Sampling: 12.26' ~~(after sample, before MS/MSD)~~ BG
Total Depth to Well: 23.6'
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 (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1228	≈21.0'	150		22.50	6.13	9.40	1.51	251	76.1	Clear; no odor
1233	↓	↓		22.57	6.17	9.40	0.0	244	36.4	↓
1238				22.98	6.19	9.40	0.0	238	17.1	
1243				23.14	6.21	9.40	0.0	234	10.8	
1248				23.03	6.24	9.41	0.0	231	5.0	
1253	↓	↓	≈1.25	23.12	6.25	9.41	0.0	229	1.8	↓
				Samples Taken					
1345 — EQBK-BG-032018 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 %		~~MS/MSD collected~~
Field Temperature °C		Field Temperature °C		~~DTW after MS/MSD; BG~~
Instrument Reading (mV)		Instrument Reading (mg/L)		battery died during (MS/MSD) collection; MS/MSD sample discarded; No DO readings
Model or Unit No.:		Model or Unit No.:		

WELL SAMPLING AND/OR DEVELOPMENT RECORD

amec foster wheeler

Well ID: AP MW-3
Sample ID: _____ Duplicate ID: _____
Sample Depth: ≈41.0'
Project and Task No.: 670618000230
Project Name: TMPA-Gibbons Creek
Date: March 20, 2018
Sampled By: BH
Method of Purging: low flow
Method of Sampling: peristaltic

Initial Depth to Water: 10.94'
Depth to Water after Sampling: 11.36'
Total Depth to Well: 43.41'
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 (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1500	≈41.0'	150		23.89	5.27	1.90	4.39	255	0.0 Clear; no odor
1505	↓	↓		23.59	5.12	1.87	0.04	289	0.0 ↓
1510				23.50	5.09	1.86	0.0	301	0.0
1515				23.63	5.09	1.84	0.0	305	0.0
1520				23.38	5.09	1.83	0.0	308	0.0
1525			≈1.5	23.49	5.09	1.83	0.0	309	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 %		DO sensor not working
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

amec foster wheeler

Well ID: SSP MW-2
Sample ID: _____ Duplicate ID: _____
Sample Depth: _____
Project and Task No.: 670618 0002
Project Name: TMPA GC Mine CCR
Date: 3-20-18
Sampled By: SCM
Method of Purging: Low flow Sub
Method of Sampling: Low flow Sub.

Initial Depth to Water: 22.13
Depth to Water after Sampling: 23.28
Total Depth to Well: _____
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)
1600									NTU / Color / odor
1610		~150	~~2.75~~	21.54	4.71	10.1	0.09	195	297 Start pump cloudy white
1615				21.79	4.70	10.0	0.02	190	260 "
1620				22.06	4.69	9.99	0.00	196	196 clearing
1625				22.14	4.68	9.98	0.00	205	168.3 "
1630				22.42	4.67	9.96	0.00	213	78.2 "
1635				22.48	4.67	9.97	0.00	220	68.5 "
★ 1640			~2.0	22.51	4.66	9.97	0.00	224	67.1 Nearly clear

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 %		NTU Lowest ≈ 67.0
Field Temperature °C		Field Temperature °C		Hovered 68 for
Instrument Reading (mV)		Instrument Reading (mg/L)		>5 Min.
Model or Unit No.:		Model or Unit No.:		

WELL SAMPLING AND/OR DEVELOPMENT RECORD

amec foster wheeler

Well ID: AP MW-1D
Sample ID: _____ Duplicate ID: _____
Sample Depth: 41.5'
Project and Task No.: 6706180002.30
Project Name: TMPA - Gibbons Creek
Date: March 21, 2018
Sampled By: BM
Method of Purging: low flow
Method of Sampling: Submersible

Initial Depth to Water: 14.16'
Depth to Water after Sampling: 14.45'
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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
0914	41.5'	150		20.53	5.82	1.94	2.24	107	76.8 Clear; slight sulfur odor
0919	↓	↓		20.24	5.82	1.93	0.76	66	114 Slightly cloudy; " "
0924				20.47	5.80	1.94	0.40	68	89.6 Clear; " " "
0929				20.66	5.80	1.95	0.11	76	48.6 ↓
0934				20.88	5.81	1.96	0.0	86	22.8
0939	↓	↓	≈1.5	20.93	5.81	1.96	0.0	94	9.4 ↓
				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 %		No DO readings
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

amec foster wheeler

Well ID: SS MW-3
Sample ID: — Duplicate ID: DUP-2
Sample Depth: —
Project and Task No.: 670618.1002
Project Name: TMPA GC Mine CCR
Date: 3-21-18
Sampled By: SCM
Method of Purging: Low flow Sub.
Method of Sampling: Low flow Sub.

Initial Depth to Water: 27.36'
Depth to Water after Sampling: 28.95'
Total Depth to Well: —
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)
									NM Color / Odor
0855									→ Start Pump
0910		~150		21.11	4.24	8.83	0.31	258	477 cloudy white
0915				21.87	4.26	8.87	0.28	229	329 "
0920				21.37	4.27	8.87	0.24	215	250 "
0925				21.07	4.27	8.80	0.20	219	160 clearing
0930				21.11	4.26	8.75	0.18	238	118 "
0935				21.41	4.26	8.69	0.14	256	92.0 clearing
0940				21.60	4.26	8.67	0.12	267	72.5 "
0945				21.79	4.26	8.67	0.11	274	62.0 "
★ 0950			~2.5	21.91	4.26	8.67	0.09	282	~~49.1~~ "

→ Sampled @ 0950

★ → DUP-2 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

amec foster wheeler

Well ID: SSP MW-4
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 671618 0002
Project Name: TMPA GC Mine CCR
Date: 3-21-18
Sampled By: SCM
Method of Purging: Low flow sub
Method of Sampling: Low flow sub.

Initial Depth to Water: 24.10'
Depth to Water after Sampling: 25.61'
Total Depth to Well: —
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	color/odor
1050										Start Pump
1105		~150		22.48	6.25	5.71	0.42	-17	116	Mild HC odor
1110				22.66	6.26	5.70	0.34	-22	88.5	"
1115				22.79	6.27	5.71	0.26	-27	65.7	clearing
1120				23.18	6.27	5.69	0.19	-28	55.5	"
1125				23.48	6.27	5.69	0.15	-27	43.6	"
1130			~2.0	23.64	6.26	5.69	0.14	-25	38.5	clear

Sampled @ 1130

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

amec foster wheeler

Well ID: AP MW-5
Sample ID: _____ Duplicate ID: _____
Sample Depth: ≈40.5'
Project and Task No.: 6706180002.30
Project Name: TMPA-Gibbons Creek
Date: March 21, 2018
Sampled By: BA
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 11.58'
Depth to Water after Sampling: 12.42' (after sample; before MS/MSD)
Total Depth to Well: 43.1'
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 (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1130	≈40.5'	150		21.78	4.15	2.22	4.50	106	164 Slightly Cloudy; no odor
1135	↓	↓		21.88	4.13	2.11	0.37	118	134 " "
1140				22.27	4.17	1.99	0.0	134	113 Clearing; no odor
1145				22.73	4.20	1.92	0.0	150	107 ↓
1150				23.24	4.24	1.87	0.0	162	98.9 ↓
1155				23.72	4.26	1.84	0.0	170	73.8 Clear; no odor
1200				23.76	4.24	1.83	0.0	180	58.1 ↓
1205				23.84	4.23	1.83	0.0	184	39.4 ↓
1210	↓	↓	≈2.0	24.01	4.22	1.83	0.0	188	27.2 ↓
		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 %		MS/MSD collected
Field Temperature °C		Field Temperature °C		DTW after MS/MSD: 12.44'
Instrument Reading (mV)		Instrument Reading (mg/L)		
Model or Unit No.:		Model or Unit No.:		DO sensor not functioning

WELL SAMPLING AND/OR DEVELOPMENT RECORD

amec foster wheeler

Well ID: AP MW-6
Sample ID: _____ Duplicate ID: _____
Sample Depth: ≈ 45.5'
Project and Task No.: 6706180002.30
Project Name: TMPA-Gibbons Creek
Date: March 21, 2018
Sampled By: BM
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 16.26'
Depth to Water after Sampling: 17.08'
Total Depth to Well: 48.1'
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 (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1316	≈45.5'	≈175		25.71	6.35	4.85	3.03	-87	52.6 Clear; slight sulfur odor
1321	↓	↓		25.47	6.49	5.10	0.0	-127	83.8 slightly cloudy; " " "
1326				26.05	6.49	5.14	0.0	-132	42.0 Clear; " " "
1331				25.81	6.45	5.21	0.0	-140	26.7 ↓
1336				25.37	6.41	5.27	0.0	-156	22.3
1341				24.96	6.38	5.28	0.0	-167	3.1
1346	↓	↓	≈1.75	24.78	6.38	5.29	0.0	-174	1.9 ↓
		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 %		DO sensor 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

amec foster wheeler

Well ID: SSP/AP MW-1
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 6716182002
Project Name: TMPA GR Mine CCR
Date: 3-20-18
Sampled By: SCM
Method of Purging: Low flow Sub
Method of Sampling: Low flow Sub

Initial Depth to Water: 7.77
Depth to Water after Sampling:
Total Depth to Well: —
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 / Color/odor
1254		~150							Start Pump
1305		~150		22.62	5.94	8.67	0.50	132	510 Tan, visible turb.
1310				22.51	5.95	8.67	0.22	137	817 NTU rising
~~1315~~									NTU Dropping Slow
~~1320~~									

~~Developed Well~~
Turbidity >1000
Until Well Dry
NO SAMPLE Taken (will sample tomorrow)

pH CALIBRATION (choose two)				
Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Field Temperature °C				
Instrument Reading				

Model or Unit No.:

SPECIFIC ELECTRICAL CONDUCTANCE (SEC) – CALIBRATION			
KCl Solution (µS/cm=µmhos/cm)	1413 at 25°C	12880 at 25°C	
Field Temperature °C			
Instrument Reading			

Model or Unit No.:

ORP/REDOX CALIBRATION	
Standard Solution (mV)	
Field Temperature °C	
Instrument Reading (mV)	
Model or Unit No.:	

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

Notes:
Not Sampled
will tomorrow after recharge

WELL SAMPLING AND/OR DEVELOPMENT RECORD

amec foster wheeler

Well ID: SSP/AP MW-1
Sample ID: — Duplicate ID: —
Sample Depth: —
Project and Task No.: 670618000 2
Project Name: TMPA GC Mine CCR
Date: 3-21-18
Sampled By: SCM
Method of Purging: Low flow Sub.
Method of Sampling: Low flow Sub.

Initial Depth to Water: 8.17'
Depth to Water after Sampling:
Total Depth to Well: —
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)
1220		~150							NTU color/odor → Start pump
↓	NTU	71000;	Waiting	to	take	readings	when		NTU < 300
1300		~150		22.96	5.73	9.22	0.04	5	264 Cloudy White
1305				23.11	5.73	9.23	0.03	8	204 Mild HC odor
1310				23.01	5.72	9.24	0.03	9	167 "
1315				23.19	5.71	9.28	0.04	10	137 "
1320				23.17	5.71	9.26	0.05	9	119 "
1325				23.11	5.71	9.33	0.03	4	107 "
1330				23.39	5.70	9.32	0.00	12	87.3 Clearing
1335				23.29	5.70	9.30	0.00	17	76.8 "
1340				23.10	5.70	9.30	0.00	13	67.8 "
1345				23.26	5.70	9.27	0.00	14	53.9 "
1350				23.30	5.69	9.27	0.00	15	48.0 Clear

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

Sampled @ 1350

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.:		

1430

Document1

EQBK/SCM/032118 Taken @ 1430

WELL SAMPLING AND/OR DEVELOPMENT RECORD

amec foster wheeler

Well ID: AP MW-4
Sample ID: _____ Duplicate ID: _____
Sample Depth: 50.3'
Project and Task No.: 6706180002.30
Project Name: TMPA-Gibbons Creek
Date: March 21, 2018
Sampled By: BSA
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 13.11'
Depth to Water after Sampling: 14.22'
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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1436	50.3'	150		23.27	5.67	4.94	2.26	47	94.5	lt. straw color; no odor
1441	↓	↓		23.75	5.63	4.93	0.0	66	58.0	clear; no odor
1446				24.06	5.60	4.95	0.0	87	39.7	↓
1451				23.98	5.60	4.94	0.0	99	9.7	
1456				24.04	5.61	4.92	0.0	108	3.2	
1501	↓	↓	≈1.5	24.06	5.62	4.93	0.0	110	0.0	↓
→ Samples Taken →									
1545 — EQBK-BG-032118 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 collected
Field Temperature °C		Field Temperature °C		No DO readings
Instrument Reading (mV)		Instrument Reading (mg/L)		
Model or Unit No.:		Model or Unit No.:		

WELL SAMPLING AND/OR DEVELOPMENT RECORD

amec foster wheeler

Well ID: AP MW-3
Sample ID: _____ Duplicate ID: _____
Sample Depth: 41.0'
Project and Task No.: 6706180002.30
Project Name: TMPA-Gibbons Creek
Date: June 8, 2018
Sampled By: BJ
Method of Purging: low flow
Method of Sampling: peristaltic

Initial Depth to Water: 10.78'
Depth to Water after Sampling: 11.23'
Total Depth to Well: ~~40.2'~~ BJ 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 (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
0950	41.0'	200		25.28	5.06	1.87	3.14	265	1.5 Clear; no odor
0955	↓	↓		25.18	5.06	1.87	1.84	279	3.4 ↓
1000				24.98	5.11	1.86	1.41	285	8.1
1005				24.92	5.12	1.85	1.22	299	12.3
1010				24.86	5.12	1.85	1.10	306	16.2
1015				24.83	5.12	1.84	Ø.99	304	22.3
1020	↓	↓	≈1.75	24.89	5.12	1.83	Ø.93	303	28.1 ↓
				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

amec foster wheeler

Well ID: SFL MW-6
Sample ID: _____ Duplicate ID: _____
Sample Depth: 21.0'
Project and Task No.: 6706180002.30
Project Name: TMPA - Gibbons Creek
Date: June 8, 2018
Sampled By: BJ
Method of Purging: low flow
Method of Sampling: peristaltic

Initial Depth to Water: 18.65'
Depth to Water after Sampling: 20.82
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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1125	21.0'	≈125		26.47	4.02	13.2	1.45	480	2.3 Clear; no odor
1130	↓	↓		26.48	4.01	13.2	1.12	482	1.1 ↓
1135				26.36	3.98	13.2	0.94	485	1.1
1140				26.79	3.97	13.2	0.88	484	1.4
1145				26.69	3.96	13.3	0.85	478	1.5
1150	↓	↓	≈1.0	26.54	3.95	13.3	0.84	478	0.9 ↓
				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

amec foster wheeler

Well ID: MNW-18
Sample ID: _____ Duplicate ID: _____
Sample Depth: 48.5'
Project and Task No.: 670618000J.30
Project Name: TMPA - Gibbons Creek
Date: June 8, 2018
Sampled By: BA
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 8.96'
Depth to Water after Sampling: 12.42'
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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1440	48.5	200		24.69	6.75	4.89	2.85	-73	5.6 clear; no odor
1445	↓	↓		25.45	6.71	4.93	1.78	-82	3.8 clear; sl. sulfur odor
1450				25.49	6.74	4.97	1.26	-86	3.6
1455				25.86	6.75	4.97	1.12	-88	4.6
1500				26.00	6.75	4.98	Ø.95	-89	6.2
1505				26.10	6.75	4.97	Ø.81	-90	5.9
1510	↓	↓	≈1.75	26.16	6.75	4.97	Ø.80	-90	5.4 ↓
			Samples Taken						
1735	EQBK-BG-060818 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 %		Equip. Blank
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

amec foster wheeler

Well ID: SFL MW-5
Sample ID: _____ Duplicate ID: _____
Sample Depth: ~22.0'
Project and Task No.: 6706180002.30
Project Name: TMPA - Gibbons Creek
Date: June 8, 2018
Sampled By: BS
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 15.85'
Depth to Water after Sampling: _____
Total Depth to Well: 24.3'
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 (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1606	~22.0'	250		25.75	4.44	11.5	1.88	373	34.9 Clear; no odor
1611	↓	↓		26.44	4.41	11.6	1.42	390	26.1 ↓
1616				26.46	4.41	11.6	1.01	393	6.5
1621				26.52	4.41	11.6	Ø.85	393	4.4
1626				26.80	4.42	11.6	Ø.78	391	4.4
1631				27.11	4.43	11.6	Ø.7Ø	389	6.8
1636	↓	↓	~2.0	27.13	4.43	11.6	Ø.69	388	7.3 ↓
				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

amec foster wheeler

Well ID: SSP/AP MW-1
Sample ID: _____ Duplicate ID: _____
Sample Depth: ≈41'
Project and Task No.: 6706180002.30
Project Name: TMPA - Gibbons Creek
Date: June 9, 2018
Sampled By: BA
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 7.84'
Depth to Water after Sampling: 18.23'
Total Depth to Well: 43.2'
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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
0935	≈41'	125		24.84	5.71	8.68	1.76	165	166	lt. tan stain; no odor
0940	↓	↓		25.14	5.72	8.57	1.25	164	209	↓
0945				25.67	5.73	8.44	1.06	161	207	
0950				25.74	5.74	8.28	0.96	155	167	
0955				25.72	5.75	8.21	0.86	140	140	Clearing; no odor
1000				26.06	5.75	8.14	0.77	119	129	↓
1005				25.74	5.75	7.89	0.70	79	189	Clear; no odor
1010				25.73	5.74	7.82	0.65	46	234	
1015				26.00	5.74	7.87	0.60	37	286	
1020				26.41	5.74	7.80	0.56	30	338	
1025				26.34	5.73	7.78	0.54	21	417	
1030	↓	↓	≈4.0	26.40	5.73	7.72	0.52	18	413	↓

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 %		Although NTUs high at time of sampling, purge water had been clear for 30 minutes & water collected for sample was clear. * Photo of samples taken.
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

amec foster wheeler

Well ID: SSP MW-2
Sample ID: _____ Duplicate ID: _____
Sample Depth: ≈ 44.5'
Project and Task No.: 670618.0002.30
Project Name: TMPA-Gibbons Creek
Date: June 9, 2018
Sampled By: BA
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 22.28'
Depth to Water after Sampling: 36.78'
Total Depth to Well: 46.9'
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 (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1158	≈ 44.5'	200		26.17	4.60	9.48	1.71	241	146 Slightly cloudy; no odor
1203	↓	↓		26.38	4.61	9.27	1.20	239	178 ↓
1208				26.16	4.61	9.10	0.98	240	138
1213				26.64	4.58	8.96	1.18	248	109 ↓
1218				26.72	4.53	8.85	1.47	269	88.9 Clear; no odor
1223				27.16	4.49	8.79	1.82	290	71.2 ↓
1228				26.84	4.48	8.72	1.91	298	60.7
1233				26.42	4.45	8.69	1.97	306	52.4
1238	↓	↓	≈ 2.5	26.68	4.43	8.65	2.01	310	46.4 ↓
			Samples Taken						
1315	— EQBK-BG-060918 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 %		Equip. blank
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

amec foster wheeler

Well ID: SSP MW-3
Sample ID: _____ Duplicate ID: _____
Sample Depth: ≈ 45.7'
Project and Task No.: 6706180002.30
Project Name: TMPA - Gibbons Creek
Date: June 11, 2018
Sampled By: BJ
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 27.48'
Depth to Water after Sampling: 29.47'
Total Depth to Well: 48.2'
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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1426	≈ 45.7'	250		27.13	4.26	8.40	1.44	302	198 Slightly cloudy; no odor
1431	↓	↓		27.51	4.27	8.21	1.11	307	265 ↓
1436				27.28	4.28	8.00	0.95	309	178
1441				28.04	4.29	7.84	0.84	314	163
1446				27.69	4.29	7.66	0.76	318	136 ↓
1451				28.01	4.28	7.62	0.72	317	108 Clearing; no odor
1456				27.89	4.29	7.51	0.70	321	79.2 Clear; no odor
1501				28.04	4.29	7.50	0.68	322	57.1 ↓
1506	↓	↓	≈ 3.0	28.11	4.29	7.49	0.67	323	44.8 ↓
			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

amec foster wheeler

Well ID: SSP MW-4
Sample ID: _____ Duplicate ID: _____
Sample Depth: 49.0'
Project and Task No.: 6706180002.30
Project Name: TMPA - Gibbons Creek
Date: June 11, 2018
Sampled By: BA
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 24.32'
Depth to Water after Sampling: 38.22'
Total Depth to Well: 51.5'
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 (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1545	49.0'	200		27.20	6.10	5.68	2.02	53	45.6 Clear; no odor
1550	↓	↓		27.77	6.10	5.61	1.28	40	44.4 ↓
1555				28.05	6.10	5.54	1.02	34	42.1
1600				27.40	6.11	5.47	0.87	23	38.1
1605				27.76	6.11	5.44	0.75	10	39.1
1610				27.73	6.12	5.41	0.73	7	37.9
1615	↓	↓	~2.0	27.83	6.12	5.39	0.72	5	38.6 ↓
			Samples Taken						
1710 – EQBK-BG-061118 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 %		Equip Blank
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

amec foster wheeler

Well ID: SFL MW-2
Sample ID: _____ Duplicate ID: _____
Sample Depth: ≈21.0'
Project and Task No.: 6706180002.03
Project Name: TMPA - Gibbons Creek
Date: June 12, 2018
Sampled By: BM
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 10.93'
Depth to Water after Sampling: 12.57'
Total Depth to Well: 23.6'
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 (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1108	≈21.0'	≈175		25.65	5.63	11.3	6.04	207	106 Slightly cloudy; no odor
1113	↓	↓		26.69	5.66	11.4	4.91	197	34.6 Clear; no odor
1118				26.78	5.78	11.4	4.36	194	26.2 ↓
1123				27.08	5.87	11.4	3.89	196	12.1
1128				27.04	5.92	11.3	3.51	198	8.3
1133				27.15	5.95	11.3	3.26	198	5.0
1138	↓	↓	≈1.5	27.29	5.96	11.3	3.14	197	2.9 ↓
		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

amec foster wheeler

Well ID: MNW-15
Sample ID: _____ Duplicate ID: _____
Sample Depth: 24.5'
Project and Task No.: 6706180002.30
Project Name: TMPA - Gibbons Creek
Date: June 12, 2018
Sampled By: BH
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 4.32'
Depth to Water after Sampling: 4.46'
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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1223	24.5'	200		27.08	3.60	3.86	3.91	402	58.7 Tan/Slightly cloudy; no odor
1228	↓	↓		27.93	3.63	3.97	2.88	346	69.5 Clearing; no odor
1233				28.12	3.64	3.99	2.54	334	62.3 Clear; no odor
1238				28.04	3.64	4.00	2.21	329	18.8 ↓
1243				28.06	3.65	4.00	1.90	328	12.0
1248				28.12	3.65	3.98	1.78	326	8.6
1253	↓	↓	≈1.75	28.09	3.65	3.97	1.70	325	6.4 ↓
			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

amec foster wheeler

Well ID: SFL MW-7
Sample ID: _____ Duplicate ID: DUP-1
Sample Depth: ≈ 55.5'
Project and Task No.: 6706180002.30
Project Name: TMPA - Gibbons Creek
Date: June 12, 2018
Sampled By: BS
Method of Purging: lowflow
Method of Sampling: submersible

Initial Depth to Water: 13.14'
Depth to Water after Sampling: 14.47'
Total Depth to Well: 58.1'
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 (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1329	≈55.5'	150		27.26	6.43	6.46	5.71	-37	24.6 Clear; no odor
1334	↓	↓		28.41	6.43	6.58	4.80	-66	20.4 ↓
1339				28.90	6.40	7.63	4.23	-52	13.0
1344				28.79	6.34	8.25	3.84	-45	10.3
1349				28.72	6.33	8.52	3.44	-41	9.3
1354				28.74	6.32	8.76	3.03	-40	7.9
1359				28.87	6.32	8.81	2.75	-41	7.4
1404	↓	↓	≈1.5	28.91	6.33	8.82	2.53	-42	7.6 ↓
				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 %		Duplicate sample collected
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

amec foster wheeler

Well ID: SFL MW-3
Sample ID: _____ Duplicate ID: _____
Sample Depth: 25.7'
Project and Task No.: 6706180002.30
Project Name: TMPA - Gibbons Creek
Date: June 12, 2018
Sampled By: BJ
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 16.86'
Depth to Water after Sampling: 17.27'
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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1510	25.7'	200		27.33	3.82	6.67	1.58	473	78.7 Clear; no odor
1515	↓	↓		27.06	3.80	6.72	1.01	449	91.4 ↓
1520				27.21	3.80	6.73	0.80	430	124 Slightly cloudy; no odor
1525				26.81	3.80	6.71	0.67	421	112 Clearing; no odor
1530				26.70	3.81	6.70	0.59	415	98.7 ↓
1535				26.74	3.82	6.67	0.54	411	58.1 Clear; no odor
1540				26.81	3.82	6.68	0.50	408	34.8 ↓
1545	↓	↓	≈2.0	26.89	3.82	6.69	0.48	407	25.8 ↓
				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

amec foster wheeler

Well ID: SFL MW-4
Sample ID: _____ Duplicate ID: _____
Sample Depth: ≈ 40.0'
Project and Task No.: 6706180002.30
Project Name: TMPA - Gibbons Creek
Date: June 12, 2018
Sampled By: BS
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 14.75'
Depth to Water after Sampling: 16.78'
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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1631	≈ 40.0'	200		27.49	6.23	7.16	2.66	89	139 slightly cloudy; no odor
1636	↓	↓		27.80	6.21	7.59	1.49	64	103 Clear; no odor
1641				27.94	6.17	7.74	1.08	56	79.7 ↓
1646				27.81	6.16	7.81	0.83	54	57.9
1651				27.94	6.16	7.79	0.69	54	41.0
1656				27.78	6.17	7.77	0.59	55	18.4
1701	↓	↓	≈ 1.75	27.59	6.17	7.81	0.54	56	16.2 ↓
			Samples Taken						
1755		EQBK-BG-061218 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 %		Equip. blank collected
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

amec foster wheeler

Well ID: AP MW-1D
Sample ID: _____ Duplicate ID: _____
Sample Depth: 40.5'
Project and Task No.: 6706180002.30
Project Name: TMPA-Gibbons Creek
Date: June 13, 2018
Sampled By: BH
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 13.93'
Depth to Water after Sampling: 14.38'
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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
0931	40.5'	200		25.45	5.87	1.90	3.83	183	36.1 Clear; no odor
0936	↓	↓		25.80	5.81	1.91	2.93	146	39.9 ↓
0941				25.77	5.70	1.94	1.90	141	48.4
0946				26.03	5.67	1.95	1.33	142	25.9
0951				26.16	5.68	1.96	1.19	142	16.0
0956	↓	↓	≈ 1.5	26.43	5.69	1.96	1.10	143	12.7 ↓
				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

amec foster wheeler

Well ID: AP MW-5
Sample ID: _____ Duplicate ID: _____
Sample Depth: ≈40.5'
Project and Task No.: 6706180002.30
Project Name: TMPA - Gibbons Creek
Date: June 13, 2018
Sampled By: BH
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 11.14'
Depth to Water after Sampling: 12.06'
Total Depth to Well: 43.1'
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 (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1051	≈40.5'	200		25.83	3.62	5.24	1.19	353	116 Slightly cloudy; no odor
1056	↓	↓		25.90	3.63	5.36	Ø.89	348	169 ↓
1101				25.98	3.63	5.41	Ø.76	354	126 ↓
1106				25.92	3.63	5.43	Ø.67	356	72.2 Clear; no odor
1111				25.96	3.63	5.44	Ø.60	358	30.3 ↓
1116				26.00	3.63	5.45	Ø.57	357	21.2 ↓
1121	↓	↓	≈1.75	26.14	3.64	5.44	Ø.52	358	14.2 ↓
			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

amec foster wheeler

Well ID: AP MW-4
Sample ID: _____ Duplicate ID: DUP-2
Sample Depth: ≈ 50.3'
Project and Task No.: 6706180002.30
Project Name: TMPA - Gibbons Creek
Date: June 13, 2018
Sampled By: BS
Method of Purging: low flow
Method of Sampling: submersible

Initial Depth to Water: 13.11'
Depth to Water after Sampling: 14.16'
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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (color, turbidity, and sediment)
Low Flow Stabilization Criteria				+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	NTU
1205	≈ 50.3'	150		25.66	5.63	4.83	1.51	99	55.2 Clear; no odor
1210	↓	↓		27.67	5.59	4.88	1.04	97	77.1
1215				28.45	5.59	4.86	ϕ.82	103	66.9
1220				28.91	5.59	4.86	ϕ.70	113	51.4
1225				29.11	5.59	4.85	ϕ.63	122	38.9
1230				28.98	5.58	4.84	ϕ.58	125	31.6
1235	↓	↓		28.91	5.58	4.84	ϕ.56	128	28.7 ↓
Samples Taken									
1355 — EQBK-BG-061318 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 %		Duplicate collected
Field Temperature °C		Field Temperature °C		
Instrument Reading (mV)		Instrument Reading (mg/L)		MS/MSD
Model or Unit No.:		Model or Unit No.:		

Appendix B
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: 490-148686-1
Client Project/Site: TMPA Gibbons Creek
Sampling Event: CCR

For:
Wood Environment & Infrastructure
3755 South Capital of Texas Highway
Suite 375
Austin, Texas 78704

Attn: Greg Seifert

Authorized for release by:
4/26/2018 6:31:33 PM

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

Table of Contents

Sample Summary

Client: Wood Environment & Infrastructure
Project/Site: TMPA Gibbons Creek

TestAmerica Job ID: 490-148686-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-148686-1	MNW-15	Water	03/20/18 09:10	03/23/18 09:15
490-148686-2	MNW-18	Water	03/20/18 09:11	03/23/18 09:15
490-148686-3	SFL MW-7	Water	03/20/18 10:10	03/23/18 09:15
490-148686-4	SFL MW-6	Water	03/20/18 10:33	03/23/18 09:15
490-148686-5	SFL MW-5	Water	03/20/18 11:44	03/23/18 09:15
490-148686-6	SFL MW-3	Water	03/20/18 11:45	03/23/18 09:15
490-148686-7	SFL MW-4	Water	03/20/18 12:50	03/23/18 09:15
490-148686-8	SFL MW-2	Water	03/20/18 12:53	03/23/18 09:15
490-148686-9	EQBK-BG-032018	Water	03/20/18 13:45	03/23/18 09:15
490-148686-10	EQBK/SCM/032018	Water	03/20/18 14:35	03/23/18 09:15
490-148686-11	AP MW-3	Water	03/20/18 15:25	03/23/18 09:15
490-148686-12	SSP MW-2	Water	03/20/18 16:40	03/23/18 09:15
490-148686-13	Dup 1	Water	03/20/18 00:01	03/23/18 09:15
490-148686-14	AP MW-1D	Water	03/21/18 09:39	03/23/18 09:15
490-148686-15	SSP MW-3	Water	03/21/18 09:50	03/23/18 09:15
490-148686-16	SSP MW-4	Water	03/21/18 11:30	03/23/18 09:15
490-148686-17	AP MW-5	Water	03/21/18 12:10	03/23/18 09:15
490-148686-18	AP MW-6	Water	03/21/18 13:46	03/23/18 09:15
490-148686-19	SSP/AP MW-1	Water	03/21/18 13:50	03/23/18 09:15
490-148686-20	EQBK/SCM/032118	Water	03/21/18 14:30	03/23/18 09:15
490-148686-21	AP MW-4	Water	03/21/18 15:01	03/23/18 09:15
490-148686-22	EQBK-BG-032118	Water	03/21/18 15:45	03/23/18 09:15
490-148686-23	Dup 2	Water	03/21/18 00:01	03/23/18 09:15

Job ID: 490-148686-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-148686-1

Comments
No additional comments.

Receipt
The samples were received on 3/23/2018 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.8º C, 2.5º C, 2.8º C, 3.4º C and 3.6º C.

RAD
Method(s) PrecSep_0: Radium 228 Prep Batch 160-358014:
Insufficient sample volume was available to perform a sample duplicate (DUP, MS, MSD) for the following samples: AP MW-4 (490-148686-21), EQBK-BG-032118 (490-148686-22) and Dup 2 (490-148686-23). 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 160-358014:
Sample aliquot reduced due to potential matrix interference. Sample was cloudy and contained undissolved particulates.
Dup 2 (490-148686-23)

Method(s) PrecSep_0: Radium 228 Prep Batch 160-359328:
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following sample: SSP MW-2 (490-148686-12). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.
Sample aliquot reduced due to limited sample volume.

Method(s) PrecSep-21: Radium 226 Prep Batch 160-358010:
Insufficient sample volume was available to perform a sample duplicate (DUP, MS, MSD) for the following samples: AP MW-4 (490-148686-21), EQBK-BG-032118 (490-148686-22) and Dup 2 (490-148686-23). 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 160-358010:
Sample aliquot reduced due to potential matrix interference. Sample was cloudy and contained undissolved particulates.
Dup 2 (490-148686-23)

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

Narrative

Job Narrative
490-148686-2

Comments
No additional comments.

Receipt
The samples were received on 3/23/2018 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.8º C, 2.5º C, 2.8º C, 3.4º C and 3.6º C.

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 490-503762 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 490-503762 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 samples are impacted: EQBK-BG-032018 (490-148686-9), EQBK/SCM/032018 (490-148686-10), EQBK/SCM/032118

Job ID: 490-148686-1 (Continued)

Laboratory: TestAmerica Nashville (Continued)

(490-148686-20), EQBK-BG-032118 (490-148686-22) and (CCVRT 490-503762/1).

Method(s) 9056A: The method blank for analytical batch 490-504540 contained Sulfate above the method detection limit (MDL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method(s) 9056A: Due to the nature of the sample matrix, a matrix spike / matrix spike duplicate (MS/MSD) was not analyzed with 490-504540. However, the laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries were within the acceptance limits.

Method(s) 9056A: The method blank for analytical batch 490-504543 contained Fluoride and Sulfate above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method(s) 9056A: The following samples were diluted due to the nature of the sample matrix: SSP MW-2 (490-148686-12), Dup 1 (490-148686-13), AP MW-1D (490-148686-14), SSP MW-3 (490-148686-15), AP MW-5 (490-148686-17), AP MW-6 (490-148686-18), SSP/AP MW-1 (490-148686-19) and Dup 2 (490-148686-23). 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 490-504543. However, the laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries were within the acceptance limits.

Method(s) 9056, 9056A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 490-504897 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) 9056A: The following samples were diluted due to the nature of the sample matrix: AP MW-3 (490-148686-11) and AP MW-4 (490-148686-21). 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) 200.8, 6020A: The internals are high. The CCV passed; therefore, data was reported. (CCV 490-505007/106) and (CCV 490-505007/94)

Method(s) 200.8, 6020A: The internals are high. The CCB passed; therefore, data was reported. (CCB 490-505007/107) and (CCB 490-505007/95)

Method(s) 6020A: The following samples were diluted due to the nature of the sample matrix: MNW-15 (490-148686-1), SFL MW-6 (490-148686-4), SFL MW-5 (490-148686-5), SFL MW-3 (490-148686-6), SSP MW-2 (490-148686-12), SSP MW-3 (490-148686-15) and AP MW-5 (490-148686-17). Elevated reporting limits (RLs) are provided.

Method(s) 6020A: The internals are high for the CCV. The CCV passed; therefore, data was reported. (CCV 490-507680/47)

Method(s) 7470A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 490-504451 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) 7470A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 490-505195 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.

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

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance 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.

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: MNW-15

Date Collected: 03/20/18 09:10
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-1

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/24/18 23:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:09	1
Arsenic	ND		0.0250		mg/L		03/27/18 11:23	04/10/18 13:40	5
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:09	1
Beryllium	**0.0792**		0.0200		mg/L		03/27/18 11:23	04/06/18 18:24	5
Cadmium	**0.0895**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:09	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:09	1
Cobalt	**0.253**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:09	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:09	1
Lithium	ND		0.200		mg/L		03/27/18 11:23	04/06/18 18:24	5
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:09	1
Selenium	ND		0.0500		mg/L		03/27/18 11:23	04/11/18 10:39	5
Thallium	**0.00232**		0.00200		mg/L		03/27/18 11:23	03/28/18 18:09	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000949**	**F1**	0.000200		mg/L		03/28/18 11:02	03/30/18 10:38	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.173**		0.0774	0.0789	1.00	0.0825	pCi/L	03/28/18 11:26	04/19/18 05:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:43*	*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	0.273	U	0.231	0.232	1.00	0.366	pCi/L	03/28/18 11:56	04/05/18 18:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:33*	*1*
Y Carrier	*77.0*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:33*	*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	**0.446**		0.244	0.245	5.00	0.366	pCi/L		04/19/18 17:52	1

Client Sample ID: MNW-18

Date Collected: 03/20/18 09:11
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-2

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/24/18 23:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:12	1
Arsenic	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:12	1
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:12	1
Beryllium	ND		0.00400		mg/L		03/27/18 11:23	04/06/18 18:27	1
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:12	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:12	1
Cobalt	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:12	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:12	1
Lithium	**0.443**		0.0400		mg/L		03/27/18 11:23	04/06/18 18:27	1
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:12	1
Selenium	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:12	1
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 18:12	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 11:02	03/30/18 10:53	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.68**		0.208	0.257	1.00	0.0669	pCi/L	03/28/18 11:26	04/19/18 05:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:44*	*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	**2.97**		0.396	0.481	1.00	0.341	pCi/L	03/28/18 11:56	04/05/18 18:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:33*	*1*
Y Carrier	*87.5*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:33*	*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	**4.65**		0.447	0.545	5.00	0.341	pCi/L		04/19/18 17:52	1

Client Sample ID: SFL MW-7

Date Collected: 03/20/18 10:10
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-3

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 00:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:15	1
Arsenic	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:15	1
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:15	1
Beryllium	ND		0.00400		mg/L		03/27/18 11:23	04/06/18 18:36	1
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:15	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:15	1
Cobalt	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:15	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:15	1
Lithium	**0.466**		0.0400		mg/L		03/27/18 11:23	04/06/18 18:36	1
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:15	1
Selenium	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:15	1
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 18:15	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 11:02	03/30/18 10:56	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.547**		0.129	0.138	1.00	0.0892	pCi/L	03/28/18 11:26	04/19/18 05:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:44*	*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	**1.44**		0.372	0.395	1.00	0.479	pCi/L	03/28/18 11:56	04/05/18 18:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:33*	*1*
Y Carrier	*82.2*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:33*	*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	**1.98**		0.394	0.418	5.00	0.479	pCi/L		04/19/18 17:52	1

Client Sample ID: SFL MW-6

Date Collected: 03/20/18 10:33
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-4

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 00:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:18	1
Arsenic	ND		0.0250		mg/L		03/27/18 11:23	04/10/18 13:55	5
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:18	1
Beryllium	**0.0599**		0.0200		mg/L		03/27/18 11:23	04/06/18 18:39	5
Cadmium	**0.00875**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:18	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:18	1
Cobalt	**0.104**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:18	1
Lead	**0.00540**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:18	1
Lithium	**0.739**		0.200		mg/L		03/27/18 11:23	04/06/18 18:39	5
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:18	1
Selenium	ND		0.0500		mg/L		03/27/18 11:23	04/11/18 10:42	5
Thallium	**0.00322**		0.00200		mg/L		03/27/18 11:23	03/28/18 18:18	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 09:28	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**2.69**		0.266	0.360	1.00	0.0618	pCi/L	03/28/18 11:26	04/19/18 05:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:44*	*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	**6.53**		0.560	0.821	1.00	0.375	pCi/L	03/28/18 11:56	04/05/18 18:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:33*	*1*
Y Carrier	*81.5*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:33*	*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	**9.22**		0.620	0.896	5.00	0.375	pCi/L		04/19/18 17:52	1

Client Sample ID: SFL MW-5

Date Collected: 03/20/18 11:44
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-5

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 00:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:21	1
Arsenic	ND		0.0250		mg/L		03/27/18 11:23	04/10/18 13:58	5
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:21	1
Beryllium	ND		0.0200		mg/L		03/27/18 11:23	04/06/18 18:42	5
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:21	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:21	1
Cobalt	**0.0398**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:21	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:21	1
Lithium	**0.685**		0.200		mg/L		03/27/18 11:23	04/06/18 18:42	5
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:21	1
Selenium	ND		0.0500		mg/L		03/27/18 11:23	04/11/18 10:51	5
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 18:21	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 09:31	1

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**		0.268	0.362	1.00	0.0791	pCi/L	03/28/18 11:26	04/19/18 05:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:44*	*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	**9.38**		0.647	1.08	1.00	0.355	pCi/L	03/28/18 11:56	04/05/18 18:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:33*	*1*
Y Carrier	*86.0*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:33*	*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	**12.1**		0.700	1.14	5.00	0.355	pCi/L		04/19/18 17:52	1

Client Sample ID: SFL MW-3

Date Collected: 03/20/18 11:45
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-6

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 00:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:24	1
Arsenic	ND		0.0250		mg/L		03/27/18 11:23	04/10/18 14:02	5
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:24	1
Beryllium	**0.0386**		0.0200		mg/L		03/27/18 11:23	04/06/18 18:45	5
Cadmium	**0.00648**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:24	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:24	1
Cobalt	**0.0558**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:24	1
Lead	**0.0191**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:24	1
Lithium	**0.322**		0.200		mg/L		03/27/18 11:23	04/06/18 18:45	5
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:24	1
Selenium	ND		0.0500		mg/L		03/27/18 11:23	04/11/18 10:54	5
Thallium	**0.00549**		0.00200		mg/L		03/27/18 11:23	03/28/18 18:24	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00182**		0.000200		mg/L		03/28/18 10:30	03/30/18 09:34	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.47**		0.195	0.236	1.00	0.0743	pCi/L	03/28/18 11:26	04/19/18 05:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:44*	*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	**2.93**		0.407	0.488	1.00	0.397	pCi/L	03/28/18 11:56	04/05/18 18:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*1*
Y Carrier	*83.7*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*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	**4.40**		0.451	0.542	5.00	0.397	pCi/L		04/19/18 17:52	1

Client Sample ID: SFL MW-4

Date Collected: 03/20/18 12:50
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-7

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 01:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:27	1
Arsenic	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:27	1
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:27	1
Beryllium	ND		0.00400		mg/L		03/27/18 11:23	04/06/18 18:48	1
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:27	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:27	1
Cobalt	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:27	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:27	1
Lithium	**0.478**		0.0400		mg/L		03/27/18 11:23	04/06/18 18:48	1
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:27	1
Selenium	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:27	1
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 18:27	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 09:37	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.293**		0.0907	0.0944	1.00	0.0715	pCi/L	03/28/18 11:26	04/19/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:45*	*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	**1.36**		0.299	0.324	1.00	0.346	pCi/L	03/28/18 11:56	04/05/18 18:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*1*
Y Carrier	*85.6*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*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	**1.65**		0.312	0.337	5.00	0.346	pCi/L		04/19/18 17:52	1

Client Sample ID: SFL MW-2

Date Collected: 03/20/18 12:53
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-8

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 01:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:30	1
Arsenic	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:30	1
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:30	1
Beryllium	ND		0.00400		mg/L		03/27/18 11:23	04/06/18 18:51	1
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:30	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:30	1
Cobalt	**0.0112**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:30	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:30	1
Lithium	**0.476**		0.0400		mg/L		03/27/18 11:23	04/06/18 18:51	1
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:30	1
Selenium	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:30	1
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 18:30	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 09:40	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**2.10**		0.228	0.296	1.00	0.0588	pCi/L	03/28/18 11:26	04/19/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:45*	*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	**5.36**		0.509	0.709	1.00	0.367	pCi/L	03/28/18 11:56	04/05/18 18:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*1*
Y Carrier	*82.2*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*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	**7.46**		0.558	0.768	5.00	0.367	pCi/L		04/19/18 17:52	1

Client Sample ID: EQBK-BG-032018

Date Collected: 03/20/18 13:45
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-9

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 01:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:33	1
Arsenic	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:33	1
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:33	1
Beryllium	ND		0.00400		mg/L		03/27/18 11:23	04/06/18 18:54	1
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:33	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:33	1
Cobalt	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:33	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:33	1
Lithium	ND		0.0400		mg/L		03/27/18 11:23	04/06/18 18:54	1
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:33	1
Selenium	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:33	1
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 18:33	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 09:43	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00804	U	0.0270	0.0270	1.00	0.0730	pCi/L	03/28/18 11:26	04/19/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:45*	*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	0.146	U	0.206	0.207	1.00	0.345	pCi/L	03/28/18 11:56	04/05/18 18:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*1*
Y Carrier	*86.7*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*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	0.138	U	0.208	0.209	5.00	0.345	pCi/L		04/19/18 17:52	1

Client Sample ID: EQBK/SCM/032018

Date Collected: 03/20/18 14:35
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-10

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 01:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:36	1
Arsenic	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:36	1
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:36	1
Beryllium	ND		0.00400		mg/L		03/27/18 11:23	04/06/18 18:57	1
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:36	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:36	1
Cobalt	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:36	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:36	1
Lithium	ND		0.0400		mg/L		03/27/18 11:23	04/06/18 18:57	1
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:36	1
Selenium	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:36	1
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 18:36	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 09:46	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0200	U	0.0449	0.0449	1.00	0.0828	pCi/L	03/28/18 11:26	04/19/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:45*	*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	0.210	U	0.267	0.267	1.00	0.442	pCi/L	03/28/18 11:56	04/05/18 18:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*1*
Y Carrier	*89.3*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*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	0.230	U	0.271	0.271	5.00	0.442	pCi/L		04/19/18 17:52	1

Client Sample ID: AP MW-3

Date Collected: 03/20/18 15:25
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-11

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 02:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:45	1
Arsenic	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:45	1
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:45	1
Beryllium	ND		0.00400		mg/L		03/27/18 11:23	04/06/18 19:00	1
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:45	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:45	1
Cobalt	**0.0351**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:45	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:45	1
Lithium	ND		0.0400		mg/L		03/27/18 11:23	04/06/18 19:00	1
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:45	1
Selenium	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:45	1
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 18:45	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 09:49	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.382**		0.104	0.109	1.00	0.0744	pCi/L	03/28/18 11:26	04/19/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.4*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:45*	*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	**1.43**		0.342	0.366	1.00	0.423	pCi/L	03/28/18 11:56	04/05/18 18:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.4*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*1*
Y Carrier	*82.2*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*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	**1.82**		0.357	0.382	5.00	0.423	pCi/L		04/19/18 17:52	1

Client Sample ID: SSP MW-2

Date Collected: 03/20/18 16:40
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-12

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 02:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:48	1
Arsenic	**0.0303**		0.0250		mg/L		03/27/18 11:23	04/10/18 14:23	5
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:48	1
Beryllium	**0.231**		0.0200		mg/L		03/27/18 11:23	04/06/18 19:03	5
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:48	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:48	1
Cobalt	**0.0571**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:48	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:48	1
Lithium	**4.90**		0.200		mg/L		03/27/18 11:23	04/06/18 19:03	5
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:48	1
Selenium	ND		0.0500		mg/L		03/27/18 11:23	04/11/18 10:57	5
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 18:48	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 09:58	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.481**		0.112	0.120	1.00	0.0599	pCi/L	03/28/18 11:26	04/19/18 05:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:46*	*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	**1.22**		0.348	0.366	1.00	0.425	pCi/L	04/06/18 10:20	04/12/18 16:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.6*		*40 - 110*	*04/06/18 10:20*	*04/12/18 16:45*	*1*
Y Carrier	*87.9*		*40 - 110*	*04/06/18 10:20*	*04/12/18 16:45*	*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	**1.70**		0.366	0.385	5.00	0.425	pCi/L		04/19/18 17:52	1

Client Sample ID: Dup 1

Date Collected: 03/20/18 00:01
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-13

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 02:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:51	1
Arsenic	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:51	1
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:51	1
Beryllium	ND		0.00400		mg/L		03/27/18 11:23	04/06/18 19:12	1
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:51	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:51	1
Cobalt	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:51	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:51	1
Lithium	**0.456**		0.0400		mg/L		03/27/18 11:23	04/06/18 19:12	1
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:51	1
Selenium	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:51	1
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 18:51	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 10:00	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.429**		0.109	0.116	1.00	0.0721	pCi/L	03/28/18 11:26	04/19/18 05:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:46*	*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**		0.391	0.433	1.00	0.447	pCi/L	03/28/18 11:56	04/05/18 18:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*1*
Y Carrier	*77.0*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*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	**2.46**		0.406	0.448	5.00	0.447	pCi/L		04/19/18 17:52	1

Client Sample ID: AP MW-1D

Date Collected: 03/21/18 09:39
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-14

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 03:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:54	1
Arsenic	**0.00935**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:54	1
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:54	1
Beryllium	ND		0.00400		mg/L		03/27/18 11:23	04/06/18 19:15	1
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:54	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:54	1
Cobalt	**0.0106**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:54	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:54	1
Lithium	ND		0.0400		mg/L		03/27/18 11:23	04/06/18 19:15	1
Molybdenum	**0.0160**		0.0100		mg/L		03/27/18 11:23	03/28/18 18:54	1
Selenium	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:54	1
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 18:54	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 10:03	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.242**		0.0837	0.0865	1.00	0.0710	pCi/L	03/28/18 11:26	04/19/18 05:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:46*	*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	**0.729**		0.264	0.273	1.00	0.362	pCi/L	03/28/18 11:56	04/05/18 18:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*1*
Y Carrier	*85.2*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*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	**0.971**		0.277	0.286	5.00	0.362	pCi/L		04/19/18 17:52	1

Client Sample ID: SSP MW-3

Date Collected: 03/21/18 09:50
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-15

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 03:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 18:57	1
Arsenic	ND		0.0250		mg/L		03/27/18 11:23	04/10/18 14:38	5
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 18:57	1
Beryllium	**0.139**		0.0200		mg/L		03/27/18 11:23	04/06/18 19:18	5
Cadmium	**0.0686**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:57	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 18:57	1
Cobalt	**0.506**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:57	1
Lead	**0.00652**		0.00500		mg/L		03/27/18 11:23	03/28/18 18:57	1
Lithium	**0.644**		0.200		mg/L		03/27/18 11:23	04/06/18 19:18	5
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 18:57	1
Selenium	ND		0.0500		mg/L		03/27/18 11:23	04/11/18 11:00	5
Thallium	**0.00982**		0.00200		mg/L		03/27/18 11:23	03/28/18 18:57	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 10:06	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**5.05**		0.352	0.575	1.00	0.0889	pCi/L	03/28/18 11:26	04/19/18 05:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:46*	*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	**25.7**		1.03	2.58	1.00	0.387	pCi/L	03/28/18 11:56	04/05/18 18:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*1*
Y Carrier	*83.0*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:34*	*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	**30.8**		1.09	2.64	5.00	0.387	pCi/L		04/19/18 17:52	1

Client Sample ID: SSP MW-4

Date Collected: 03/21/18 11:30
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-16

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 03:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 19:00	1
Arsenic	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:00	1
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 19:00	1
Beryllium	ND		0.00400		mg/L		03/27/18 11:23	04/06/18 19:22	1
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:00	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:00	1
Cobalt	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:00	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:00	1
Lithium	**1.01**		0.0400		mg/L		03/27/18 11:23	04/06/18 19:22	1
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 19:00	1
Selenium	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 19:00	1
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 19:00	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 10:09	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.825**		0.151	0.168	1.00	0.0910	pCi/L	03/28/18 11:26	04/19/18 05:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:46*	*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	**2.36**		0.378	0.436	1.00	0.364	pCi/L	03/28/18 11:56	04/05/18 18:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:35*	*1*
Y Carrier	*81.9*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:35*	*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	**3.19**		0.407	0.467	5.00	0.364	pCi/L		04/19/18 17:52	1

Client Sample ID: AP MW-5

Date Collected: 03/21/18 12:10
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-17

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**2.82**		1.00		mg/L			03/25/18 03:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 17:48	1
Arsenic	ND		0.0250		mg/L		03/27/18 11:23	04/10/18 13:24	5
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 17:48	1
Beryllium	**0.0935**		0.0200		mg/L		03/27/18 11:23	04/06/18 18:09	5
Cadmium	**0.00843**		0.00500		mg/L		03/27/18 11:23	03/28/18 17:48	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 17:48	1
Cobalt	**0.148**		0.00500		mg/L		03/27/18 11:23	03/28/18 17:48	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 17:48	1
Lithium	**0.478**		0.200		mg/L		03/27/18 11:23	04/06/18 18:09	5
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 17:48	1
Selenium	ND		0.0500		mg/L		03/27/18 11:23	04/11/18 10:23	5
Thallium	**0.00221**		0.00200		mg/L		03/27/18 11:23	03/28/18 17:48	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000241**		0.000200		mg/L		03/28/18 10:30	03/30/18 09:08	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.456**		0.110	0.118	1.00	0.0716	pCi/L	03/28/18 11:26	04/19/18 05:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:46*	*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	**0.840**		0.275	0.285	1.00	0.368	pCi/L	03/28/18 11:56	04/05/18 18:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:35*	*1*
Y Carrier	*85.2*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:35*	*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	**1.30**		0.296	0.308	5.00	0.368	pCi/L		04/19/18 17:52	1

Client Sample ID: AP MW-6

Date Collected: 03/21/18 13:46
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-18

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 04:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 19:03	1
Arsenic	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:03	1
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 19:03	1
Beryllium	ND		0.00400		mg/L		03/27/18 11:23	04/06/18 19:25	1
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:03	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:03	1
Cobalt	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:03	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:03	1
Lithium	**0.585**		0.0400		mg/L		03/27/18 11:23	04/06/18 19:25	1
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 19:03	1
Selenium	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 19:03	1
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 19:03	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 10:12	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.347**		0.101	0.106	1.00	0.0784	pCi/L	03/28/18 11:26	04/19/18 05:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:46*	*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	**0.581**		0.241	0.247	1.00	0.337	pCi/L	03/28/18 11:56	04/05/18 18:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:35*	*1*
Y Carrier	*83.7*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:35*	*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	**0.928**		0.261	0.269	5.00	0.337	pCi/L		04/19/18 17:52	1

Client Sample ID: SSP/AP MW-1

Date Collected: 03/21/18 13:50
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-19

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 04:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 19:06	1
Arsenic	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:06	1
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 19:06	1
Beryllium	ND		0.00400		mg/L		03/27/18 11:23	04/06/18 19:28	1
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:06	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:06	1
Cobalt	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:06	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:06	1
Lithium	**2.15**		0.0400		mg/L		03/27/18 11:23	04/06/18 19:28	1
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 19:06	1
Selenium	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 19:06	1
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 19:06	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 10:15	1

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**		0.0983	0.103	1.00	0.0600	pCi/L	03/28/18 11:26	04/19/18 05:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.9*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:47*	*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	**1.16**		0.327	0.344	1.00	0.412	pCi/L	03/28/18 11:56	04/05/18 18:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.9*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:35*	*1*
Y Carrier	*75.9*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:35*	*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	**1.51**		0.341	0.359	5.00	0.412	pCi/L		04/19/18 17:52	1

Client Sample ID: EQBK/SCM/032118

Date Collected: 03/21/18 14:30
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-20

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 05:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 19:10	1
Arsenic	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:10	1
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 19:10	1
Beryllium	ND		0.00400		mg/L		03/27/18 11:23	04/06/18 19:31	1
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:10	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:10	1
Cobalt	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:10	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 19:10	1
Lithium	ND		0.0400		mg/L		03/27/18 11:23	04/06/18 19:31	1
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 19:10	1
Selenium	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 19:10	1
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 19:10	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 10:18	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00184	U	0.0258	0.0258	1.00	0.0623	pCi/L	03/28/18 11:26	04/19/18 05:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:48*	*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	0.155	U	0.202	0.202	1.00	0.335	pCi/L	03/28/18 11:56	04/05/18 18:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:35*	*1*
Y Carrier	*85.2*		*40 - 110*	*03/28/18 11:56*	*04/05/18 18:35*	*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	0.153	U	0.204	0.204	5.00	0.335	pCi/L		04/19/18 17:52	1

Client Sample ID: AP MW-4

Date Collected: 03/21/18 15:01
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-21

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 06:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/29/18 14:47	03/29/18 22:49	1
Arsenic	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 22:49	1
Barium	ND		0.200		mg/L		03/29/18 14:47	03/29/18 22:49	1
Beryllium	ND		0.00400		mg/L		03/29/18 14:47	03/29/18 22:49	1
Cadmium	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 22:49	1
Chromium	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 22:49	1
Cobalt	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 22:49	1
Lead	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 22:49	1
Lithium	**0.766**		0.0400		mg/L		03/29/18 14:47	03/29/18 22:49	1
Molybdenum	ND		0.0100		mg/L		03/29/18 14:47	03/29/18 22:49	1
Selenium	ND	F1	0.0100		mg/L		03/29/18 14:47	04/06/18 19:49	1
Thallium	ND		0.00200		mg/L		03/29/18 14:47	03/29/18 22:49	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 10:21	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.282**		0.0867	0.0903	1.00	0.0599	pCi/L	03/28/18 13:32	04/19/18 06:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*03/28/18 13:32*	*04/19/18 06:02*	*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	**0.397**		0.232	0.234	1.00	0.351	pCi/L	03/28/18 13:51	04/05/18 14:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*03/28/18 13:51*	*04/05/18 14:54*	*1*
Y Carrier	*94.6*		*40 - 110*	*03/28/18 13:51*	*04/05/18 14:54*	*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	**0.678**		0.248	0.251	5.00	0.351	pCi/L		04/19/18 17:52	1

Client Sample ID: EQBK-BG-032118

Date Collected: 03/21/18 15:45
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-22

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 07:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/29/18 14:47	03/29/18 23:07	1
Arsenic	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 23:07	1
Barium	ND		0.200		mg/L		03/29/18 14:47	03/29/18 23:07	1
Beryllium	ND		0.00400		mg/L		03/29/18 14:47	03/29/18 23:07	1
Cadmium	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 23:07	1
Chromium	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 23:07	1
Cobalt	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 23:07	1
Lead	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 23:07	1
Lithium	ND		0.0400		mg/L		03/29/18 14:47	03/29/18 23:07	1
Molybdenum	ND		0.0100		mg/L		03/29/18 14:47	03/29/18 23:07	1
Selenium	ND		0.0100		mg/L		03/29/18 14:47	04/06/18 19:58	1
Thallium	ND		0.00200		mg/L		03/29/18 14:47	03/29/18 23:07	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/30/18 16:37	04/02/18 11:17	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0567	U	0.0539	0.0542	1.00	0.0816	pCi/L	03/28/18 13:32	04/19/18 06:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/28/18 13:32*	*04/19/18 06:04*	*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	-0.00196	U	0.168	0.168	1.00	0.306	pCi/L	03/28/18 13:51	04/05/18 14:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/28/18 13:51*	*04/05/18 14:54*	*1*
Y Carrier	*89.3*		*40 - 110*	*03/28/18 13:51*	*04/05/18 14:54*	*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	0.0547	U	0.176	0.177	5.00	0.306	pCi/L		04/19/18 17:52	1

Client Sample ID: Dup 2

Date Collected: 03/21/18 00:01
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-23

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 07:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/29/18 14:47	03/29/18 23:16	1
Arsenic	**0.00695**		0.00500		mg/L		03/29/18 14:47	04/10/18 15:40	1
Barium	ND		0.200		mg/L		03/29/18 14:47	03/29/18 23:16	1
Beryllium	**0.105**		0.00400		mg/L		03/29/18 14:47	03/29/18 23:16	1
Cadmium	**0.0693**		0.00500		mg/L		03/29/18 14:47	03/29/18 23:16	1
Chromium	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 23:16	1
Cobalt	**0.525**		0.00500		mg/L		03/29/18 14:47	03/29/18 23:16	1
Lead	**0.00695**		0.00500		mg/L		03/29/18 14:47	03/29/18 23:16	1
Lithium	**0.510**		0.0400		mg/L		03/29/18 14:47	03/29/18 23:16	1
Molybdenum	ND		0.0100		mg/L		03/29/18 14:47	03/29/18 23:16	1
Selenium	ND		0.0100		mg/L		03/29/18 14:47	03/29/18 23:16	1
Thallium	**0.00990**		0.00200		mg/L		03/29/18 14:47	03/29/18 23:16	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/30/18 16:37	04/02/18 11:31	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**5.95**		0.471	0.713	1.00	0.107	pCi/L	03/28/18 13:32	04/19/18 06:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/28/18 13:32*	*04/19/18 06:04*	*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	**28.1**		1.26	2.87	1.00	0.444	pCi/L	03/28/18 13:51	04/05/18 14:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/28/18 13:51*	*04/05/18 14:55*	*1*
Y Carrier	*86.4*		*40 - 110*	*03/28/18 13:51*	*04/05/18 14:55*	*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	**34.0**		1.35	2.96	5.00	0.444	pCi/L		04/19/18 17:52	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 490-503762/3
Matrix: Water
Analysis Batch: 503762

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/24/18 22:47	1

Lab Sample ID: MB 490-503762/32
Matrix: Water
Analysis Batch: 503762

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/25/18 05:56	1

Lab Sample ID: LCS 490-503762/33
Matrix: Water
Analysis Batch: 503762

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	1.088		mg/L		109	80 - 120

Lab Sample ID: LCS 490-503762/4
Matrix: Water
Analysis Batch: 503762

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	1.048		mg/L		105	80 - 120

Lab Sample ID: LCSD 490-503762/34
Matrix: Water
Analysis Batch: 503762

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
Fluoride	1.00	1.128		mg/L		113	80 - 120	4	20

Lab Sample ID: LCSD 490-503762/5
Matrix: Water
Analysis Batch: 503762

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
Fluoride	1.00	1.087		mg/L		108	80 - 120	4	20

Lab Sample ID: 490-148686-21 MS
Matrix: Water
Analysis Batch: 503762

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND		1.00	1.154		mg/L		106	80 - 120

Lab Sample ID: 490-148686-21 MSD
Matrix: Water
Analysis Batch: 503762

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND		1.00	1.082		mg/L		98	80 - 120	7	20

Lab Sample ID: MB 490-504540/3
Matrix: Water
Analysis Batch: 504540

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00	0.0100	mg/L			03/28/18 10:04	1

Lab Sample ID: LCS 490-504540/4
Matrix: Water
Analysis Batch: 504540

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	0.9335	J	mg/L		93	80 - 120

Lab Sample ID: LCSD 490-504540/5
Matrix: Water
Analysis Batch: 504540

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
Fluoride	1.00	0.9268	J	mg/L		92	80 - 120	1	20

Lab Sample ID: MB 490-504543/3
Matrix: Water
Analysis Batch: 504543

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00	0.0100	mg/L			03/28/18 15:41	1

Lab Sample ID: LCS 490-504543/4
Matrix: Water
Analysis Batch: 504543

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	0.9355	J	mg/L		93	80 - 120

Lab Sample ID: LCSD 490-504543/5
Matrix: Water
Analysis Batch: 504543

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
Fluoride	1.00	0.9422	J	mg/L		94	80 - 120	1	20

Lab Sample ID: MB 490-504897/3
Matrix: Water
Analysis Batch: 504897

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			03/29/18 13:17	1

Lab Sample ID: LCS 490-504897/4
Matrix: Water
Analysis Batch: 504897

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	1.076		mg/L		107	80 - 120

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

Lab Sample ID: LCSD 490-504897/5
Matrix: Water
Analysis Batch: 504897

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
Fluoride	1.00	1.023		mg/L		102	80 - 120	5	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 490-504211/1-A
Matrix: Water
Analysis Batch: 504753

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 504211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/27/18 11:23	03/28/18 17:39	1
Arsenic	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 17:39	1
Barium	ND		0.200		mg/L		03/27/18 11:23	03/28/18 17:39	1
Cadmium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 17:39	1
Chromium	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 17:39	1
Cobalt	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 17:39	1
Lead	ND		0.00500		mg/L		03/27/18 11:23	03/28/18 17:39	1
Molybdenum	ND		0.0100		mg/L		03/27/18 11:23	03/28/18 17:39	1
Thallium	ND		0.00200		mg/L		03/27/18 11:23	03/28/18 17:39	1

Lab Sample ID: MB 490-504211/1-A
Matrix: Water
Analysis Batch: 507023

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 504211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00400		mg/L		03/27/18 11:23	04/06/18 18:00	1
Lithium	ND		0.0400		mg/L		03/27/18 11:23	04/06/18 18:00	1

Lab Sample ID: MB 490-504211/1-A
Matrix: Water
Analysis Batch: 507680

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 504211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.0100		mg/L		03/27/18 11:23	04/11/18 10:14	1

Lab Sample ID: LCS 490-504211/2-A
Matrix: Water
Analysis Batch: 504753

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 504211

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.1030		mg/L		103	80 - 120
Arsenic	0.100	0.09733		mg/L		97	80 - 120
Barium	0.100	0.1029	J	mg/L		103	80 - 120
Cadmium	0.100	0.09821		mg/L		98	80 - 120
Cobalt	0.100	0.09617		mg/L		96	80 - 120
Lead	0.100	0.09755		mg/L		98	80 - 120
Molybdenum	0.100	0.09660		mg/L		97	80 - 120
Thallium	0.100	0.09832		mg/L		98	80 - 120

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

Lab Sample ID: LCS 490-504211/2-A
Matrix: Water
Analysis Batch: 507023

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 504211

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.100	0.1068		mg/L		107	80 - 120
Chromium	0.100	0.1098		mg/L		110	80 - 120
Lithium	0.100	0.09728		mg/L		97	80 - 120

Lab Sample ID: LCS 490-504211/2-A
Matrix: Water
Analysis Batch: 507680

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 504211

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.100	0.1003		mg/L		100	80 - 120

Lab Sample ID: LCSD 490-504211/3-A
Matrix: Water
Analysis Batch: 504753

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 504211

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.09712		mg/L		97	80 - 120	6	20
Arsenic	0.100	0.09662		mg/L		97	80 - 120	1	20
Barium	0.100	0.1008	J	mg/L		101	80 - 120	2	20
Cadmium	0.100	0.09502		mg/L		95	80 - 120	3	20
Cobalt	0.100	0.09389		mg/L		94	80 - 120	2	20
Lead	0.100	0.09763		mg/L		98	80 - 120	0	20
Molybdenum	0.100	0.09189		mg/L		92	80 - 120	5	20
Thallium	0.100	0.09793		mg/L		98	80 - 120	0	20

Lab Sample ID: LCSD 490-504211/3-A
Matrix: Water
Analysis Batch: 507023

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 504211

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	0.100	0.1057		mg/L		106	80 - 120	1	20
Chromium	0.100	0.1074		mg/L		107	80 - 120	2	20
Lithium	0.100	0.09727		mg/L		97	80 - 120	0	20

Lab Sample ID: LCSD 490-504211/3-A
Matrix: Water
Analysis Batch: 507680

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 504211

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	0.100	0.1020		mg/L		102	80 - 120	2	20

Lab Sample ID: MB 490-504839/1-A
Matrix: Water
Analysis Batch: 505007

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 504839

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00300		mg/L		03/29/18 14:47	03/29/18 22:40	1
Arsenic	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 22:40	1
Barium	ND		0.200		mg/L		03/29/18 14:47	03/29/18 22:40	1

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

Lab Sample ID: MB 490-504839/1-A
Matrix: Water
Analysis Batch: 505007

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 504839

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00400		mg/L		03/29/18 14:47	03/29/18 22:40	1
Cadmium	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 22:40	1
Chromium	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 22:40	1
Cobalt	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 22:40	1
Lead	ND		0.00500		mg/L		03/29/18 14:47	03/29/18 22:40	1
Lithium	ND		0.0400		mg/L		03/29/18 14:47	03/29/18 22:40	1
Molybdenum	ND		0.0100		mg/L		03/29/18 14:47	03/29/18 22:40	1
Thallium	ND		0.00200		mg/L		03/29/18 14:47	03/29/18 22:40	1

Lab Sample ID: MB 490-504839/1-A
Matrix: Water
Analysis Batch: 507023

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 504839

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.0100		mg/L		03/29/18 14:47	04/06/18 19:34	1

Lab Sample ID: LCS 490-504839/2-A
Matrix: Water
Analysis Batch: 505007

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 504839

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.09315		mg/L		93	80 - 120
Arsenic	0.100	0.08485		mg/L		85	80 - 120
Barium	0.100	0.08959	J	mg/L		90	80 - 120
Beryllium	0.100	0.08953		mg/L		90	80 - 120
Cadmium	0.100	0.09130		mg/L		91	80 - 120
Chromium	0.100	0.08687		mg/L		87	80 - 120
Cobalt	0.100	0.08672		mg/L		87	80 - 120
Lead	0.100	0.09232		mg/L		92	80 - 120
Lithium	0.100	0.08737		mg/L		87	80 - 120
Molybdenum	0.100	0.09008		mg/L		90	80 - 120
Thallium	0.100	0.09437		mg/L		94	80 - 120

Lab Sample ID: LCS 490-504839/2-A
Matrix: Water
Analysis Batch: 507023

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 504839

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.100	0.1065		mg/L		106	80 - 120

Lab Sample ID: LCSD 490-504839/3-A
Matrix: Water
Analysis Batch: 505007

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 504839

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.09145		mg/L		91	80 - 120	2	20
Arsenic	0.100	0.08591		mg/L		86	80 - 120	1	20
Barium	0.100	0.08711	J	mg/L		87	80 - 120	3	20
Beryllium	0.100	0.08924		mg/L		89	80 - 120	0	20

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

Lab Sample ID: LCSD 490-504839/3-A
Matrix: Water
Analysis Batch: 505007

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 504839

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium			0.100	0.09018		mg/L		90	80 - 120	1	20
Chromium			0.100	0.08862		mg/L		89	80 - 120	2	20
Cobalt			0.100	0.08864		mg/L		89	80 - 120	2	20
Lead			0.100	0.09201		mg/L		92	80 - 120	0	20
Lithium			0.100	0.08845		mg/L		88	80 - 120	1	20
Molybdenum			0.100	0.08815		mg/L		88	80 - 120	2	20
Thallium			0.100	0.09284		mg/L		93	80 - 120	2	20

Lab Sample ID: LCSD 490-504839/3-A
Matrix: Water
Analysis Batch: 507023

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 504839

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium			0.100	0.1118		mg/L		112	80 - 120	5	20

Lab Sample ID: 490-148686-21 MS
Matrix: Water
Analysis Batch: 505007

Client Sample ID: AP MW-4
Prep Type: Total Recoverable
Prep Batch: 504839

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.100	0.09391		mg/L		94	75 - 125
Arsenic	ND		0.100	0.08339		mg/L		83	75 - 125
Barium	ND		0.100	ND		mg/L		94	75 - 125
Beryllium	ND		0.100	0.08401		mg/L		84	75 - 125
Cadmium	ND		0.100	0.09165		mg/L		92	75 - 125
Chromium	ND		0.100	0.09289		mg/L		93	75 - 125
Cobalt	ND		0.100	0.09124		mg/L		91	75 - 125
Lead	ND		0.100	0.09433		mg/L		94	75 - 125
Lithium	0.766		0.100	0.8390	4	mg/L		73	75 - 125
Molybdenum	ND		0.100	0.09369		mg/L		94	75 - 125
Thallium	ND		0.100	0.09440		mg/L		94	75 - 125

Lab Sample ID: 490-148686-21 MS
Matrix: Water
Analysis Batch: 507023

Client Sample ID: AP MW-4
Prep Type: Total Recoverable
Prep Batch: 504839

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	ND	F1	0.100	0.02122	F1	mg/L		21	75 - 125

Lab Sample ID: 490-148686-21 MSD
Matrix: Water
Analysis Batch: 505007

Client Sample ID: AP MW-4
Prep Type: Total Recoverable
Prep Batch: 504839

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		0.100	0.08685		mg/L		87	75 - 125	8	20
Arsenic	ND		0.100	0.08020		mg/L		80	75 - 125	4	20
Barium	ND		0.100	ND		mg/L		84	75 - 125	10	20
Beryllium	ND		0.100	0.07602		mg/L		76	75 - 125	10	20
Cadmium	ND		0.100	0.08279		mg/L		83	75 - 125	10	20

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

Lab Sample ID: 490-148686-21 MSD
Matrix: Water
Analysis Batch: 505007

Client Sample ID: AP MW-4
Prep Type: Total Recoverable
Prep Batch: 504839

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	ND		0.100	0.08150		mg/L		81	75 - 125	13	20
Cobalt	ND		0.100	0.08123		mg/L		81	75 - 125	12	20
Lead	ND		0.100	0.08611		mg/L		86	75 - 125	9	20
Lithium	0.766		0.100	0.7535	4	mg/L		-13	75 - 125	11	20
Molybdenum	ND		0.100	0.08519		mg/L		85	75 - 125	10	20
Thallium	ND		0.100	0.08747		mg/L		87	75 - 125	8	20

Lab Sample ID: 490-148686-21 MSD
Matrix: Water
Analysis Batch: 507023

Client Sample ID: AP MW-4
Prep Type: Total Recoverable
Prep Batch: 504839

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	ND	F1	0.100	0.02201	F1	mg/L		22	75 - 125	4	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 490-504434/1-A
Matrix: Water
Analysis Batch: 505173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 504434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 10:30	03/30/18 08:48	1

Lab Sample ID: LCS 490-504434/2-A
Matrix: Water
Analysis Batch: 505173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 504434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00100	0.0009658		mg/L		97	80 - 120

Lab Sample ID: LCSD 490-504434/3-A
Matrix: Water
Analysis Batch: 505173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 504434

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00100	0.0009619		mg/L		96	80 - 120	0	20

Lab Sample ID: MB 490-504451/1-A
Matrix: Water
Analysis Batch: 505173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 504451

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/28/18 11:02	03/30/18 10:24	1

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

Lab Sample ID: LCS 490-504451/2-A
Matrix: Water
Analysis Batch: 505173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 504451

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00100	0.0008370		mg/L		84	80 - 120		

Lab Sample ID: LCSD 490-504451/3-A
Matrix: Water
Analysis Batch: 505173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 504451

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.00100	0.0009839		mg/L		98	80 - 120	16	20

Lab Sample ID: 490-148686-1 MS
Matrix: Water
Analysis Batch: 505173

Client Sample ID: MNW-15
Prep Type: Total/NA
Prep Batch: 504451

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.000949	F1	0.00100	0.001614	F1	mg/L		67	75 - 125		

Lab Sample ID: 490-148686-1 MSD
Matrix: Water
Analysis Batch: 505173

Client Sample ID: MNW-15
Prep Type: Total/NA
Prep Batch: 504451

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000949	F1	0.00100	0.001618	F1	mg/L		67	75 - 125	0	20

Lab Sample ID: MB 490-505195/1-A
Matrix: Water
Analysis Batch: 505638

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 505195

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		03/30/18 16:37	04/02/18 10:48	1

Lab Sample ID: LCS 490-505195/2-A
Matrix: Water
Analysis Batch: 505638

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 505195

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00100	0.001021		mg/L		102	80 - 120		

Lab Sample ID: LCSD 490-505195/3-A
Matrix: Water
Analysis Batch: 505638

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 505195

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.00100	0.0009937		mg/L		99	80 - 120	3	20

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-357993/24-A
Matrix: Water
Analysis Batch: 361702

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 357993

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.002598	U	0.0432	0.0432	1.00	0.0918	pCi/L	03/28/18 11:26	04/19/18 05:58	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*03/28/18 11:26*	*04/19/18 05:58*	*1*

Lab Sample ID: LCS 160-357993/1-A
Matrix: Water
Analysis Batch: 361700

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357993

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.8	11.32		1.14	1.00	0.0695	pCi/L	96	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*104*		*40 - 110*

Lab Sample ID: 490-148686-17 MS
Matrix: Water
Analysis Batch: 361700

Client Sample ID: AP MW-5
Prep Type: Total/NA
Prep Batch: 357993

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226	0.456		11.8	11.62		1.18	1.00	0.0696	pCi/L	95	75 - 138		

Carrier	*MS %Yield*	*MS Qualifier*	*Limits*
Ba Carrier	*100*		*40 - 110*

Lab Sample ID: 490-148686-17 MSD
Matrix: Water
Analysis Batch: 361700

Client Sample ID: AP MW-5
Prep Type: Total/NA
Prep Batch: 357993

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	0.456		11.8	10.51		1.07	1.00	0.0748	pCi/L	85	75 - 138	0.49	1

Carrier	*MSD %Yield*	*MSD Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*

Lab Sample ID: MB 160-358010/11-A
Matrix: Water
Analysis Batch: 361707

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358010

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.01617	U	0.0462	0.0462	1.00	0.0884	pCi/L	03/28/18 13:32	04/19/18 06:04	1

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: MB 160-358010/11-A
Matrix: Water
Analysis Batch: 361707

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358010

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110	03/28/18 13:32	04/19/18 06:04	1

Lab Sample ID: LCS 160-358010/1-A
Matrix: Water
Analysis Batch: 361702

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358010

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.8	10.87		1.10	1.00	0.0589	pCi/L	92	68 - 137		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	99.4		40 - 110

Lab Sample ID: LCSD 160-358010/2-A
Matrix: Water
Analysis Batch: 361702

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 358010

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.8	10.47		1.07	1.00	0.0690	pCi/L	89	68 - 137	0.18	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	97.9		40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-357998/24-A
Matrix: Water
Analysis Batch: 359055

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 357998

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.01718	U	0.203	0.203	1.00	0.364	pCi/L	03/28/18 11:56	04/05/18 18:31	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110	03/28/18 11:56	04/05/18 18:31	1
Y Carrier	82.2		40 - 110	03/28/18 11:56	04/05/18 18:31	1

Lab Sample ID: LCS 160-357998/1-A
Matrix: Water
Analysis Batch: 359056

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357998

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.42	8.478		0.989	1.00	0.346	pCi/L	101	56 - 140		

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-357998/1-A
Matrix: Water
Analysis Batch: 359056

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357998

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	104		40 - 110
Y Carrier	83.7		40 - 110

Lab Sample ID: 490-148686-17 MS
Matrix: Water
Analysis Batch: 359056

Client Sample ID: AP MW-5
Prep Type: Total/NA
Prep Batch: 357998

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228	0.840		8.42	9.315		1.09	1.00	0.380	pCi/L	101	45 - 150		

Carrier	MS %Yield	MS Qualifier	Limits
Ba Carrier	100		40 - 110
Y Carrier	77.8		40 - 110

Lab Sample ID: 490-148686-17 MSD
Matrix: Water
Analysis Batch: 359056

Client Sample ID: AP MW-5
Prep Type: Total/NA
Prep Batch: 357998

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	0.840		8.42	7.599		0.890	1.00	0.327	pCi/L	80	45 - 150	0.87	1

Carrier	MSD %Yield	MSD Qualifier	Limits
Ba Carrier	106		40 - 110
Y Carrier	92.0		40 - 110

Lab Sample ID: MB 160-358014/11-A
Matrix: Water
Analysis Batch: 359055

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358014

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.04191	U	0.216	0.216	1.00	0.378	pCi/L	03/28/18 13:51	04/05/18 14:53	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110	03/28/18 13:51	04/05/18 14:53	1
Y Carrier	91.2		40 - 110	03/28/18 13:51	04/05/18 14:53	1

Lab Sample ID: LCS 160-358014/1-A
Matrix: Water
Analysis Batch: 359055

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358014

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.42	7.678		0.915	1.00	0.324	pCi/L	91	56 - 140		

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-358014/1-A
Matrix: Water
Analysis Batch: 359055

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358014

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	99.4		40 - 110
Y Carrier	90.8		40 - 110

Lab Sample ID: LCSD 160-358014/2-A
Matrix: Water
Analysis Batch: 359055

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 358014

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			8.42	8.387		0.991	1.00	0.309	pCi/L	100	56 - 140	0.37	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	97.9		40 - 110
Y Carrier	89.7		40 - 110

Lab Sample ID: MB 160-359328/4-A
Matrix: Water
Analysis Batch: 360400

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 359328

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.04863	U	0.280	0.280	1.00	0.493	pCi/L	04/06/18 10:20	04/12/18 16:45	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110	04/06/18 10:20	04/12/18 16:45	1
Y Carrier	87.5		40 - 110	04/06/18 10:20	04/12/18 16:45	1

Lab Sample ID: LCS 160-359328/1-A
Matrix: Water
Analysis Batch: 360400

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 359328

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			11.2	11.05		1.29	1.00	0.440	pCi/L	99	56 - 140		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	103		40 - 110
Y Carrier	89.3		40 - 110

Lab Sample ID: LCSD 160-359328/2-A
Matrix: Water
Analysis Batch: 360400

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 359328

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			11.2	10.31		1.20	1.00	0.387	pCi/L	92	56 - 140	0.30	1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-359328/2-A
Matrix: Water
Analysis Batch: 360400

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 359328

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	104		40 - 110
Y Carrier	93.1		40 - 110

HPLC/IC

Analysis Batch: 503762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-1	MNW-15	Total/NA	Water	9056A	
490-148686-2	MNW-18	Total/NA	Water	9056A	
490-148686-3	SFL MW-7	Total/NA	Water	9056A	
490-148686-4	SFL MW-6	Total/NA	Water	9056A	
490-148686-5	SFL MW-5	Total/NA	Water	9056A	
490-148686-6	SFL MW-3	Total/NA	Water	9056A	
490-148686-7	SFL MW-4	Total/NA	Water	9056A	
490-148686-8	SFL MW-2	Total/NA	Water	9056A	
490-148686-9	EQBK-BG-032018	Total/NA	Water	9056A	
490-148686-10	EQBK/SCM/032018	Total/NA	Water	9056A	
490-148686-11	AP MW-3	Total/NA	Water	9056A	
490-148686-12	SSP MW-2	Total/NA	Water	9056A	
490-148686-13	Dup 1	Total/NA	Water	9056A	
490-148686-14	AP MW-1D	Total/NA	Water	9056A	
490-148686-15	SSP MW-3	Total/NA	Water	9056A	
490-148686-16	SSP MW-4	Total/NA	Water	9056A	
490-148686-17	AP MW-5	Total/NA	Water	9056A	
490-148686-18	AP MW-6	Total/NA	Water	9056A	
490-148686-19	SSP/AP MW-1	Total/NA	Water	9056A	
490-148686-20	EQBK/SCM/032118	Total/NA	Water	9056A	
490-148686-21	AP MW-4	Total/NA	Water	9056A	
490-148686-22	EQBK-BG-032118	Total/NA	Water	9056A	
490-148686-23	Dup 2	Total/NA	Water	9056A	
MB 490-503762/3	Method Blank	Total/NA	Water	9056A	
MB 490-503762/32	Method Blank	Total/NA	Water	9056A	
LCS 490-503762/33	Lab Control Sample	Total/NA	Water	9056A	
LCS 490-503762/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-503762/34	Lab Control Sample Dup	Total/NA	Water	9056A	
LCSD 490-503762/5	Lab Control Sample Dup	Total/NA	Water	9056A	
490-148686-21 MS	AP MW-4	Total/NA	Water	9056A	
490-148686-21 MSD	AP MW-4	Total/NA	Water	9056A	

Analysis Batch: 504540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-504540/3	Method Blank	Total/NA	Water	9056A	
LCS 490-504540/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-504540/5	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 504543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-504543/3	Method Blank	Total/NA	Water	9056A	
LCS 490-504543/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-504543/5	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 504897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-504897/3	Method Blank	Total/NA	Water	9056A	
LCS 490-504897/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-504897/5	Lab Control Sample Dup	Total/NA	Water	9056A	

Metals

Prep Batch: 504211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-1	MNW-15	Total Recoverable	Water	3005A	
490-148686-2	MNW-18	Total Recoverable	Water	3005A	
490-148686-3	SFL MW-7	Total Recoverable	Water	3005A	
490-148686-4	SFL MW-6	Total Recoverable	Water	3005A	
490-148686-5	SFL MW-5	Total Recoverable	Water	3005A	
490-148686-6	SFL MW-3	Total Recoverable	Water	3005A	
490-148686-7	SFL MW-4	Total Recoverable	Water	3005A	
490-148686-8	SFL MW-2	Total Recoverable	Water	3005A	
490-148686-9	EQBK-BG-032018	Total Recoverable	Water	3005A	
490-148686-10	EQBK/SCM/032018	Total Recoverable	Water	3005A	
490-148686-11	AP MW-3	Total Recoverable	Water	3005A	
490-148686-12	SSP MW-2	Total Recoverable	Water	3005A	
490-148686-13	Dup 1	Total Recoverable	Water	3005A	
490-148686-14	AP MW-1D	Total Recoverable	Water	3005A	
490-148686-15	SSP MW-3	Total Recoverable	Water	3005A	
490-148686-16	SSP MW-4	Total Recoverable	Water	3005A	
490-148686-17	AP MW-5	Total Recoverable	Water	3005A	
490-148686-18	AP MW-6	Total Recoverable	Water	3005A	
490-148686-19	SSP/AP MW-1	Total Recoverable	Water	3005A	
490-148686-20	EQBK/SCM/032118	Total Recoverable	Water	3005A	
MB 490-504211/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 490-504211/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 490-504211/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	

Prep Batch: 504434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-4	SFL MW-6	Total/NA	Water	7470A	
490-148686-5	SFL MW-5	Total/NA	Water	7470A	
490-148686-6	SFL MW-3	Total/NA	Water	7470A	
490-148686-7	SFL MW-4	Total/NA	Water	7470A	
490-148686-8	SFL MW-2	Total/NA	Water	7470A	
490-148686-9	EQBK-BG-032018	Total/NA	Water	7470A	
490-148686-10	EQBK/SCM/032018	Total/NA	Water	7470A	
490-148686-11	AP MW-3	Total/NA	Water	7470A	
490-148686-12	SSP MW-2	Total/NA	Water	7470A	
490-148686-13	Dup 1	Total/NA	Water	7470A	
490-148686-14	AP MW-1D	Total/NA	Water	7470A	
490-148686-15	SSP MW-3	Total/NA	Water	7470A	
490-148686-16	SSP MW-4	Total/NA	Water	7470A	
490-148686-17	AP MW-5	Total/NA	Water	7470A	
490-148686-18	AP MW-6	Total/NA	Water	7470A	
490-148686-19	SSP/AP MW-1	Total/NA	Water	7470A	
490-148686-20	EQBK/SCM/032118	Total/NA	Water	7470A	
490-148686-21	AP MW-4	Total/NA	Water	7470A	
MB 490-504434/1-A	Method Blank	Total/NA	Water	7470A	
LCS 490-504434/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 490-504434/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	

Prep Batch: 504451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-1	MNW-15	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 504451 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-2	MNW-18	Total/NA	Water	7470A	
490-148686-3	SFL MW-7	Total/NA	Water	7470A	
MB 490-504451/1-A	Method Blank	Total/NA	Water	7470A	
LCS 490-504451/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 490-504451/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
490-148686-1 MS	MNW-15	Total/NA	Water	7470A	
490-148686-1 MSD	MNW-15	Total/NA	Water	7470A	

Analysis Batch: 504753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-1	MNW-15	Total Recoverable	Water	6020A	504211
490-148686-2	MNW-18	Total Recoverable	Water	6020A	504211
490-148686-3	SFL MW-7	Total Recoverable	Water	6020A	504211
490-148686-4	SFL MW-6	Total Recoverable	Water	6020A	504211
490-148686-5	SFL MW-5	Total Recoverable	Water	6020A	504211
490-148686-6	SFL MW-3	Total Recoverable	Water	6020A	504211
490-148686-7	SFL MW-4	Total Recoverable	Water	6020A	504211
490-148686-8	SFL MW-2	Total Recoverable	Water	6020A	504211
490-148686-9	EQBK-BG-032018	Total Recoverable	Water	6020A	504211
490-148686-10	EQBK/SCM/032018	Total Recoverable	Water	6020A	504211
490-148686-11	AP MW-3	Total Recoverable	Water	6020A	504211
490-148686-12	SSP MW-2	Total Recoverable	Water	6020A	504211
490-148686-13	Dup 1	Total Recoverable	Water	6020A	504211
490-148686-14	AP MW-1D	Total Recoverable	Water	6020A	504211
490-148686-15	SSP MW-3	Total Recoverable	Water	6020A	504211
490-148686-16	SSP MW-4	Total Recoverable	Water	6020A	504211
490-148686-17	AP MW-5	Total Recoverable	Water	6020A	504211
490-148686-18	AP MW-6	Total Recoverable	Water	6020A	504211
490-148686-19	SSP/AP MW-1	Total Recoverable	Water	6020A	504211
490-148686-20	EQBK/SCM/032118	Total Recoverable	Water	6020A	504211
MB 490-504211/1-A	Method Blank	Total Recoverable	Water	6020A	504211
LCS 490-504211/2-A	Lab Control Sample	Total Recoverable	Water	6020A	504211
LCSD 490-504211/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	504211

Prep Batch: 504839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-21	AP MW-4	Total Recoverable	Water	3005A	
490-148686-22	EQBK-BG-032118	Total Recoverable	Water	3005A	
490-148686-23	Dup 2	Total Recoverable	Water	3005A	
MB 490-504839/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 490-504839/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 490-504839/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
490-148686-21 MS	AP MW-4	Total Recoverable	Water	3005A	
490-148686-21 MSD	AP MW-4	Total Recoverable	Water	3005A	

Analysis Batch: 505007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-21	AP MW-4	Total Recoverable	Water	6020A	504839
490-148686-22	EQBK-BG-032118	Total Recoverable	Water	6020A	504839
490-148686-23	Dup 2	Total Recoverable	Water	6020A	504839
MB 490-504839/1-A	Method Blank	Total Recoverable	Water	6020A	504839

Metals (Continued)

Analysis Batch: 505007 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 490-504839/2-A	Lab Control Sample	Total Recoverable	Water	6020A	504839
LCSD 490-504839/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	504839
490-148686-21 MS	AP MW-4	Total Recoverable	Water	6020A	504839
490-148686-21 MSD	AP MW-4	Total Recoverable	Water	6020A	504839

Analysis Batch: 505173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-1	MNW-15	Total/NA	Water	7470A	504451
490-148686-2	MNW-18	Total/NA	Water	7470A	504451
490-148686-3	SFL MW-7	Total/NA	Water	7470A	504451
490-148686-4	SFL MW-6	Total/NA	Water	7470A	504434
490-148686-5	SFL MW-5	Total/NA	Water	7470A	504434
490-148686-6	SFL MW-3	Total/NA	Water	7470A	504434
490-148686-7	SFL MW-4	Total/NA	Water	7470A	504434
490-148686-8	SFL MW-2	Total/NA	Water	7470A	504434
490-148686-9	EQBK-BG-032018	Total/NA	Water	7470A	504434
490-148686-10	EQBK/SCM/032018	Total/NA	Water	7470A	504434
490-148686-11	AP MW-3	Total/NA	Water	7470A	504434
490-148686-12	SSP MW-2	Total/NA	Water	7470A	504434
490-148686-13	Dup 1	Total/NA	Water	7470A	504434
490-148686-14	AP MW-1D	Total/NA	Water	7470A	504434
490-148686-15	SSP MW-3	Total/NA	Water	7470A	504434
490-148686-16	SSP MW-4	Total/NA	Water	7470A	504434
490-148686-17	AP MW-5	Total/NA	Water	7470A	504434
490-148686-18	AP MW-6	Total/NA	Water	7470A	504434
490-148686-19	SSP/AP MW-1	Total/NA	Water	7470A	504434
490-148686-20	EQBK/SCM/032118	Total/NA	Water	7470A	504434
490-148686-21	AP MW-4	Total/NA	Water	7470A	504434
MB 490-504434/1-A	Method Blank	Total/NA	Water	7470A	504434
MB 490-504451/1-A	Method Blank	Total/NA	Water	7470A	504451
LCS 490-504434/2-A	Lab Control Sample	Total/NA	Water	7470A	504434
LCS 490-504451/2-A	Lab Control Sample	Total/NA	Water	7470A	504451
LCSD 490-504434/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	504434
LCSD 490-504451/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	504451
490-148686-1 MS	MNW-15	Total/NA	Water	7470A	504451
490-148686-1 MSD	MNW-15	Total/NA	Water	7470A	504451

Prep Batch: 505195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-22	EQBK-BG-032118	Total/NA	Water	7470A	
490-148686-23	Dup 2	Total/NA	Water	7470A	
MB 490-505195/1-A	Method Blank	Total/NA	Water	7470A	
LCS 490-505195/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 490-505195/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	

Analysis Batch: 505638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-22	EQBK-BG-032118	Total/NA	Water	7470A	505195
490-148686-23	Dup 2	Total/NA	Water	7470A	505195
MB 490-505195/1-A	Method Blank	Total/NA	Water	7470A	505195
LCS 490-505195/2-A	Lab Control Sample	Total/NA	Water	7470A	505195

Metals (Continued)

Analysis Batch: 505638 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 490-505195/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	505195

Analysis Batch: 507023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-1	MNW-15	Total Recoverable	Water	6020A	504211
490-148686-2	MNW-18	Total Recoverable	Water	6020A	504211
490-148686-3	SFL MW-7	Total Recoverable	Water	6020A	504211
490-148686-4	SFL MW-6	Total Recoverable	Water	6020A	504211
490-148686-5	SFL MW-5	Total Recoverable	Water	6020A	504211
490-148686-6	SFL MW-3	Total Recoverable	Water	6020A	504211
490-148686-7	SFL MW-4	Total Recoverable	Water	6020A	504211
490-148686-8	SFL MW-2	Total Recoverable	Water	6020A	504211
490-148686-9	EQBK-BG-032018	Total Recoverable	Water	6020A	504211
490-148686-10	EQBK/SCM/032018	Total Recoverable	Water	6020A	504211
490-148686-11	AP MW-3	Total Recoverable	Water	6020A	504211
490-148686-12	SSP MW-2	Total Recoverable	Water	6020A	504211
490-148686-13	Dup 1	Total Recoverable	Water	6020A	504211
490-148686-14	AP MW-1D	Total Recoverable	Water	6020A	504211
490-148686-15	SSP MW-3	Total Recoverable	Water	6020A	504211
490-148686-16	SSP MW-4	Total Recoverable	Water	6020A	504211
490-148686-17	AP MW-5	Total Recoverable	Water	6020A	504211
490-148686-18	AP MW-6	Total Recoverable	Water	6020A	504211
490-148686-19	SSP/AP MW-1	Total Recoverable	Water	6020A	504211
490-148686-20	EQBK/SCM/032118	Total Recoverable	Water	6020A	504211
490-148686-21	AP MW-4	Total Recoverable	Water	6020A	504839
490-148686-22	EQBK-BG-032118	Total Recoverable	Water	6020A	504839
MB 490-504211/1-A	Method Blank	Total Recoverable	Water	6020A	504211
MB 490-504839/1-A	Method Blank	Total Recoverable	Water	6020A	504839
LCS 490-504211/2-A	Lab Control Sample	Total Recoverable	Water	6020A	504211
LCS 490-504839/2-A	Lab Control Sample	Total Recoverable	Water	6020A	504839
LCSD 490-504211/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	504211
LCSD 490-504839/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	504839
490-148686-21 MS	AP MW-4	Total Recoverable	Water	6020A	504839
490-148686-21 MSD	AP MW-4	Total Recoverable	Water	6020A	504839

Analysis Batch: 507469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-1	MNW-15	Total Recoverable	Water	6020A	504211
490-148686-4	SFL MW-6	Total Recoverable	Water	6020A	504211
490-148686-5	SFL MW-5	Total Recoverable	Water	6020A	504211
490-148686-6	SFL MW-3	Total Recoverable	Water	6020A	504211
490-148686-12	SSP MW-2	Total Recoverable	Water	6020A	504211
490-148686-15	SSP MW-3	Total Recoverable	Water	6020A	504211
490-148686-17	AP MW-5	Total Recoverable	Water	6020A	504211
490-148686-23	Dup 2	Total Recoverable	Water	6020A	504839

Analysis Batch: 507680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-1	MNW-15	Total Recoverable	Water	6020A	504211
490-148686-4	SFL MW-6	Total Recoverable	Water	6020A	504211
490-148686-5	SFL MW-5	Total Recoverable	Water	6020A	504211

Metals (Continued)

Analysis Batch: 507680 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-6	SFL MW-3	Total Recoverable	Water	6020A	504211
490-148686-12	SSP MW-2	Total Recoverable	Water	6020A	504211
490-148686-15	SSP MW-3	Total Recoverable	Water	6020A	504211
490-148686-17	AP MW-5	Total Recoverable	Water	6020A	504211
MB 490-504211/1-A	Method Blank	Total Recoverable	Water	6020A	504211
LCS 490-504211/2-A	Lab Control Sample	Total Recoverable	Water	6020A	504211
LCSD 490-504211/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	504211

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Prep Batch: 357993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-1	MNW-15	Total/NA	Water	PrecSep-21	
490-148686-2	MNW-18	Total/NA	Water	PrecSep-21	
490-148686-3	SFL MW-7	Total/NA	Water	PrecSep-21	
490-148686-4	SFL MW-6	Total/NA	Water	PrecSep-21	
490-148686-5	SFL MW-5	Total/NA	Water	PrecSep-21	
490-148686-6	SFL MW-3	Total/NA	Water	PrecSep-21	
490-148686-7	SFL MW-4	Total/NA	Water	PrecSep-21	
490-148686-8	SFL MW-2	Total/NA	Water	PrecSep-21	
490-148686-9	EQBK-BG-032018	Total/NA	Water	PrecSep-21	
490-148686-10	EQBK/SCM/032018	Total/NA	Water	PrecSep-21	
490-148686-11	AP MW-3	Total/NA	Water	PrecSep-21	
490-148686-12	SSP MW-2	Total/NA	Water	PrecSep-21	
490-148686-13	Dup 1	Total/NA	Water	PrecSep-21	
490-148686-14	AP MW-1D	Total/NA	Water	PrecSep-21	
490-148686-15	SSP MW-3	Total/NA	Water	PrecSep-21	
490-148686-16	SSP MW-4	Total/NA	Water	PrecSep-21	
490-148686-17	AP MW-5	Total/NA	Water	PrecSep-21	
490-148686-18	AP MW-6	Total/NA	Water	PrecSep-21	
490-148686-19	SSP/AP MW-1	Total/NA	Water	PrecSep-21	
490-148686-20	EQBK/SCM/032118	Total/NA	Water	PrecSep-21	
MB 160-357993/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-357993/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
490-148686-17 MS	AP MW-5	Total/NA	Water	PrecSep-21	
490-148686-17 MSD	AP MW-5	Total/NA	Water	PrecSep-21	

Prep Batch: 357998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-1	MNW-15	Total/NA	Water	PrecSep_0	
490-148686-2	MNW-18	Total/NA	Water	PrecSep_0	
490-148686-3	SFL MW-7	Total/NA	Water	PrecSep_0	
490-148686-4	SFL MW-6	Total/NA	Water	PrecSep_0	
490-148686-5	SFL MW-5	Total/NA	Water	PrecSep_0	
490-148686-6	SFL MW-3	Total/NA	Water	PrecSep_0	
490-148686-7	SFL MW-4	Total/NA	Water	PrecSep_0	
490-148686-8	SFL MW-2	Total/NA	Water	PrecSep_0	
490-148686-9	EQBK-BG-032018	Total/NA	Water	PrecSep_0	
490-148686-10	EQBK/SCM/032018	Total/NA	Water	PrecSep_0	
490-148686-11	AP MW-3	Total/NA	Water	PrecSep_0	

Rad (Continued)

Prep Batch: 357998 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-13	Dup 1	Total/NA	Water	PrecSep_0	
490-148686-14	AP MW-1D	Total/NA	Water	PrecSep_0	
490-148686-15	SSP MW-3	Total/NA	Water	PrecSep_0	
490-148686-16	SSP MW-4	Total/NA	Water	PrecSep_0	
490-148686-17	AP MW-5	Total/NA	Water	PrecSep_0	
490-148686-18	AP MW-6	Total/NA	Water	PrecSep_0	
490-148686-19	SSP/AP MW-1	Total/NA	Water	PrecSep_0	
490-148686-20	EQBK/SCM/032118	Total/NA	Water	PrecSep_0	
MB 160-357998/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-357998/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
490-148686-17 MS	AP MW-5	Total/NA	Water	PrecSep_0	
490-148686-17 MSD	AP MW-5	Total/NA	Water	PrecSep_0	

Prep Batch: 358010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-21	AP MW-4	Total/NA	Water	PrecSep-21	
490-148686-22	EQBK-BG-032118	Total/NA	Water	PrecSep-21	
490-148686-23	Dup 2	Total/NA	Water	PrecSep-21	
MB 160-358010/11-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-358010/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-358010/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 358014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-21	AP MW-4	Total/NA	Water	PrecSep_0	
490-148686-22	EQBK-BG-032118	Total/NA	Water	PrecSep_0	
490-148686-23	Dup 2	Total/NA	Water	PrecSep_0	
MB 160-358014/11-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-358014/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-358014/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 359328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-148686-12	SSP MW-2	Total/NA	Water	PrecSep_0	
MB 160-359328/4-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-359328/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-359328/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Client Sample ID: MNW-15

Date Collected: 03/20/18 09:10
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-1

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		1			503762	03/24/18 23:31	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:09	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507023	04/06/18 18:24	LCS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507469	04/10/18 13:40	LCS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507680	04/11/18 10:39	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504451	03/28/18 11:02	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 10:38	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			999.29 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:43	RTM	TAL SL
Total/NA	Prep	PrecSep_0			999.29 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:33	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: MNW-18

Date Collected: 03/20/18 09:11
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-2

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		1			503762	03/24/18 23:46	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:12	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 18:27	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504451	03/28/18 11:02	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 10:53	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.25 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:44	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.25 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:33	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: SFL MW-7

Date Collected: 03/20/18 10:10
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-3

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			503762	03/25/18 00:00	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:15	BLG	TAL NSH

Lab Chronicle

Client: Wood Environment & Infrastructure
Project/Site: TMPA Gibbons Creek

TestAmerica Job ID: 490-148686-1

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	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 18:36	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504451	03/28/18 11:02	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 10:56	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.05 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:44	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.05 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:33	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: SFL MW-6

Date Collected: 03/20/18 10:33
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-4

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		1			503762	03/25/18 00:15	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:18	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507023	04/06/18 18:39	LCS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507469	04/10/18 13:55	LCS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507680	04/11/18 10:42	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 09:28	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			999.69 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:44	RTM	TAL SL
Total/NA	Prep	PrecSep_0			999.69 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:33	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: SFL MW-5

Date Collected: 03/20/18 11:44
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-5

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			503762	03/25/18 00:30	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:21	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507023	04/06/18 18:42	LCS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507469	04/10/18 13:58	LCS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507680	04/11/18 10:51	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH

Client Sample ID: SFL MW-5

Date Collected: 03/20/18 11:44
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-5

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	7470A		1			505173	03/30/18 09:31	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.81 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:44	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.81 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:33	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: SFL MW-3

Date Collected: 03/20/18 11:45
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-6

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		1			503762	03/25/18 00:45	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:24	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507023	04/06/18 18:45	LCS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507469	04/10/18 14:02	LCS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507680	04/11/18 10:54	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 09:34	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			999.21 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:44	RTM	TAL SL
Total/NA	Prep	PrecSep_0			999.21 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:34	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: SFL MW-4

Date Collected: 03/20/18 12:50
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-7

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		1			503762	03/25/18 01:00	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:27	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 18:48	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 09:37	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.11 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:45	RTM	TAL SL

Client Sample ID: SFL MW-4

Date Collected: 03/20/18 12:50
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.11 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:34	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: SFL MW-2

Date Collected: 03/20/18 12:53
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-8

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		1			503762	03/25/18 01:14	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:30	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 18:51	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 09:40	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.66 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:45	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.66 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:34	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: EQBK-BG-032018

Date Collected: 03/20/18 13:45
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-9

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		1			503762	03/25/18 01:29	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:33	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 18:54	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 09:43	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.89 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:45	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.89 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:34	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: EQBK/SCM/032018

Date Collected: 03/20/18 14:35
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-10

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		1			503762	03/25/18 01:44	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:36	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 18:57	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 09:46	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.07 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:45	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.07 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:34	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: AP MW-3

Date Collected: 03/20/18 15:25
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-11

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		1			503762	03/25/18 02:28	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:45	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 19:00	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 09:49	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.59 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:45	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.59 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:34	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: SSP MW-2

Date Collected: 03/20/18 16:40
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-12

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		1			503762	03/25/18 02:43	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:48	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507023	04/06/18 19:03	LCS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507469	04/10/18 14:23	LCS	TAL NSH

Client Sample ID: SSP MW-2

Date Collected: 03/20/18 16:40
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-12

Matrix: Water

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	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507680	04/11/18 10:57	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 09:58	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.64 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			749.70 mL	1.0 g	359328	04/06/18 10:20	TJT	TAL SL
Total/NA	Analysis	904.0		1			360400	04/12/18 16:45	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: Dup 1

Date Collected: 03/20/18 00:01
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-13

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		1			503762	03/25/18 02:58	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:51	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 19:12	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 10:00	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.47 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.47 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:34	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: AP MW-1D

Date Collected: 03/21/18 09:39
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-14

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		1			503762	03/25/18 03:13	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:54	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 19:15	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 10:03	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.07 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.07 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL

Client Sample ID: AP MW-1D

Date Collected: 03/21/18 09:39
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-14
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	904.0		1			359056	04/05/18 18:34	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: SSP MW-3

Date Collected: 03/21/18 09:50
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-15
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		1			503762	03/25/18 03:27	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 18:57	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507023	04/06/18 19:18	LCS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507469	04/10/18 14:38	LCS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507680	04/11/18 11:00	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 10:06	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			999.67 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			999.67 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:34	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: SSP MW-4

Date Collected: 03/21/18 11:30
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-16
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		1			503762	03/25/18 03:42	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 19:00	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 19:22	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 10:09	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.42 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.42 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:35	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: AP MW-5

Date Collected: 03/21/18 12:10
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-17

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			503762	03/25/18 03:57	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 17:48	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507023	04/06/18 18:09	LCS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507469	04/10/18 13:24	LCS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		5			507680	04/11/18 10:23	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 09:08	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.75 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.75 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:35	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: AP MW-6

Date Collected: 03/21/18 13:46
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-18

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			503762	03/25/18 04:42	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 19:03	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 19:25	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 10:12	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.80 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361700	04/19/18 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.80 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:35	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: SSP/AP MW-1

Date Collected: 03/21/18 13:50
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-19

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		1			503762	03/25/18 04:57	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 19:06	BLG	TAL NSH

Client Sample ID: SSP/AP MW-1

Lab Sample ID: 490-148686-19

Date Collected: 03/21/18 13:50

Matrix: Water

Date Received: 03/23/18 09:15

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	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 19:28	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 10:15	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			999.32 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361702	04/19/18 05:47	RTM	TAL SL
Total/NA	Prep	PrecSep_0			999.32 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:35	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: EQBK/SCM/032118

Lab Sample ID: 490-148686-20

Date Collected: 03/21/18 14:30

Matrix: Water

Date Received: 03/23/18 09:15

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			503762	03/25/18 05:11	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			504753	03/28/18 19:10	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504211	03/27/18 11:23	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 19:31	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 10:18	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			999.75 mL	1.0 g	357993	03/28/18 11:26	TJT	TAL SL
Total/NA	Analysis	903.0		1			361702	04/19/18 05:48	RTM	TAL SL
Total/NA	Prep	PrecSep_0			999.75 mL	1.0 g	357998	03/28/18 11:56	TJT	TAL SL
Total/NA	Analysis	904.0		1			359056	04/05/18 18:35	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: AP MW-4

Lab Sample ID: 490-148686-21

Date Collected: 03/21/18 15:01

Matrix: Water

Date Received: 03/23/18 09:15

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			503762	03/25/18 06:41	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504839	03/29/18 14:47	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			505007	03/29/18 22:49	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504839	03/29/18 14:47	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 19:49	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	504434	03/28/18 10:30	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505173	03/30/18 10:21	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			999.89 mL	1.0 g	358010	03/28/18 13:32	TJT	TAL SL
Total/NA	Analysis	903.0		1			361702	04/19/18 06:02	RTM	TAL SL
Total/NA	Prep	PrecSep_0			999.89 mL	1.0 g	358014	03/28/18 13:51	TJT	TAL SL

Client Sample ID: AP MW-4

Date Collected: 03/21/18 15:01
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-21

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	904.0		1			359055	04/05/18 14:54	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: EQBK-BG-032118

Date Collected: 03/21/18 15:45
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-22

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			503762	03/25/18 07:25	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504839	03/29/18 14:47	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			505007	03/29/18 23:07	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504839	03/29/18 14:47	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507023	04/06/18 19:58	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	505195	03/30/18 16:37	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505638	04/02/18 11:17	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			999.83 mL	1.0 g	358010	03/28/18 13:32	TJT	TAL SL
Total/NA	Analysis	903.0		1			361707	04/19/18 06:04	RTM	TAL SL
Total/NA	Prep	PrecSep_0			999.83 mL	1.0 g	358014	03/28/18 13:51	TJT	TAL SL
Total/NA	Analysis	904.0		1			359055	04/05/18 14:54	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: Dup 2

Date Collected: 03/21/18 00:01
Date Received: 03/23/18 09:15

Lab Sample ID: 490-148686-23

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			503762	03/25/18 07:40	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504839	03/29/18 14:47	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			505007	03/29/18 23:16	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	504839	03/29/18 14:47	JLJ	TAL NSH
Total Recoverable	Analysis	6020A		1			507469	04/10/18 15:40	LCS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	505195	03/30/18 16:37	RDH	TAL NSH
Total/NA	Analysis	7470A		1			505638	04/02/18 11:31	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			750.77 mL	1.0 g	358010	03/28/18 13:32	TJT	TAL SL
Total/NA	Analysis	903.0		1			361707	04/19/18 06:04	RTM	TAL SL
Total/NA	Prep	PrecSep_0			750.77 mL	1.0 g	358014	03/28/18 13:51	TJT	TAL SL
Total/NA	Analysis	904.0		1			359055	04/05/18 14:55	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			361901	04/19/18 17:52	RTM	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 Environment & Infrastructure
Project/Site: TMPA Gibbons Creek

TestAmerica Job ID: 490-148686-1

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 Environment & Infrastructure
Project/Site: TMPA Gibbons Creek

TestAmerica Job ID: 490-148686-1

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	08-31-18

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	06-30-18 *
Arizona	State Program	9	AZ0813	12-08-18
California	State Program	9	2886	06-30-18 *
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-18 *
Illinois	NELAP	5	200023	11-30-18
Iowa	State Program	7	373	12-01-18
Kansas	NELAP	7	E-10236	10-31-18
Kentucky (DW)	State Program	4	90125	12-31-18
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-18
Louisiana (DW)	NELAP	6	LA180017	12-31-18
Maryland	State Program	3	310	09-30-18
Michigan	State Program	5	9005	06-30-18
Missouri	State Program	7	780	06-30-18
Nevada	State Program	9	MO000542018-1	07-31-18
New Jersey	NELAP	2	MO002	06-30-18 *
New York	NELAP	2	11616	03-31-19
North Dakota	State Program	8	R207	06-30-18
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-18
Pennsylvania	NELAP	3	68-00540	02-28-19
South Carolina	State Program	4	85002001	06-30-18
Texas	NELAP	6	T104704193-17-11	07-31-18
US Fish & Wildlife	Federal		058448	08-31-18
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-18
Virginia	NELAP	3	460230	06-14-18 *
Washington	State Program	10	C592	08-30-18
West Virginia DEP	State Program	3	381	08-31-18 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-148686 Chain of Custody

Cooler Received/Opened On 3/23/2018 @ 0915

Time Samples Removed From Cooler 1450 Time Samples Placed In Storage 1537 (2 Hour Window)

1. Tracking # 1264 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960353 pH Strip Lot N/A Chlorine Strip Lot N/A

2. Temperature of rep. sample or temp blank when opened: 1.8 *Degrees Celsius*

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

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

If yes, how many and where: 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) J.J.

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) _____

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) _____

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) _____

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

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# _____ 3-23-18 3-23-18

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 8/23/17

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

Loc: 490
148686

COOLER RECEIPT FORM

Cooler Received/Opened On 3/23/2018 @ 0915

Time Samples Removed From Cooler 1450 Time Samples Placed In Storage 1533 (2 Hour Window)

1. Tracking # 1247 (last 4 digits, FedEx) Courier: FedEx

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

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

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

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

If yes, how many and where: 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) J.J.

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) _____

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) _____

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) _____

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

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

4/26/2018

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

Loc: 490
148686

COOLER RECEIPT FORM

Cooler Received/Opened On 3/23/2018 @0915

Time Samples Removed From Cooler 1450 Time Samples Placed In Storage 1537 (2 Hour Window)

1. Tracking # 1275 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960358 pH Strip Lot N/A Chlorine Strip Lot N/A

2. Temperature of rep. sample or temp blank when opened: 3.6 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) EJ

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) _____

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) _____

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) _____

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

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-I
End of Form

Revised 8/23/17

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

Loc: 490
148686

COOLER RECEIPT FORM

Cooler Received/Opened On 3/23/2018 @0915

Time Samples Removed From Cooler 1450 Time Samples Placed In Storage 1533 (2 Hour Window)

1. Tracking # 1286 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960358 pH Strip Lot N/A Chlorine Strip Lot N/A

2. Temperature of rep. sample or temp blank when opened: 3.4 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) CS

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) CS

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) CS

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) CS

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

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
148686

COOLER RECEIPT FORM

Cooler Received/Opened On 3/24/2018 @ 0945

Time Samples Removed From Cooler_____ Time Samples Placed In Storage_____ (2 Hour Window)

1. Tracking # 1253 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960353 pH Strip Lot_____ Chlorine Strip Lot_____

2. Temperature of rep. sample or temp blank when opened: 2.5 *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) J.J.

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 # NA

I certify that I unloaded the cooler and answered questions 7-14 (intial) EA

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) EA

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) EA

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

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: B. Gieselman / S. Macon	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-82274-24093.1
Client Contact: Greg Seifert	Phone: 512-795-0360	E-Mail: gail.lage@testamericainc.com		Page: Page 1 of 3
Company: AMEC Foster Wheeler E & I, Inc		Analysis Requested		Job #:
Address: 3755 South Capital of Texas Highway Suite 375	Due Date 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)
City: Austin	TAT Requested (days):			
State, Zip: TX, 78704				
Phone: 512-795-0360	PO #: Purchase Order Requested			Other:
Email: greg.seifert@amecfw.com	WO #:			
Project Name: CCR TMPA Gibbons Creek/ Event Desc: CCR	Project #: 49013510			
Site: Texas	SSOW#:			

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 - (MOD) Fluoride	6020A, 7470A	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D		
1 MNW-15	3/20/18	0910	G	Water	N	N	X	X	X		
2 MNW-18		0911		Water							
3 SFL MW-7		1010		Water							
4 SFL MW-6		1033		Water							
5 SFL MW-5		1144		Water							
6 SFL MW-3		1145		Water							
7 SFL MW-4		1250		Water							
8 SFL MW-2		1253		Water							
9 EQBK-BG-032018		1345		Water							
10 EQBK/SCM/032018		1435		Water							
11 AP MW-3	↓	1525	↓	Water	↓	↓	↓	↓	↓		

Loc: 490
148686

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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
Brian Gieselman	3/22/18 @ 1530	Amec FW			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
				3-23-18 0615	TA-NAS

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		2.8, 3.6, 1.8, 3.2/

Ver: 08/04/2016

4/26/2018

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: B. Gieselman / S. Macon	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-82274-24093.2
Client Contact: Greg Seifert	Phone: 512-795-0360	E-Mail: gail.lage@testamericainc.com		Page: Page 2 of 3
Company: AMEC Foster Wheeler E & I, Inc		Analysis Requested		Job #:
Address: 3755 South Capital of Texas Highway Suite 375	Due Date Requested:			Preservation Codes:
City: Austin	TAT Requested (days):			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)
State, Zip: TX, 78704				
Phone: 512-795-0360	PO #: Purchase Order Requested			Other:
Email: greg.seifert@amecfw.com	WO #:			
Project Name: CCR TMPA Gibbons Creek/ Event Desc: CCR	Project #: 49013510			
Site: Texas	SSOW#:			

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 - (MOD) Fluoride	6020A, 7470A	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D		Loc: 490 148686
12 SSP MW-2	3/20/18	1640	G	Water	N	N	X	X	X		
13 DUP-1	3/20/18	—		Water							
14 AP MW-1D	3/21/18	0939		Water							
15 SSP MW-3		0950		Water							
16 SSP MW-4		1130		Water							
17 AP MW-5		1210		Water		Y					MS/MSD
18 AP MW-6		1346		Water		N					
19 SSP/AP MW-1		1350		Water							
20 EQBK/SCM/032118		1430		Water							
21 AP MW-4		1501		Water							
22 EQBK-BG-032118		1545		Water							

Page 68 of 75

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: Brian Gieselman	Date/Time: 3/22/18 @ 1530	Company AMEC FW	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 3-23-18 0915	Company TAT MAS

Custody Seals Intact: △ Yes △ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.8, 3.6, 1.8, 3.4

Ver: 08/04/2016

4/26/2018

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: B. Gieselman / S. Macon	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-82274-24093.3
Client Contact: Greg Seifert	Phone: 512-795-0360	E-Mail: gail.lage@testamericainc.com		Page: Page 3 of 3
Company: AMEC Foster Wheeler E & I, Inc		Analysis Requested		Job #:
Address: 3755 South Capital of Texas Highway Suite 375	Due Date Requested:			Preservation Codes:
City: Austin	TAT Requested (days):			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)
State, Zip: TX, 78704				
Phone: 512-795-0360	PO #: Purchase Order Requested			Other:
Email: greg.seifert@amecfw.com	WO #:			
Project Name: CCR TMPA Gibbons Creek/ Event Desc: CCR	Project #: 49013510			
Site: Texas	SSOW#:			

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 - (MOD) Fluoride	6020A, 7470A	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D		
23 DUP-2	3/21/18	—	G	Water	N	N	X	X	X		
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							

Loc: 490
148686

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
Brian Gieselman	3/22/18 @ 1530	Amec FW			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
				3-23-18 0915	TAN AS

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		2.8, 3.6, 1.8, 3.4

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: 490-70785.1
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 #: 490-148686-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 4/4/2018			
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:

Analysis Requested

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:								
MNW-15 (490-148686-1)	3/20/18	09:10 Central		Water			X	X	X	2	
MNW-18 (490-148686-2)	3/20/18	09:11 Central		Water			X	X	X	2	
SFL MW-7 (490-148686-3)	3/20/18	10:10 Central		Water			X	X	X	2	
SFL MW-6 (490-148686-4)	3/20/18	10:33 Central		Water			X	X	X	2	
SFL MW-5 (490-148686-5)	3/20/18	11:44 Central		Water			X	X	X	2	
SFL MW-3 (490-148686-6)	3/20/18	11:45 Central		Water			X	X	X	2	
SFL MW-4 (490-148686-7)	3/20/18	12:50 Central		Water			X	X	X	2	
SFL MW-2 (490-148686-8)	3/20/18	12:53 Central		Water			X	X	X	2	
EQBK-BG-032018 (490-148686-9)	3/20/18	13:45 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
[signature]	3.26.18 @ 1300	TANAS	[signature]	3271 1020	TASL
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: 490-70785.2
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 #: 490-148686-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 4/4/2018			
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/SCM/032018 (490-148686-10)	3/20/18	14:35 Central		Water			X	X	X	2	
AP MW-3 (490-148686-11)	3/20/18	15:25 Central		Water			X	X	X	2	
SSP MW-2 (490-148686-12)	3/20/18	16:40 Central		Water			X	X	X	2	
Dup 1 (490-148686-13)	3/20/18	00:01 Central		Water			X	X	X	2	
AP MW-1D (490-148686-14)	3/21/18	09:39 Central		Water			X	X	X	2	
SSP MW-3 (490-148686-15)	3/21/18	09:50 Central		Water			X	X	X	2	
SSP MW-4 (490-148686-16)	3/21/18	11:30 Central		Water			X	X	X	2	
AP MW-5 (490-148686-17)	3/21/18	12:10 Central		Water			X	X	X	2	
AP MW-5 (490-148686-17MS)	3/21/18	12:10 Central	MS	Water			X	X	X	2	

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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]	3/26/18 @ 1320	TANAS	[signature]	3/27/18 1020	TASA
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: 490-70785.3
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 #: 490-148686-1
Address: 13715 Rider Trail North,	Due Date Requested: 4/4/2018			
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-5 (490-148686-17MSD)	3/21/18	12:10 Central	MSD	Water			X	X	X	2	
AP MW-6 (490-148686-18)	3/21/18	13:46 Central		Water			X	X	X	2	
SSP/AP MW-1 (490-148686-19)	3/21/18	13:50 Central		Water			X	X	X	2	
EQBK/SCM/032118 (490-148686-20)	3/21/18	14:30 Central		Water			X	X	X	2	
AP MW-4 (490-148686-21)	3/21/18	15:01 Central		Water			X	X	X	2	
EQBK-BG-032118 (490-148686-22)	3/21/18	15:45 Central		Water			X	X	X	2	
Dup 2 (490-148686-23)	3/21/18	00:01 Central		Water			X	X	X	2	

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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]	3/26/18 @ 1320	TANAS	[signature]	32718 1020	FedEx
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: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 09/20/2016

Login Sample Receipt Checklist

Client: Wood Environment & Infrastructure

Job Number: 490-148686-1

Login Number: 148686
List Number: 2
Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis
List Creation: 03/27/18 12:36 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	19.0,19.0,19.0
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?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: Wood Environment & Infrastructure
Project/Site: TMPA Gibbons Creek

TestAmerica Job ID: 490-148686-1

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits) Ba Carrier (40-110)
490-148686-1	MNW-15	96.5
490-148686-2	MNW-18	97.1
490-148686-3	SFL MW-7	92.3
490-148686-4	SFL MW-6	102
490-148686-5	SFL MW-5	101
490-148686-6	SFL MW-3	104
490-148686-7	SFL MW-4	104
490-148686-8	SFL MW-2	103
490-148686-9	EQBK-BG-032018	104
490-148686-10	EQBK/SCM/032018	101
490-148686-11	AP MW-3	99.4
490-148686-12	SSP MW-2	100
490-148686-13	Dup 1	101
490-148686-14	AP MW-1D	103
490-148686-15	SSP MW-3	106
490-148686-16	SSP MW-4	98.2
490-148686-17	AP MW-5	104
490-148686-17 MS	AP MW-5	100
490-148686-17 MSD	AP MW-5	106
490-148686-18	AP MW-6	101
490-148686-19	SSP/AP MW-1	97.9
490-148686-20	EQBK/SCM/032118	104
490-148686-21	AP MW-4	98.8
490-148686-22	EQBK-BG-032118	101
490-148686-23	Dup 2	101
LCS 160-357993/1-A	Lab Control Sample	104
LCS 160-358010/1-A	Lab Control Sample	99.4
LCSD 160-358010/2-A	Lab Control Sample Dup	97.9
MB 160-357993/24-A	Method Blank	100
MB 160-358010/11-A	Method Blank	101

Tracer/Carrier Legend

Ba Carrier = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Yield (Acceptance Limits) Ba Carrier (40-110)	Y Carrier (40-110)
490-148686-1	MNW-15	96.5	77.0
490-148686-2	MNW-18	97.1	87.5
490-148686-3	SFL MW-7	92.3	82.2
490-148686-4	SFL MW-6	102	81.5
490-148686-5	SFL MW-5	101	86.0
490-148686-6	SFL MW-3	104	83.7
490-148686-7	SFL MW-4	104	85.6
490-148686-8	SFL MW-2	103	82.2
490-148686-9	EQBK-BG-032018	104	86.7

Tracer/Carrier Summary

Client: Wood Environment & Infrastructure
Project/Site: TMPA Gibbons Creek

TestAmerica Job ID: 490-148686-1

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)
490-148686-10	EQBK/SCM/032018	101	89.3
490-148686-11	AP MW-3	99.4	82.2
490-148686-12	SSP MW-2	97.6	87.9
490-148686-13	Dup 1	101	77.0
490-148686-14	AP MW-1D	103	85.2
490-148686-15	SSP MW-3	106	83.0
490-148686-16	SSP MW-4	98.2	81.9
490-148686-17	AP MW-5	104	85.2
490-148686-17 MS	AP MW-5	100	77.8
490-148686-17 MSD	AP MW-5	106	92.0
490-148686-18	AP MW-6	101	83.7
490-148686-19	SSP/AP MW-1	97.9	75.9
490-148686-20	EQBK/SCM/032118	104	85.2
490-148686-21	AP MW-4	98.8	94.6
490-148686-22	EQBK-BG-032118	101	89.3
490-148686-23	Dup 2	101	86.4
LCS 160-357998/1-A	Lab Control Sample	104	83.7
LCS 160-358014/1-A	Lab Control Sample	99.4	90.8
LCS 160-359328/1-A	Lab Control Sample	103	89.3
LCSD 160-358014/2-A	Lab Control Sample Dup	97.9	89.7
LCSD 160-359328/2-A	Lab Control Sample Dup	104	93.1
MB 160-357998/24-A	Method Blank	100	82.2
MB 160-358014/11-A	Method Blank	101	91.2
MB 160-359328/4-A	Method Blank	101	87.5

Tracer/Carrier Legend

Ba Carrier = Ba Carrier
Y Carrier = Y Carrier

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: 490-153717-2
Client Project/Site: AMEC CCR TMPA Gibbons Creek
Sampling Event: CCR
Revision: 1

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

Attn: Greg Seifert

Authorized for release by:
1/11/2019 11:04:27 AM

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: 490-153717-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-153717-1	AP MW-3	Water	06/08/18 10:20	06/13/18 10:15
490-153717-2	SFL MW-6	Water	06/08/18 11:50	06/13/18 10:15
490-153717-3	MNW-18	Water	06/08/18 15:10	06/13/18 10:15
490-153717-4	SFL MW-5	Water	06/08/18 16:36	06/13/18 10:15
490-153717-5	EQBK-BG-060818	Water	06/08/18 17:35	06/13/18 10:15
490-153717-6	SSP/AP MW-1	Water	06/09/18 10:30	06/13/18 10:15
490-153717-7	SSP MW-2	Water	06/09/18 12:38	06/13/18 10:15
490-153717-8	EQBK-BG-060918	Water	06/09/18 13:15	06/13/18 10:15
490-153717-9	SSP MW-3	Water	06/11/18 15:06	06/13/18 10:15
490-153717-10	SSP MW-4	Water	06/11/18 16:15	06/13/18 10:15
490-153717-11	EQBK-BG-061118	Water	06/11/18 17:10	06/13/18 10:15

Job ID: 490-153717-2

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-153717-2

Revised Report
This report was revised to lower the reporting limit of some of the metals. This replaces the original final report.

Receipt
The samples were received on 6/13/2018 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.1º C, 1.3º C and 3.5º C.

HPLC/IC
Method(s) 300.0, 9056A: Due to the high concentration of Chloride and Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 490-522697 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: Due to the nature of the sample matrix, a matrix spike / matrix spike duplicate (MS/MSD) was not analyzed with 490-523012. However, the laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries were within the acceptance limits.

Method(s) 9056A: The following samples were diluted due to the nature of the sample matrix: AP MW-3 (490-153717-1), SFL MW-6 (490-153717-2), MNW-18 (490-153717-3), SFL MW-5 (490-153717-4), SSP/AP MW-1 (490-153717-6), SSP MW-2 (490-153717-7), SSP MW-3 (490-153717-9) and SSP MW-4 (490-153717-10). 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 following samples were diluted due to the abundance of non-target analytes: AP MW-3 (490-153717-1), SFL MW-5 (490-153717-4), SSP MW-2 (490-153717-7) and SSP MW-3 (490-153717-9). 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.

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

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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.
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: 490-153717-2

Client Sample ID: AP MW-3
Date Collected: 06/08/18 10:20
Date Received: 06/13/18 10:15

Lab Sample ID: 490-153717-1
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	F1	1.00		mg/L			06/19/18 05:33	1
Sulfate	**673**		250		mg/L			06/20/18 00:07	50
Chloride	**144**		30.0		mg/L			06/19/18 23:52	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100		mg/L		06/14/18 18:29	06/19/18 20:38	5
Beryllium	ND		0.00400		mg/L		06/14/18 18:29	06/18/18 14:58	1
Boron	**3.67**		1.00		mg/L		06/14/18 18:29	06/18/18 14:58	1
Cadmium	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 14:58	1
Calcium	**135**		1.00		mg/L		06/14/18 18:29	06/18/18 14:58	1
Cobalt	**0.0396**		0.00500		mg/L		06/14/18 18:29	06/18/18 14:58	1
Lithium	**0.0470**		0.0400		mg/L		06/14/18 18:29	06/18/18 14:58	1
Molybdenum	ND		0.0100		mg/L		06/14/18 18:29	06/18/18 14:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/18 13:38	06/25/18 15:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1770**		20.0		mg/L			06/15/18 18:38	1

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

TestAmerica Job ID: 490-153717-2

Client Sample ID: SFL MW-6
Date Collected: 06/08/18 11:50
Date Received: 06/13/18 10:15

Lab Sample ID: 490-153717-2
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			06/19/18 06:17	1
Sulfate	**2520**		500		mg/L			06/20/18 00:22	100
Chloride	**3670**		300		mg/L			06/20/18 00:22	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.0449**		0.00400		mg/L		06/14/18 18:29	06/18/18 15:19	1
Boron	ND		1.00		mg/L		06/14/18 18:29	06/18/18 15:19	1
Cadmium	**0.00942**		0.00500		mg/L		06/14/18 18:29	06/18/18 15:19	1
Calcium	**915**		1.00		mg/L		06/14/18 18:29	06/18/18 15:19	1
Cobalt	**0.100**		0.00500		mg/L		06/14/18 18:29	06/18/18 15:19	1
Lead	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:19	1
Lithium	**0.597**		0.0400		mg/L		06/14/18 18:29	06/18/18 15:19	1
Thallium	**0.00305**		0.00200		mg/L		06/14/18 18:29	06/18/18 15:19	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/18 13:38	06/25/18 14:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6330**		100		mg/L			06/15/18 18:38	1

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

TestAmerica Job ID: 490-153717-2

Client Sample ID: MNW-18
Date Collected: 06/08/18 15:10
Date Received: 06/13/18 10:15

Lab Sample ID: 490-153717-3
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			06/19/18 06:32	1
Sulfate	**1890**		500		mg/L			06/20/18 01:06	100
Chloride	**491**		60.0		mg/L			06/20/18 00:51	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00400		mg/L		06/14/18 18:29	06/18/18 15:23	1
Boron	ND		1.00		mg/L		06/14/18 18:29	06/18/18 15:23	1
Cadmium	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:23	1
Calcium	**396**		1.00		mg/L		06/14/18 18:29	06/18/18 15:23	1
Cobalt	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:23	1
Lead	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:23	1
Lithium	**0.417**		0.0400		mg/L		06/14/18 18:29	06/18/18 15:23	1
Thallium	ND		0.00200		mg/L		06/14/18 18:29	06/18/18 15:23	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/18 13:38	06/25/18 15:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**3730**		40.0		mg/L			06/15/18 18:38	1

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

TestAmerica Job ID: 490-153717-2

Client Sample ID: SFL MW-5
Date Collected: 06/08/18 16:36
Date Received: 06/13/18 10:15

Lab Sample ID: 490-153717-4
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			06/19/18 06:46	1
Sulfate	**2290**		500		mg/L			06/20/18 01:21	100
Chloride	**3010**		300		mg/L			06/20/18 01:21	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.0105**		0.00400		mg/L		06/14/18 18:29	06/18/18 15:26	1
Boron	**4.42**		1.00		mg/L		06/14/18 18:29	06/18/18 15:26	1
Cadmium	**0.00538**		0.00500		mg/L		06/14/18 18:29	06/18/18 15:26	1
Calcium	**873**		1.00		mg/L		06/14/18 18:29	06/18/18 15:26	1
Cobalt	**0.0486**		0.00500		mg/L		06/14/18 18:29	06/18/18 15:26	1
Lead	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:26	1
Lithium	**0.629**		0.0400		mg/L		06/14/18 18:29	06/18/18 15:26	1
Thallium	ND		0.00200		mg/L		06/14/18 18:29	06/18/18 15:26	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/18 13:38	06/25/18 15:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**7470**		100		mg/L			06/15/18 18:38	1

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

TestAmerica Job ID: 490-153717-2

Client Sample ID: EQBK-BG-060818
Date Collected: 06/08/18 17:35
Date Received: 06/13/18 10:15

Lab Sample ID: 490-153717-5
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			06/19/18 07:01	1
Sulfate	ND		5.00		mg/L			06/19/18 07:01	1
Chloride	ND		3.00		mg/L			06/19/18 07:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00400		mg/L		06/14/18 18:29	06/18/18 15:29	1
Boron	ND		1.00		mg/L		06/14/18 18:29	06/18/18 15:29	1
Cadmium	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:29	1
Calcium	ND		1.00		mg/L		06/14/18 18:29	06/18/18 15:29	1
Cobalt	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:29	1
Lead	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:29	1
Lithium	ND		0.0400		mg/L		06/14/18 18:29	06/18/18 15:29	1
Thallium	ND		0.00200		mg/L		06/14/18 18:29	06/18/18 15:29	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/18 13:38	06/25/18 15:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			06/15/18 18:38	1

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

TestAmerica Job ID: 490-153717-2

Client Sample ID: SSP/AP MW-1
Date Collected: 06/09/18 10:30
Date Received: 06/13/18 10:15

Lab Sample ID: 490-153717-6
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			06/19/18 07:16	1
Sulfate	**3160**		500		mg/L			06/20/18 02:50	100
Chloride	**1480**		300		mg/L			06/20/18 02:50	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		06/14/18 18:29	06/18/18 15:32	1
Beryllium	ND		0.00400		mg/L		06/14/18 18:29	06/18/18 15:32	1
Boron	ND		1.00		mg/L		06/14/18 18:29	06/18/18 15:32	1
Cadmium	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:32	1
Calcium	**647**		1.00		mg/L		06/14/18 18:29	06/18/18 15:32	1
Cobalt	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:32	1
Lead	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:32	1
Lithium	**1.21**		0.0400		mg/L		06/14/18 18:29	06/18/18 15:32	1
Thallium	ND		0.00200		mg/L		06/14/18 18:29	06/18/18 15:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6700**		100		mg/L			06/15/18 18:38	1

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

TestAmerica Job ID: 490-153717-2

Client Sample ID: SSP MW-2
Date Collected: 06/09/18 12:38
Date Received: 06/13/18 10:15

Lab Sample ID: 490-153717-7
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			06/19/18 07:31	1
Sulfate	**2170**		500		mg/L			06/20/18 03:20	100
Chloride	**2560**		300		mg/L			06/20/18 03:20	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100		mg/L		06/14/18 18:29	06/19/18 20:57	5
Beryllium	**0.0475**		0.00400		mg/L		06/14/18 18:29	06/18/18 15:35	1
Boron	ND		1.00		mg/L		06/14/18 18:29	06/18/18 15:35	1
Cadmium	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:35	1
Calcium	**881**		1.00		mg/L		06/14/18 18:29	06/18/18 15:35	1
Cobalt	**0.0539**		0.00500		mg/L		06/14/18 18:29	06/18/18 15:35	1
Lead	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:35	1
Lithium	**0.751**		0.0400		mg/L		06/14/18 18:29	06/18/18 15:35	1
Thallium	ND		0.00200		mg/L		06/14/18 18:29	06/18/18 15:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6630**		100		mg/L			06/15/18 18:38	1

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

TestAmerica Job ID: 490-153717-2

Client Sample ID: EQBK-BG-060918
Date Collected: 06/09/18 13:15
Date Received: 06/13/18 10:15

Lab Sample ID: 490-153717-8
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			06/19/18 07:45	1
Sulfate	ND		5.00		mg/L			06/19/18 07:45	1
Chloride	ND		3.00		mg/L			06/19/18 07:45	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		06/14/18 18:29	06/18/18 15:44	1
Beryllium	ND		0.00400		mg/L		06/14/18 18:29	06/18/18 15:44	1
Boron	ND		1.00		mg/L		06/14/18 18:29	06/18/18 15:44	1
Cadmium	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:44	1
Calcium	ND		1.00		mg/L		06/14/18 18:29	06/18/18 15:44	1
Cobalt	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:44	1
Lead	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:44	1
Lithium	ND		0.0400		mg/L		06/14/18 18:29	06/18/18 15:44	1
Thallium	ND		0.00200		mg/L		06/14/18 18:29	06/18/18 15:44	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/18 13:38	06/25/18 15:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			06/15/18 18:38	1

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

TestAmerica Job ID: 490-153717-2

Client Sample ID: SSP MW-3
Date Collected: 06/11/18 15:06
Date Received: 06/13/18 10:15

Lab Sample ID: 490-153717-9
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.82		1.00		mg/L			06/19/18 08:00	1
Sulfate	2500		500		mg/L			06/20/18 03:49	100
Chloride	1720		300		mg/L			06/20/18 03:49	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100		mg/L		06/14/18 18:29	06/19/18 21:00	5
Beryllium	0.110		0.00400		mg/L		06/14/18 18:29	06/18/18 15:47	1
Boron	2.50		1.00		mg/L		06/14/18 18:29	06/18/18 15:47	1
Cadmium	0.0775		0.00500		mg/L		06/14/18 18:29	06/18/18 15:47	1
Calcium	689		1.00		mg/L		06/14/18 18:29	06/18/18 15:47	1
Cobalt	0.580		0.00500		mg/L		06/14/18 18:29	06/18/18 15:47	1
Lead	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:47	1
Lithium	0.526		0.0400		mg/L		06/14/18 18:29	06/18/18 15:47	1
Thallium	0.00970		0.00200		mg/L		06/14/18 18:29	06/18/18 15:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6370		100		mg/L			06/15/18 18:38	1

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

TestAmerica Job ID: 490-153717-2

Client Sample ID: SSP MW-4
Date Collected: 06/11/18 16:15
Date Received: 06/13/18 10:15

Lab Sample ID: 490-153717-10
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			06/19/18 08:15	1
Sulfate	**1220**		500		mg/L			06/20/18 04:19	100
Chloride	**1090**		300		mg/L			06/20/18 04:19	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		06/14/18 18:29	06/18/18 15:50	1
Beryllium	ND		0.00400		mg/L		06/14/18 18:29	06/18/18 15:50	1
Boron	**1.35**		1.00		mg/L		06/14/18 18:29	06/18/18 15:50	1
Cadmium	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:50	1
Calcium	**408**		1.00		mg/L		06/14/18 18:29	06/18/18 15:50	1
Cobalt	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:50	1
Lead	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:50	1
Lithium	**0.810**		0.0400		mg/L		06/14/18 18:29	06/18/18 15:50	1
Thallium	ND		0.00200		mg/L		06/14/18 18:29	06/18/18 15:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**3870**		40.0		mg/L			06/15/18 18:38	1

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

TestAmerica Job ID: 490-153717-2

Client Sample ID: EQBK-BG-061118
Date Collected: 06/11/18 17:10
Date Received: 06/13/18 10:15

Lab Sample ID: 490-153717-11
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			06/19/18 08:59	1
Sulfate	ND		5.00		mg/L			06/19/18 08:59	1
Chloride	ND		3.00		mg/L			06/19/18 08:59	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		06/14/18 18:29	06/18/18 15:54	1
Beryllium	ND		0.00400		mg/L		06/14/18 18:29	06/18/18 15:54	1
Boron	ND		1.00		mg/L		06/14/18 18:29	06/18/18 15:54	1
Cadmium	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:54	1
Calcium	ND		1.00		mg/L		06/14/18 18:29	06/18/18 15:54	1
Cobalt	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:54	1
Lead	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 15:54	1
Lithium	ND		0.0400		mg/L		06/14/18 18:29	06/18/18 15:54	1
Thallium	ND		0.00200		mg/L		06/14/18 18:29	06/18/18 15:54	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/18 13:39	06/25/18 15:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			06/15/18 18:38	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 490-522697/3
Matrix: Water
Analysis Batch: 522697

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			06/19/18 04:48	1
Sulfate	ND		5.00		mg/L			06/19/18 04:48	1
Chloride	ND		3.00		mg/L			06/19/18 04:48	1

Lab Sample ID: LCS 490-522697/4
Matrix: Water
Analysis Batch: 522697

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			1.00	0.9760	J	mg/L		97	80 - 120		
Sulfate			10.0	9.586		mg/L		96	80 - 120		
Chloride			10.0	9.558		mg/L		95	80 - 120		

Lab Sample ID: LCSD 490-522697/5
Matrix: Water
Analysis Batch: 522697

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
Fluoride			1.00	1.004		mg/L		100	80 - 120	3	20
Sulfate			10.0	9.708		mg/L		97	80 - 120	1	20
Chloride			10.0	9.698		mg/L		97	80 - 120	1	20

Lab Sample ID: 490-153717-1 MS
Matrix: Water
Analysis Batch: 522697

Client Sample ID: AP MW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	ND	F1	1.00	1.342	F1	mg/L		121	80 - 120		

Lab Sample ID: 490-153717-1 MSD
Matrix: Water
Analysis Batch: 522697

Client Sample ID: AP MW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND	F1	1.00	1.177		mg/L		105	80 - 120	13	20

Lab Sample ID: MB 490-523012/3
Matrix: Water
Analysis Batch: 523012

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			06/19/18 23:08	1
Sulfate	ND		5.00		mg/L			06/19/18 23:08	1
Chloride	ND		3.00		mg/L			06/19/18 23:08	1

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

Lab Sample ID: LCS 490-523012/4
Matrix: Water
Analysis Batch: 523012

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	0.9480	J	mg/L		95	80 - 120
Sulfate	10.0	9.672		mg/L		97	80 - 120
Chloride	10.0	9.621		mg/L		96	80 - 120

Lab Sample ID: LCSD 490-523012/5
Matrix: Water
Analysis Batch: 523012

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
Fluoride	1.00	0.9512	J	mg/L		95	80 - 120	0	20
Sulfate	10.0	9.725		mg/L		97	80 - 120	1	20
Chloride	10.0	9.709		mg/L		97	80 - 120	1	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 490-521974/1-A
Matrix: Water
Analysis Batch: 522905

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 521974

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 14:42	1
Beryllium	ND		0.00400		mg/L		06/14/18 18:29	06/18/18 14:42	1
Boron	ND		1.00		mg/L		06/14/18 18:29	06/18/18 14:42	1
Cadmium	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 14:42	1
Calcium	ND		1.00		mg/L		06/14/18 18:29	06/18/18 14:42	1
Cobalt	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 14:42	1
Lead	ND		0.00500		mg/L		06/14/18 18:29	06/18/18 14:42	1
Lithium	ND		0.0400		mg/L		06/14/18 18:29	06/18/18 14:42	1
Molybdenum	ND		0.0100		mg/L		06/14/18 18:29	06/18/18 14:42	1
Thallium	ND		0.00200		mg/L		06/14/18 18:29	06/18/18 14:42	1

Lab Sample ID: LCS 490-521974/2-A
Matrix: Water
Analysis Batch: 522905

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 521974

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.08770		mg/L		88	80 - 120
Arsenic	0.100	0.1001		mg/L		100	80 - 120
Barium	0.100	0.1058	J	mg/L		106	80 - 120
Beryllium	0.100	0.09956		mg/L		100	80 - 120
Boron	1.00	1.025		mg/L		103	80 - 120
Cadmium	0.100	0.09713		mg/L		97	80 - 120
Calcium	10.0	9.754		mg/L		98	80 - 120
Chromium	0.100	0.09964		mg/L		100	80 - 120
Cobalt	0.100	0.09723		mg/L		97	80 - 120
Lead	0.100	0.09731		mg/L		97	80 - 120
Lithium	0.100	0.09825		mg/L		98	80 - 120
Molybdenum	0.100	0.09508		mg/L		95	80 - 120

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

Lab Sample ID: LCS 490-521974/2-A
Matrix: Water
Analysis Batch: 522905

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 521974

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.100	0.09773		mg/L		98	80 - 120
Thallium	0.100	0.09582		mg/L		96	80 - 120

Lab Sample ID: LCSD 490-521974/3-A
Matrix: Water
Analysis Batch: 522905

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 521974

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.08726		mg/L		87	80 - 120	1	20
Arsenic	0.100	0.09796		mg/L		98	80 - 120	2	20
Barium	0.100	0.1040	J	mg/L		104	80 - 120	2	20
Beryllium	0.100	0.09859		mg/L		99	80 - 120	1	20
Boron	1.00	1.016		mg/L		102	80 - 120	1	20
Cadmium	0.100	0.09556		mg/L		96	80 - 120	2	20
Calcium	10.0	9.634		mg/L		96	80 - 120	1	20
Chromium	0.100	0.09680		mg/L		97	80 - 120	3	20
Cobalt	0.100	0.09490		mg/L		95	80 - 120	2	20
Lead	0.100	0.09592		mg/L		96	80 - 120	1	20
Lithium	0.100	0.09680		mg/L		97	80 - 120	1	20
Molybdenum	0.100	0.09288		mg/L		93	80 - 120	2	20
Selenium	0.100	0.09729		mg/L		97	80 - 120	0	20
Thallium	0.100	0.09477		mg/L		95	80 - 120	1	20

Lab Sample ID: 490-153717-1 MS
Matrix: Water
Analysis Batch: 522905

Client Sample ID: AP MW-3
Prep Type: Total Recoverable
Prep Batch: 521974

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.100	0.09724		mg/L		97	75 - 125
Barium	ND		0.100	ND		mg/L		98	75 - 125
Beryllium	ND		0.100	0.09369		mg/L		91	75 - 125
Boron	3.67		1.00	4.485		mg/L		82	75 - 125
Cadmium	ND		0.100	0.09958		mg/L		95	75 - 125
Calcium	135		10.0	139.2	4	mg/L		44	75 - 125
Chromium	ND		0.100	0.09522		mg/L		94	75 - 125
Cobalt	0.0396		0.100	0.1316		mg/L		92	75 - 125
Lead	ND		0.100	0.09397		mg/L		94	75 - 125
Lithium	0.0470		0.100	0.1371		mg/L		90	75 - 125
Molybdenum	ND		0.100	0.09358		mg/L		94	75 - 125
Selenium	ND		0.100	0.09986		mg/L		99	75 - 125
Thallium	ND		0.100	0.09272		mg/L		93	75 - 125

Lab Sample ID: 490-153717-1 MS
Matrix: Water
Analysis Batch: 523220

Client Sample ID: AP MW-3
Prep Type: Total Recoverable
Prep Batch: 521974

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.100	0.08595		mg/L		86	75 - 125

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

Lab Sample ID: 490-153717-1 MSD
Matrix: Water
Analysis Batch: 522905

Client Sample ID: AP MW-3
Prep Type: Total Recoverable
Prep Batch: 521974

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		0.100	0.1007		mg/L		101	75 - 125	3	20
Barium	ND		0.100	ND		mg/L		104	75 - 125	4	20
Beryllium	ND		0.100	0.09615		mg/L		93	75 - 125	3	20
Boron	3.67		1.00	4.518		mg/L		85	75 - 125	1	20
Cadmium	ND		0.100	0.1036		mg/L		99	75 - 125	4	20
Calcium	135		10.0	141.7	4	mg/L		69	75 - 125	2	20
Chromium	ND		0.100	0.09907		mg/L		98	75 - 125	4	20
Cobalt	0.0396		0.100	0.1379		mg/L		98	75 - 125	5	20
Lead	ND		0.100	0.09724		mg/L		97	75 - 125	3	20
Lithium	0.0470		0.100	0.1405		mg/L		94	75 - 125	2	20
Molybdenum	ND		0.100	0.09687		mg/L		97	75 - 125	3	20
Selenium	ND		0.100	0.1010		mg/L		100	75 - 125	1	20
Thallium	ND		0.100	0.09572		mg/L		96	75 - 125	3	20

Lab Sample ID: 490-153717-1 MSD
Matrix: Water
Analysis Batch: 523220

Client Sample ID: AP MW-3
Prep Type: Total Recoverable
Prep Batch: 521974

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		0.100	0.09353		mg/L		94	75 - 125	8	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 490-524371/1-B
Matrix: Water
Analysis Batch: 524643

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 524371

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/18 13:38	06/25/18 14:46	1

Lab Sample ID: LCS 490-524371/2-B
Matrix: Water
Analysis Batch: 524643

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 524371

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00100	0.0009738		mg/L		97	80 - 120		

Lab Sample ID: LCSD 490-524371/3-B
Matrix: Water
Analysis Batch: 524643

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 524371

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.00100	0.0009651		mg/L		97	80 - 120	1	20

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

Lab Sample ID: 490-153717-2 MS
Matrix: Water
Analysis Batch: 524643

Client Sample ID: SFL MW-6
Prep Type: Total/NA
Prep Batch: 524371

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00100	0.001173		mg/L		117	75 - 125

Lab Sample ID: 490-153717-2 MSD
Matrix: Water
Analysis Batch: 524643

Client Sample ID: SFL MW-6
Prep Type: Total/NA
Prep Batch: 524371

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00100	0.001202		mg/L		120	75 - 125	2	20

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

Lab Sample ID: MB 490-521201/1
Matrix: Water
Analysis Batch: 521201

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			06/15/18 18:38	1

Lab Sample ID: LCS 490-521201/2
Matrix: Water
Analysis Batch: 521201

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	92.00		mg/L		92	90 - 110

Lab Sample ID: LCSD 490-521201/3
Matrix: Water
Analysis Batch: 521201

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	96.00		mg/L		96	90 - 110	4	20

HPLC/IC

Analysis Batch: 522697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153717-1	AP MW-3	Total/NA	Water	9056A	
490-153717-2	SFL MW-6	Total/NA	Water	9056A	
490-153717-3	MNW-18	Total/NA	Water	9056A	
490-153717-4	SFL MW-5	Total/NA	Water	9056A	
490-153717-5	EQBK-BG-060818	Total/NA	Water	9056A	
490-153717-6	SSP/AP MW-1	Total/NA	Water	9056A	
490-153717-7	SSP MW-2	Total/NA	Water	9056A	
490-153717-8	EQBK-BG-060918	Total/NA	Water	9056A	
490-153717-9	SSP MW-3	Total/NA	Water	9056A	
490-153717-10	SSP MW-4	Total/NA	Water	9056A	
490-153717-11	EQBK-BG-061118	Total/NA	Water	9056A	
MB 490-522697/3	Method Blank	Total/NA	Water	9056A	
LCS 490-522697/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-522697/5	Lab Control Sample Dup	Total/NA	Water	9056A	
490-153717-1 MS	AP MW-3	Total/NA	Water	9056A	
490-153717-1 MSD	AP MW-3	Total/NA	Water	9056A	

Analysis Batch: 523012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153717-1	AP MW-3	Total/NA	Water	9056A	
490-153717-1	AP MW-3	Total/NA	Water	9056A	
490-153717-2	SFL MW-6	Total/NA	Water	9056A	
490-153717-3	MNW-18	Total/NA	Water	9056A	
490-153717-3	MNW-18	Total/NA	Water	9056A	
490-153717-4	SFL MW-5	Total/NA	Water	9056A	
490-153717-6	SSP/AP MW-1	Total/NA	Water	9056A	
490-153717-7	SSP MW-2	Total/NA	Water	9056A	
490-153717-9	SSP MW-3	Total/NA	Water	9056A	
490-153717-10	SSP MW-4	Total/NA	Water	9056A	
MB 490-523012/3	Method Blank	Total/NA	Water	9056A	
LCS 490-523012/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-523012/5	Lab Control Sample Dup	Total/NA	Water	9056A	

Metals

Prep Batch: 521974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153717-1	AP MW-3	Total Recoverable	Water	3005A	
490-153717-2	SFL MW-6	Total Recoverable	Water	3005A	
490-153717-3	MNW-18	Total Recoverable	Water	3005A	
490-153717-4	SFL MW-5	Total Recoverable	Water	3005A	
490-153717-5	EQBK-BG-060818	Total Recoverable	Water	3005A	
490-153717-6	SSP/AP MW-1	Total Recoverable	Water	3005A	
490-153717-7	SSP MW-2	Total Recoverable	Water	3005A	
490-153717-8	EQBK-BG-060918	Total Recoverable	Water	3005A	
490-153717-9	SSP MW-3	Total Recoverable	Water	3005A	
490-153717-10	SSP MW-4	Total Recoverable	Water	3005A	
490-153717-11	EQBK-BG-061118	Total Recoverable	Water	3005A	
MB 490-521974/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 490-521974/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Metals (Continued)

Prep Batch: 521974 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 490-521974/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
490-153717-1 MS	AP MW-3	Total Recoverable	Water	3005A	
490-153717-1 MSD	AP MW-3	Total Recoverable	Water	3005A	

Analysis Batch: 522905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153717-1	AP MW-3	Total Recoverable	Water	6020A	521974
490-153717-2	SFL MW-6	Total Recoverable	Water	6020A	521974
490-153717-3	MNW-18	Total Recoverable	Water	6020A	521974
490-153717-4	SFL MW-5	Total Recoverable	Water	6020A	521974
490-153717-5	EQBK-BG-060818	Total Recoverable	Water	6020A	521974
490-153717-6	SSP/AP MW-1	Total Recoverable	Water	6020A	521974
490-153717-7	SSP MW-2	Total Recoverable	Water	6020A	521974
490-153717-8	EQBK-BG-060918	Total Recoverable	Water	6020A	521974
490-153717-9	SSP MW-3	Total Recoverable	Water	6020A	521974
490-153717-10	SSP MW-4	Total Recoverable	Water	6020A	521974
490-153717-11	EQBK-BG-061118	Total Recoverable	Water	6020A	521974
MB 490-521974/1-A	Method Blank	Total Recoverable	Water	6020A	521974
LCS 490-521974/2-A	Lab Control Sample	Total Recoverable	Water	6020A	521974
LCSD 490-521974/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	521974
490-153717-1 MS	AP MW-3	Total Recoverable	Water	6020A	521974
490-153717-1 MSD	AP MW-3	Total Recoverable	Water	6020A	521974

Analysis Batch: 523220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153717-1	AP MW-3	Total Recoverable	Water	6020A	521974
490-153717-7	SSP MW-2	Total Recoverable	Water	6020A	521974
490-153717-9	SSP MW-3	Total Recoverable	Water	6020A	521974
490-153717-1 MS	AP MW-3	Total Recoverable	Water	6020A	521974
490-153717-1 MSD	AP MW-3	Total Recoverable	Water	6020A	521974

Prep Batch: 524371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153717-1	AP MW-3	Total/NA	Water	7470A	
490-153717-2	SFL MW-6	Total/NA	Water	7470A	
490-153717-3	MNW-18	Total/NA	Water	7470A	
490-153717-4	SFL MW-5	Total/NA	Water	7470A	
490-153717-5	EQBK-BG-060818	Total/NA	Water	7470A	
490-153717-8	EQBK-BG-060918	Total/NA	Water	7470A	
490-153717-11	EQBK-BG-061118	Total/NA	Water	7470A	
MB 490-524371/1-B	Method Blank	Total/NA	Water	7470A	
LCS 490-524371/2-B	Lab Control Sample	Total/NA	Water	7470A	
LCSD 490-524371/3-B	Lab Control Sample Dup	Total/NA	Water	7470A	
490-153717-2 MS	SFL MW-6	Total/NA	Water	7470A	
490-153717-2 MSD	SFL MW-6	Total/NA	Water	7470A	

Analysis Batch: 524643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153717-1	AP MW-3	Total/NA	Water	7470A	524371
490-153717-2	SFL MW-6	Total/NA	Water	7470A	524371
490-153717-3	MNW-18	Total/NA	Water	7470A	524371

Metals (Continued)

Analysis Batch: 524643 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153717-4	SFL MW-5	Total/NA	Water	7470A	524371
490-153717-5	EQBK-BG-060818	Total/NA	Water	7470A	524371
490-153717-8	EQBK-BG-060918	Total/NA	Water	7470A	524371
490-153717-11	EQBK-BG-061118	Total/NA	Water	7470A	524371
MB 490-524371/1-B	Method Blank	Total/NA	Water	7470A	524371
LCS 490-524371/2-B	Lab Control Sample	Total/NA	Water	7470A	524371
LCSD 490-524371/3-B	Lab Control Sample Dup	Total/NA	Water	7470A	524371
490-153717-2 MS	SFL MW-6	Total/NA	Water	7470A	524371
490-153717-2 MSD	SFL MW-6	Total/NA	Water	7470A	524371

General Chemistry

Analysis Batch: 521201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153717-1	AP MW-3	Total/NA	Water	SM 2540C	
490-153717-2	SFL MW-6	Total/NA	Water	SM 2540C	
490-153717-3	MNW-18	Total/NA	Water	SM 2540C	
490-153717-4	SFL MW-5	Total/NA	Water	SM 2540C	
490-153717-5	EQBK-BG-060818	Total/NA	Water	SM 2540C	
490-153717-6	SSP/AP MW-1	Total/NA	Water	SM 2540C	
490-153717-7	SSP MW-2	Total/NA	Water	SM 2540C	
490-153717-8	EQBK-BG-060918	Total/NA	Water	SM 2540C	
490-153717-9	SSP MW-3	Total/NA	Water	SM 2540C	
490-153717-10	SSP MW-4	Total/NA	Water	SM 2540C	
490-153717-11	EQBK-BG-061118	Total/NA	Water	SM 2540C	
MB 490-521201/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 490-521201/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 490-521201/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Client Sample ID: AP MW-3

Lab Sample ID: 490-153717-1

Date Collected: 06/08/18 10:20

Matrix: Water

Date Received: 06/13/18 10:15

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			522697	06/19/18 05:33	T1C	TAL NSH
Total/NA	Analysis	9056A		10			523012	06/19/18 23:52	SW1	TAL NSH
Total/NA	Analysis	9056A		50			523012	06/20/18 00:07	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	521974	06/14/18 18:29	RDF	TAL NSH
Total Recoverable	Analysis	6020A		1			522905	06/18/18 14:58	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	521974	06/14/18 18:29	RDF	TAL NSH
Total Recoverable	Analysis	6020A		5			523220	06/19/18 20:38	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	524371	06/24/18 13:38	CSL	TAL NSH
Total/NA	Analysis	7470A		1			524643	06/25/18 15:06	BLG	TAL NSH
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	521201	06/15/18 18:38	AEC	TAL NSH

Client Sample ID: SFL MW-6

Lab Sample ID: 490-153717-2

Date Collected: 06/08/18 11:50

Matrix: Water

Date Received: 06/13/18 10:15

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			522697	06/19/18 06:17	T1C	TAL NSH
Total/NA	Analysis	9056A		100			523012	06/20/18 00:22	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	521974	06/14/18 18:29	RDF	TAL NSH
Total Recoverable	Analysis	6020A		1			522905	06/18/18 15:19	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	524371	06/24/18 13:38	CSL	TAL NSH
Total/NA	Analysis	7470A		1			524643	06/25/18 14:53	BLG	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	521201	06/15/18 18:38	AEC	TAL NSH

Client Sample ID: MNW-18

Lab Sample ID: 490-153717-3

Date Collected: 06/08/18 15:10

Matrix: Water

Date Received: 06/13/18 10:15

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			522697	06/19/18 06:32	T1C	TAL NSH
Total/NA	Analysis	9056A		20			523012	06/20/18 00:51	SW1	TAL NSH
Total/NA	Analysis	9056A		100			523012	06/20/18 01:06	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	521974	06/14/18 18:29	RDF	TAL NSH
Total Recoverable	Analysis	6020A		1			522905	06/18/18 15:23	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	524371	06/24/18 13:38	CSL	TAL NSH
Total/NA	Analysis	7470A		1			524643	06/25/18 15:09	BLG	TAL NSH
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	521201	06/15/18 18:38	AEC	TAL NSH

Client Sample ID: SFL MW-5

Lab Sample ID: 490-153717-4

Date Collected: 06/08/18 16:36

Matrix: Water

Date Received: 06/13/18 10:15

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			522697	06/19/18 06:46	T1C	TAL NSH
Total/NA	Analysis	9056A		100			523012	06/20/18 01:21	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	521974	06/14/18 18:29	RDF	TAL NSH
Total Recoverable	Analysis	6020A		1			522905	06/18/18 15:26	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	524371	06/24/18 13:38	CSL	TAL NSH
Total/NA	Analysis	7470A		1			524643	06/25/18 15:17	BLG	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	521201	06/15/18 18:38	AEC	TAL NSH

Client Sample ID: EQBK-BG-060818

Lab Sample ID: 490-153717-5

Date Collected: 06/08/18 17:35

Matrix: Water

Date Received: 06/13/18 10:15

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			522697	06/19/18 07:01	T1C	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	521974	06/14/18 18:29	RDF	TAL NSH
Total Recoverable	Analysis	6020A		1			522905	06/18/18 15:29	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	524371	06/24/18 13:38	CSL	TAL NSH
Total/NA	Analysis	7470A		1			524643	06/25/18 15:19	BLG	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	521201	06/15/18 18:38	AEC	TAL NSH

Client Sample ID: SSP/AP MW-1

Lab Sample ID: 490-153717-6

Date Collected: 06/09/18 10:30

Matrix: Water

Date Received: 06/13/18 10:15

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			522697	06/19/18 07:16	T1C	TAL NSH
Total/NA	Analysis	9056A		100			523012	06/20/18 02:50	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	521974	06/14/18 18:29	RDF	TAL NSH
Total Recoverable	Analysis	6020A		1			522905	06/18/18 15:32	BLG	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	521201	06/15/18 18:38	AEC	TAL NSH

Client Sample ID: SSP MW-2

Lab Sample ID: 490-153717-7

Date Collected: 06/09/18 12:38

Matrix: Water

Date Received: 06/13/18 10:15

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			522697	06/19/18 07:31	T1C	TAL NSH
Total/NA	Analysis	9056A		100			523012	06/20/18 03:20	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	521974	06/14/18 18:29	RDF	TAL NSH
Total Recoverable	Analysis	6020A		1			522905	06/18/18 15:35	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	521974	06/14/18 18:29	RDF	TAL NSH
Total Recoverable	Analysis	6020A		5			523220	06/19/18 20:57	BLG	TAL NSH

Lab Chronicle

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

TestAmerica Job ID: 490-153717-2

Client Sample ID: SSP MW-2

Lab Sample ID: 490-153717-7

Date Collected: 06/09/18 12:38
Matrix: Water
Date Received: 06/13/18 10:15

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	10 mL	100 mL	521201	06/15/18 18:38	AEC	TAL NSH

Client Sample ID: EQBK-BG-060918

Lab Sample ID: 490-153717-8

Date Collected: 06/09/18 13:15
Matrix: Water
Date Received: 06/13/18 10:15

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			522697	06/19/18 07:45	T1C	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	521974	06/14/18 18:29	RDF	TAL NSH
Total Recoverable	Analysis	6020A		1			522905	06/18/18 15:44	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	524371	06/24/18 13:38	CSL	TAL NSH
Total/NA	Analysis	7470A		1			524643	06/25/18 15:22	BLG	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	521201	06/15/18 18:38	AEC	TAL NSH

Client Sample ID: SSP MW-3

Lab Sample ID: 490-153717-9

Date Collected: 06/11/18 15:06
Matrix: Water
Date Received: 06/13/18 10:15

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			522697	06/19/18 08:00	T1C	TAL NSH
Total/NA	Analysis	9056A		100			523012	06/20/18 03:49	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	521974	06/14/18 18:29	RDF	TAL NSH
Total Recoverable	Analysis	6020A		1			522905	06/18/18 15:47	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	521974	06/14/18 18:29	RDF	TAL NSH
Total Recoverable	Analysis	6020A		5			523220	06/19/18 21:00	BLG	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	521201	06/15/18 18:38	AEC	TAL NSH

Client Sample ID: SSP MW-4

Lab Sample ID: 490-153717-10

Date Collected: 06/11/18 16:15
Matrix: Water
Date Received: 06/13/18 10:15

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			522697	06/19/18 08:15	T1C	TAL NSH
Total/NA	Analysis	9056A		100			523012	06/20/18 04:19	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	521974	06/14/18 18:29	RDF	TAL NSH
Total Recoverable	Analysis	6020A		1			522905	06/18/18 15:50	BLG	TAL NSH
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	521201	06/15/18 18:38	AEC	TAL NSH

Lab Chronicle

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

TestAmerica Job ID: 490-153717-2

Client Sample ID: EQBK-BG-061118
Date Collected: 06/11/18 17:10
Date Received: 06/13/18 10:15

Lab Sample ID: 490-153717-11
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		1			522697	06/19/18 08:59	T1C	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	521974	06/14/18 18:29	RDF	TAL NSH
Total Recoverable	Analysis	6020A		1			522905	06/18/18 15:54	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	524371	06/24/18 13:39	CSL	TAL NSH
Total/NA	Analysis	7470A		1			524643	06/25/18 15:24	BLG	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	521201	06/15/18 18:38	AEC	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: 490-153717-2

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: 490-153717-2

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704077	08-31-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6020A	3005A	Water	Boron

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

490-153717 Chain of Custody

COOLER RECEIPT FORM

Cooler Received/Opened On 6/13/2018 @ 1015

Time Samples Removed From Cooler 1714 Time Samples Placed In Storage 1730 (2 Hour Window)

1. Tracking # 9506 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17610176 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 3.6 *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) JJ

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

Dal' Loc: 490 153717 orth

COOLER RECEIPT FORM

Cooler Received/Opened On 6/13/2018 @ 1015

Time Samples Removed From Cooler 1714 Time Samples Placed In Storage 1730

1. Tracking # 9528 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17610176 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 1.3 *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) JJ

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

Dal Loc: 490 Worth
153717

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

Cooler Received/Opened On 6/13/2018 @ 1015

Time Samples Removed From Cooler 1714 Time Samples Placed In Storage 1730 (2 Hour Window)

1. Tracking # 9517 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17610176 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 1.1 *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: (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) JJ

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

End of Form

TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Dallas . Ft Worth

560501

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: B. Gieselman	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-85778-24956.1
Client Contact: Greg Seifert	Phone: 512-241-2321	E-Mail: gail.lage@testamericainc.com		Page: Page 1 of 3
Company: Wood E&I Solutions Inc				Job #:
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@amecfw.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 Ra226, 904.0 Ra 228, Combined 226/228	9056A_ORGFM_28D - Chloride, Fluoride, Sulfate	6020A Customm Metals List, 7470A Mercury	FieldSampling - Field pH	2540C_Calcd - Total Dissolved Solids	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N	N		
AP MW-3	6/08/18	1020	G	W	N	N	X	X	X	X	X		
SFL MW-6		1150											
MNW-18		1510											Loc: 490 153717
SFL MW-5		1636											
EQBK-BG-060818		1735											
SSP/AP MW-1	6/09/18	1030											
SSP MW-2		1238											
EQBK-BG-060918		1315											
SSP MW-3	6/11/18	1506											
SSP MW-4		1615											
EQBK-BG-061118		1710											

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
Brian Gieselman	6/12/18 @ 0900	Wood		6-13-18 / 1015	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: 3.5 / 1.3 / 1.1

Ver: 08/04/2016

1/11/2019 (Rev. 1)

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: 490-153938-2
Client Project/Site: AMEC CCR TMPA Gibbons Creek
Sampling Event: CCR
Revision: 1

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

Attn: Greg Seifert

Authorized for release by:
1/11/2019 12:39:35 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: 490-153938-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-153938-1	SFL MW-2	Water	06/12/18 11:38	06/15/18 10:35
490-153938-2	MNW-15	Water	06/12/18 12:53	06/15/18 10:35
490-153938-3	SFL MW-7	Water	06/12/18 14:04	06/15/18 10:35
490-153938-4	SFL MW-3	Water	06/12/18 15:45	06/15/18 10:35
490-153938-5	SFL MW-4	Water	06/12/18 17:01	06/15/18 10:35
490-153938-6	EQBK-BG-061218	Water	06/12/18 17:55	06/15/18 10:35
490-153938-7	Dup 1	Water	06/12/18 00:01	06/15/18 10:35
490-153938-8	AP MW-1D	Water	06/13/18 09:56	06/15/18 10:35
490-153938-9	AP MW-5	Water	06/13/18 11:21	06/15/18 10:35
490-153938-10	AP MW-4	Water	06/13/18 12:35	06/15/18 10:35
490-153938-11	EQBK-BG-061318	Water	06/13/18 13:55	06/15/18 10:35
490-153938-12	Dup 2	Water	06/13/18 00:01	06/15/18 10:35

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

TestAmerica Job ID: 490-153938-2

Job ID: 490-153938-2

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-153938-2

Revised Report
This report was revised to lower the reporting limit of some of the metals. This replaces the original final report.

Receipt
The samples were received on 6/15/2018 10:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.1º C, 1.1º C and 1.5º C.

HPLC/IC
Method(s) 9056A: Due to the high concentration of Sulfate and Chloride, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 490-523658 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: The following samples were diluted due to the nature of the sample matrix: SFL MW-2 (490-153938-1), MNW-15 (490-153938-2), SFL MW-7 (490-153938-3), SFL MW-3 (490-153938-4), SFL MW-4 (490-153938-5), Dup 1 (490-153938-7), AP MW-1D (490-153938-8), AP MW-5 (490-153938-9), AP MW-4 (490-153938-10) and Dup 2 (490-153938-12). Elevated reporting limits (RLs) are provided.

Method(s) 9056, 9056A: Due to the nature of the sample matrix, a matrix spike / matrix spike duplicate (MS/MSD) was not analyzed with 490-523854. However, the laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries were within the acceptance limits.

Method(s) 9056, 9056A: The following sample was diluted due to the nature of the sample matrix: Dup 1 (490-153938-7). 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 490-524741. However, the laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries were within the acceptance limits.

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

Metals
Method(s) 7470A: MSD was double spiked, and MS was not spiked. The LCS/LCSD shows batch duplicity; therefore, data was reported. AP MW-4 (490-153938-10[MS]) and AP MW-4 (490-153938-10[MSD])

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.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance 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: 490-153938-2

Client Sample ID: SFL MW-2
Date Collected: 06/12/18 11:38
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-1
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2650**		600		mg/L			06/22/18 12:56	200
Fluoride	ND		1.00		mg/L			06/21/18 21:12	1
Sulfate	**1720**		1000		mg/L			06/22/18 12:56	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.00475**		0.00400		mg/L		06/20/18 09:33	06/22/18 14:41	1
Boron	ND		1.00		mg/L		06/20/18 09:33	06/28/18 11:11	1
Cadmium	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 14:41	1
Calcium	**805**		1.00		mg/L		06/20/18 09:33	06/22/18 14:41	1
Cobalt	**0.0178**		0.00500		mg/L		06/20/18 09:33	06/22/18 14:41	1
Lead	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 14:41	1
Lithium	**0.378**		0.0400		mg/L		06/20/18 09:33	06/22/18 14:41	1
Thallium	ND		0.00200		mg/L		06/20/18 09:33	06/22/18 14:41	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/19/18 11:09	06/20/18 09:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**8340**		100		mg/L			06/19/18 17:30	1

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

TestAmerica Job ID: 490-153938-2

Client Sample ID: MNW-15
Date Collected: 06/12/18 12:53
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-2
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	581		300		mg/L			06/22/18 13:34	100
Fluoride	ND		1.00		mg/L			06/21/18 21:31	1
Sulfate	1250		500		mg/L			06/22/18 13:34	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.0619		0.00400		mg/L		06/20/18 09:33	06/22/18 14:44	1
Boron	11.8		10.0		mg/L		06/20/18 09:33	06/28/18 11:14	10
Cadmium	0.0886		0.00500		mg/L		06/20/18 09:33	06/22/18 14:44	1
Calcium	249		1.00		mg/L		06/20/18 09:33	06/22/18 14:44	1
Cobalt	0.281		0.00500		mg/L		06/20/18 09:33	06/22/18 14:44	1
Lead	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 14:44	1
Lithium	0.0701		0.0400		mg/L		06/20/18 09:33	06/22/18 14:44	1
Thallium	0.00233		0.00200		mg/L		06/20/18 09:33	06/22/18 14:44	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000396		0.000200		mg/L		06/19/18 11:09	06/20/18 09:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2940		20.0		mg/L			06/19/18 17:30	1

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

TestAmerica Job ID: 490-153938-2

Client Sample ID: SFL MW-7
Date Collected: 06/12/18 14:04
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-3
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2600**		600		mg/L			06/22/18 14:51	200
Fluoride	ND		1.00		mg/L			06/21/18 21:50	1
Sulfate	**743**		500		mg/L			06/22/18 14:32	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00400		mg/L		06/20/18 09:33	06/22/18 14:47	1
Boron	ND		1.00		mg/L		06/20/18 09:33	06/28/18 11:23	1
Cadmium	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 14:47	1
Calcium	**591**		1.00		mg/L		06/20/18 09:33	06/22/18 14:47	1
Cobalt	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 14:47	1
Lead	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 14:47	1
Lithium	**0.379**		0.0400		mg/L		06/20/18 09:33	06/22/18 14:47	1
Thallium	ND		0.00200		mg/L		06/20/18 09:33	06/22/18 14:47	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/19/18 11:09	06/20/18 09:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6840**		100		mg/L			06/19/18 17:30	1

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

TestAmerica Job ID: 490-153938-2

Client Sample ID: SFL MW-3
Date Collected: 06/12/18 15:45
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-4
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1040		600		mg/L			06/22/18 15:10	200
Fluoride	ND		1.00		mg/L			06/21/18 22:09	1
Sulfate	2070		1000		mg/L			06/22/18 15:10	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.0308		0.00400		mg/L		06/20/18 09:33	06/22/18 14:57	1
Boron	3.80		0.500		mg/L		06/20/18 09:33	06/28/18 11:26	5
Cadmium	0.00641		0.00500		mg/L		06/20/18 09:33	06/22/18 14:57	1
Calcium	567		1.00		mg/L		06/20/18 09:33	06/22/18 14:57	1
Cobalt	0.0598		0.00500		mg/L		06/20/18 09:33	06/22/18 14:57	1
Lead	0.0183		0.00500		mg/L		06/20/18 09:33	06/22/18 14:57	1
Lithium	0.263		0.0400		mg/L		06/20/18 09:33	06/22/18 14:57	1
Thallium	0.00552		0.00200		mg/L		06/20/18 09:33	06/22/18 14:57	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00162		0.000200		mg/L		06/19/18 11:09	06/20/18 09:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5540		40.0		mg/L			06/19/18 17:30	1

Client Sample Results

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

TestAmerica Job ID: 490-153938-2

Client Sample ID: SFL MW-4

Date Collected: 06/12/18 17:01
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-5

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1410**		600		mg/L			06/22/18 16:26	200
Fluoride	ND		1.00		mg/L			06/21/18 22:28	1
Sulfate	**2010**		1000		mg/L			06/22/18 16:26	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00400		mg/L		06/20/18 09:33	06/22/18 15:00	1
Boron	ND		1.00		mg/L		06/20/18 09:33	06/28/18 11:29	1
Cadmium	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:00	1
Calcium	**673**		1.00		mg/L		06/20/18 09:33	06/22/18 15:00	1
Cobalt	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:00	1
Lead	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:00	1
Lithium	**0.348**		0.0400		mg/L		06/20/18 09:33	06/22/18 15:00	1
Thallium	ND		0.00200		mg/L		06/20/18 09:33	06/22/18 15:00	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/19/18 11:09	06/20/18 09:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6470**		100		mg/L			06/19/18 17:30	1

Client Sample ID: EQBK-BG-061218
Date Collected: 06/12/18 17:55
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-6
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.00		mg/L			06/21/18 22:47	1
Fluoride	ND		1.00		mg/L			06/21/18 22:47	1
Sulfate	ND		5.00		mg/L			06/21/18 22:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00400		mg/L		06/20/18 09:33	06/22/18 15:03	1
Boron	ND		1.00		mg/L		06/20/18 09:33	06/28/18 11:32	1
Cadmium	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:03	1
Calcium	ND		1.00		mg/L		06/20/18 09:33	06/22/18 15:03	1
Cobalt	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:03	1
Lead	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:03	1
Lithium	ND		0.0400		mg/L		06/20/18 09:33	06/22/18 15:03	1
Thallium	ND		0.00200		mg/L		06/20/18 09:33	06/22/18 15:03	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/18 12:56	06/25/18 13:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	21.0		10.0		mg/L			06/19/18 17:30	1

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

TestAmerica Job ID: 490-153938-2

Client Sample ID: Dup 1
Date Collected: 06/12/18 00:01
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-7
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2460**		600		mg/L			06/22/18 17:23	200
Fluoride	ND		1.00		mg/L			06/21/18 23:06	1
Sulfate	**734**		250		mg/L			06/26/18 13:34	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00400		mg/L		06/20/18 09:33	06/22/18 15:06	1
Boron	ND		1.00		mg/L		06/20/18 09:33	06/28/18 11:36	1
Cadmium	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:06	1
Calcium	**583**		1.00		mg/L		06/20/18 09:33	06/22/18 15:06	1
Cobalt	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:06	1
Lead	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:06	1
Lithium	**0.372**		0.0400		mg/L		06/20/18 09:33	06/22/18 15:06	1
Thallium	ND		0.00200		mg/L		06/20/18 09:33	06/22/18 15:06	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/18 12:56	06/25/18 13:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**7120**		100		mg/L			06/19/18 17:30	1

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

TestAmerica Job ID: 490-153938-2

Client Sample ID: AP MW-1D
Date Collected: 06/13/18 09:56
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-8
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**191**		60.0		mg/L			06/22/18 18:01	20
Fluoride	ND		1.00		mg/L			06/21/18 23:25	1
Sulfate	**523**		100		mg/L			06/22/18 18:01	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00861**		0.00500		mg/L		06/20/18 09:33	06/22/18 15:09	1
Beryllium	ND		0.00400		mg/L		06/20/18 09:33	06/22/18 15:09	1
Boron	**5.67**		0.500		mg/L		06/20/18 09:33	06/28/18 11:39	5
Cadmium	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:09	1
Calcium	**76.1**		1.00		mg/L		06/20/18 09:33	06/22/18 15:09	1
Cobalt	**0.0129**		0.00500		mg/L		06/20/18 09:33	06/22/18 15:09	1
Lithium	ND		0.0400		mg/L		06/20/18 09:33	06/22/18 15:09	1
Molybdenum	**0.0144**		0.0100		mg/L		06/20/18 09:33	06/22/18 15:09	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/18 12:56	06/25/18 13:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1360**		20.0		mg/L			06/19/18 17:30	1

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

TestAmerica Job ID: 490-153938-2

Client Sample ID: AP MW-5
Date Collected: 06/13/18 11:21
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-9
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	404		150		mg/L			06/22/18 18:59	50
Fluoride	3.02		1.00		mg/L			06/21/18 23:44	1
Sulfate	2780		2500		mg/L			06/22/18 19:18	500

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0139		0.0100		mg/L		06/20/18 09:33	06/29/18 20:20	5
Beryllium	0.0746		0.00400		mg/L		06/20/18 09:33	06/22/18 15:12	1
Boron	4.20		0.500		mg/L		06/20/18 09:33	06/28/18 11:42	5
Cadmium	0.00909		0.00500		mg/L		06/20/18 09:33	06/22/18 15:12	1
Calcium	476		1.00		mg/L		06/20/18 09:33	06/22/18 15:12	1
Cobalt	0.173		0.00500		mg/L		06/20/18 09:33	06/22/18 15:12	1
Lithium	0.374		0.0400		mg/L		06/20/18 09:33	06/22/18 15:12	1
Molybdenum	ND		0.0100		mg/L		06/20/18 09:33	06/22/18 15:12	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000224		0.000200		mg/L		06/22/18 12:54	06/23/18 11:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4730		40.0		mg/L			06/19/18 17:30	1

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

TestAmerica Job ID: 490-153938-2

Client Sample ID: AP MW-4
Date Collected: 06/13/18 12:35
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-10
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**427**		150		mg/L			06/22/18 21:12	50
Fluoride	ND		1.00		mg/L			06/22/18 00:03	1
Sulfate	**2110**		1000		mg/L			06/22/18 21:31	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 14:26	1
Beryllium	ND		0.00400		mg/L		06/20/18 09:33	06/22/18 14:26	1
Boron	**2.39**	**F1**	0.500		mg/L		06/20/18 09:33	06/28/18 10:55	5
Cadmium	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 14:26	1
Calcium	**416**		1.00		mg/L		06/20/18 09:33	06/22/18 14:26	1
Cobalt	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 14:26	1
Lithium	**0.661**		0.0400		mg/L		06/20/18 09:33	06/22/18 14:26	1
Molybdenum	ND		0.0100		mg/L		06/20/18 09:33	06/22/18 14:26	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	F1	0.000200		mg/L		06/22/18 12:54	06/23/18 11:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4270**		40.0		mg/L			06/19/18 17:30	1

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

TestAmerica Job ID: 490-153938-2

Client Sample ID: EQBK-BG-061318
Date Collected: 06/13/18 13:55
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-11
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.00		mg/L			06/22/18 01:39	1
Fluoride	ND		1.00		mg/L			06/22/18 01:39	1
Sulfate	ND		5.00		mg/L			06/22/18 01:39	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		06/20/18 09:33	06/22/18 15:15	1
Beryllium	ND		0.00400		mg/L		06/20/18 09:33	06/22/18 15:15	1
Boron	ND		1.00		mg/L		06/20/18 09:33	06/28/18 11:45	1
Cadmium	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:15	1
Calcium	ND		1.00		mg/L		06/20/18 09:33	06/22/18 15:15	1
Cobalt	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:15	1
Lithium	ND		0.0400		mg/L		06/20/18 09:33	06/22/18 15:15	1
Molybdenum	ND		0.0100		mg/L		06/20/18 09:33	06/22/18 15:15	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/22/18 12:54	06/23/18 11:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	26.0		10.0		mg/L			06/19/18 17:30	1

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

TestAmerica Job ID: 490-153938-2

Client Sample ID: Dup 2
Date Collected: 06/13/18 00:01
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-12
Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**430**		150		mg/L			06/22/18 21:50	50
Fluoride	ND		1.00		mg/L			06/22/18 01:58	1
Sulfate	**2080**		1000		mg/L			06/22/18 22:09	200

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:19	1
Beryllium	ND		0.00400		mg/L		06/20/18 09:33	06/22/18 15:19	1
Boron	**2.80**		0.500		mg/L		06/20/18 09:33	06/28/18 11:48	5
Cadmium	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:19	1
Calcium	**465**		1.00		mg/L		06/20/18 09:33	06/22/18 15:19	1
Cobalt	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 15:19	1
Lithium	**0.707**		0.0400		mg/L		06/20/18 09:33	06/22/18 15:19	1
Molybdenum	ND		0.0100		mg/L		06/20/18 09:33	06/22/18 15:19	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/22/18 12:54	06/23/18 11:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4100**		40.0		mg/L			06/19/18 17:30	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 490-523658/3
Matrix: Water
Analysis Batch: 523658

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.00		mg/L			06/21/18 20:15	1
Fluoride	ND		1.00		mg/L			06/21/18 20:15	1
Sulfate	ND		5.00		mg/L			06/21/18 20:15	1

Lab Sample ID: LCS 490-523658/4
Matrix: Water
Analysis Batch: 523658

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	9.367		mg/L		94	80 - 120
Fluoride	1.00	0.9543	J	mg/L		95	80 - 120
Sulfate	10.0	9.565		mg/L		96	80 - 120

Lab Sample ID: LCSD 490-523658/5
Matrix: Water
Analysis Batch: 523658

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	9.396		mg/L		94	80 - 120	0	20
Fluoride	1.00	0.9577	J	mg/L		96	80 - 120	0	20
Sulfate	10.0	9.556		mg/L		95	80 - 120	0	20

Lab Sample ID: 490-153938-10 MS
Matrix: Water
Analysis Batch: 523658

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	628	E	10.0	636.1	E 4	mg/L		76	80 - 120
Fluoride	ND		1.00	1.149		mg/L		105	80 - 120
Sulfate	3110	E	10.0	3088	E 4	mg/L		-245	80 - 120

Lab Sample ID: 490-153938-10 MSD
Matrix: Water
Analysis Batch: 523658

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	628	E	10.0	636.3	E 4	mg/L		78	80 - 120	0	20
Fluoride	ND		1.00	1.158		mg/L		106	80 - 120	1	20
Sulfate	3110	E	10.0	3088	E 4	mg/L		-251	80 - 120	0	20

Lab Sample ID: MB 490-523854/3
Matrix: Water
Analysis Batch: 523854

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.00		mg/L			06/22/18 11:40	1
Fluoride	ND		1.00		mg/L			06/22/18 11:40	1
Sulfate	ND		5.00		mg/L			06/22/18 11:40	1

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

Lab Sample ID: MB 490-523854/30
Matrix: Water
Analysis Batch: 523854

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.00		mg/L			06/22/18 20:15	1
Fluoride	ND		1.00		mg/L			06/22/18 20:15	1
Sulfate	ND		5.00		mg/L			06/22/18 20:15	1

Lab Sample ID: LCS 490-523854/31
Matrix: Water
Analysis Batch: 523854

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	9.379		mg/L		94	80 - 120
Fluoride	1.00	0.9636	J	mg/L		96	80 - 120
Sulfate	10.0	9.625		mg/L		96	80 - 120

Lab Sample ID: LCS 490-523854/4
Matrix: Water
Analysis Batch: 523854

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	9.336		mg/L		93	80 - 120
Fluoride	1.00	0.9673	J	mg/L		97	80 - 120
Sulfate	10.0	9.535		mg/L		95	80 - 120

Lab Sample ID: LCSD 490-523854/32
Matrix: Water
Analysis Batch: 523854

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	9.387		mg/L		94	80 - 120	0	20
Fluoride	1.00	0.9595	J	mg/L		96	80 - 120	0	20
Sulfate	10.0	9.597		mg/L		96	80 - 120	0	20

Lab Sample ID: LCSD 490-523854/5
Matrix: Water
Analysis Batch: 523854

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	9.340		mg/L		93	80 - 120	0	20
Fluoride	1.00	0.9528	J	mg/L		95	80 - 120	2	20
Sulfate	10.0	9.545		mg/L		95	80 - 120	0	20

Lab Sample ID: MB 490-524741/3
Matrix: Water
Analysis Batch: 524741

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.00		mg/L			06/26/18 11:12	1
Fluoride	ND		1.00		mg/L			06/26/18 11:12	1
Sulfate	ND		5.00		mg/L			06/26/18 11:12	1

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

Lab Sample ID: LCS 490-524741/4
Matrix: Water
Analysis Batch: 524741

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	9.431		mg/L		94	80 - 120
Fluoride	1.00	1.098		mg/L		110	80 - 120
Sulfate	10.0	10.08		mg/L		101	80 - 120

Lab Sample ID: LCSD 490-524741/5
Matrix: Water
Analysis Batch: 524741

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	9.520		mg/L		95	80 - 120	1	20
Fluoride	1.00	1.106		mg/L		110	80 - 120	1	20
Sulfate	10.0	10.15		mg/L		101	80 - 120	1	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 490-523196/1-A
Matrix: Water
Analysis Batch: 524039

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 523196

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 14:10	1
Beryllium	ND		0.00400		mg/L		06/20/18 09:33	06/22/18 14:10	1
Cadmium	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 14:10	1
Calcium	ND		1.00		mg/L		06/20/18 09:33	06/22/18 14:10	1
Cobalt	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 14:10	1
Lead	ND		0.00500		mg/L		06/20/18 09:33	06/22/18 14:10	1
Lithium	ND		0.0400		mg/L		06/20/18 09:33	06/22/18 14:10	1
Molybdenum	ND		0.0100		mg/L		06/20/18 09:33	06/22/18 14:10	1
Thallium	ND		0.00200		mg/L		06/20/18 09:33	06/22/18 14:10	1

Lab Sample ID: MB 490-523196/1-A
Matrix: Water
Analysis Batch: 525633

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 523196

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.100		mg/L		06/20/18 09:33	06/28/18 10:46	1

Lab Sample ID: LCS 490-523196/2-A
Matrix: Water
Analysis Batch: 524039

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 523196

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.1017		mg/L		102	80 - 120
Arsenic	0.100	0.1036		mg/L		104	80 - 120
Barium	0.100	0.1000	J	mg/L		100	80 - 120
Beryllium	0.100	0.09953		mg/L		100	80 - 120
Cadmium	0.100	0.1025		mg/L		103	80 - 120
Calcium	10.0	9.678		mg/L		97	80 - 120
Chromium	0.100	0.1073		mg/L		107	80 - 120

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

Lab Sample ID: LCS 490-523196/2-A
Matrix: Water
Analysis Batch: 524039

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 523196

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.100	0.1063		mg/L		106	80 - 120
Lead	0.100	0.1013		mg/L		101	80 - 120
Lithium	0.100	0.09722		mg/L		97	80 - 120
Molybdenum	0.100	0.1006		mg/L		101	80 - 120
Selenium	0.100	0.09961		mg/L		100	80 - 120
Thallium	0.100	0.1029		mg/L		103	80 - 120

Lab Sample ID: LCS 490-523196/2-A
Matrix: Water
Analysis Batch: 525633

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 523196

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.048		mg/L		105	80 - 120

Lab Sample ID: LCSD 490-523196/3-A
Matrix: Water
Analysis Batch: 524039

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 523196

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.1064		mg/L		106	80 - 120	5	20
Arsenic	0.100	0.1087		mg/L		109	80 - 120	5	20
Barium	0.100	0.1050	J	mg/L		105	80 - 120	5	20
Beryllium	0.100	0.09763		mg/L		98	80 - 120	2	20
Cadmium	0.100	0.1091		mg/L		109	80 - 120	6	20
Calcium	10.0	9.622		mg/L		96	80 - 120	1	20
Chromium	0.100	0.1059		mg/L		106	80 - 120	1	20
Cobalt	0.100	0.1057		mg/L		106	80 - 120	1	20
Lead	0.100	0.1067		mg/L		107	80 - 120	5	20
Lithium	0.100	0.09357		mg/L		94	80 - 120	4	20
Molybdenum	0.100	0.1066		mg/L		107	80 - 120	6	20
Selenium	0.100	0.09894		mg/L		99	80 - 120	1	20
Thallium	0.100	0.1086		mg/L		109	80 - 120	5	20

Lab Sample ID: LCSD 490-523196/3-A
Matrix: Water
Analysis Batch: 525633

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 523196

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.053		mg/L		105	80 - 120	0	20

Lab Sample ID: 490-153938-10 MS
Matrix: Water
Analysis Batch: 524039

Client Sample ID: AP MW-4
Prep Type: Total Recoverable
Prep Batch: 523196

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.100	0.1016		mg/L		102	75 - 125
Arsenic	ND		0.100	0.1017		mg/L		101	75 - 125
Barium	ND		0.100	ND		mg/L		99	75 - 125
Beryllium	ND		0.100	0.09152		mg/L		91	75 - 125

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

Lab Sample ID: 490-153938-10 MS
Matrix: Water
Analysis Batch: 524039

Client Sample ID: AP MW-4
Prep Type: Total Recoverable
Prep Batch: 523196

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		0.100	0.09825		mg/L		98	75 - 125
Calcium	416		10.0	482.7	4	mg/L		665	75 - 125
Chromium	ND		0.100	0.1038		mg/L		104	75 - 125
Cobalt	ND		0.100	0.09948		mg/L		99	75 - 125
Lead	ND		0.100	0.1001		mg/L		100	75 - 125
Lithium	0.661		0.100	0.8259	4	mg/L		165	75 - 125
Molybdenum	ND		0.100	0.1021		mg/L		102	75 - 125
Selenium	ND		0.100	0.09714		mg/L		97	75 - 125
Thallium	ND		0.100	0.1015		mg/L		101	75 - 125

Lab Sample ID: 490-153938-10 MS
Matrix: Water
Analysis Batch: 525633

Client Sample ID: AP MW-4
Prep Type: Total Recoverable
Prep Batch: 523196

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	2.39	F1	1.00	3.595		mg/L		121	75 - 125

Lab Sample ID: 490-153938-10 MSD
Matrix: Water
Analysis Batch: 524039

Client Sample ID: AP MW-4
Prep Type: Total Recoverable
Prep Batch: 523196

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		0.100	0.1047		mg/L		105	75 - 125	3	20
Arsenic	ND		0.100	0.1017		mg/L		101	75 - 125	0	20
Barium	ND		0.100	ND		mg/L		101	75 - 125	2	20
Beryllium	ND		0.100	0.09138		mg/L		91	75 - 125	0	20
Cadmium	ND		0.100	0.09979		mg/L		100	75 - 125	2	20
Calcium	416		10.0	481.7	4	mg/L		655	75 - 125	0	20
Chromium	ND		0.100	0.1014		mg/L		101	75 - 125	2	20
Cobalt	ND		0.100	0.09903		mg/L		99	75 - 125	0	20
Lead	ND		0.100	0.1011		mg/L		101	75 - 125	1	20
Lithium	0.661		0.100	0.8173	4	mg/L		156	75 - 125	1	20
Molybdenum	ND		0.100	0.1044		mg/L		104	75 - 125	2	20
Selenium	ND		0.100	0.09752		mg/L		97	75 - 125	0	20
Thallium	ND		0.100	0.1027		mg/L		103	75 - 125	1	20

Lab Sample ID: 490-153938-10 MSD
Matrix: Water
Analysis Batch: 525633

Client Sample ID: AP MW-4
Prep Type: Total Recoverable
Prep Batch: 523196

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	2.39	F1	1.00	3.808	F1	mg/L		142	75 - 125	6	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 490-522915/1-A
Matrix: Water
Analysis Batch: 523442

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 522915

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/19/18 11:09	06/20/18 08:34	1

Lab Sample ID: LCS 490-522915/2-A
Matrix: Water
Analysis Batch: 523442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 522915

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00100	0.001029		mg/L		103	80 - 120

Lab Sample ID: MB 490-523901/1-A
Matrix: Water
Analysis Batch: 524523

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 523901

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/22/18 12:54	06/23/18 11:10	1

Lab Sample ID: LCS 490-523901/2-A
Matrix: Water
Analysis Batch: 524523

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 523901

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00100	0.001035		mg/L		103	80 - 120

Lab Sample ID: LCSD 490-523901/3-A
Matrix: Water
Analysis Batch: 524523

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 523901

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00100	0.0009620		mg/L		96	80 - 120	7	20

Lab Sample ID: 490-153938-10 MS
Matrix: Water
Analysis Batch: 524523

Client Sample ID: AP MW-4
Prep Type: Total/NA
Prep Batch: 523901

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	F1	0.00100	ND	F1	mg/L		0	75 - 125

Lab Sample ID: 490-153938-10 MSD
Matrix: Water
Analysis Batch: 524523

Client Sample ID: AP MW-4
Prep Type: Total/NA
Prep Batch: 523901

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	F1	0.00200	0.002069		mg/L		103	75 - 125	NC	20

Lab Sample ID: MB 490-524345/1-A
Matrix: Water
Analysis Batch: 524624

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 524345

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/18 12:56	06/25/18 12:57	1

Lab Sample ID: LCS 490-524345/2-A
Matrix: Water
Analysis Batch: 524624

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 524345

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00100	0.001081		mg/L		108	80 - 120		

Lab Sample ID: LCSD 490-524345/3-A
Matrix: Water
Analysis Batch: 524624

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 524345

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.00100	0.0009962		mg/L		100	80 - 120	8	20

Lab Sample ID: 490-153938-1 MS
Matrix: Water
Analysis Batch: 524624

Client Sample ID: SFL MW-2
Prep Type: Total/NA
Prep Batch: 524345

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		0.00100	0.001146		mg/L		115	75 - 125		

Lab Sample ID: 490-153938-1 MSD
Matrix: Water
Analysis Batch: 524624

Client Sample ID: SFL MW-2
Prep Type: Total/NA
Prep Batch: 524345

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00100	0.001128		mg/L		113	75 - 125	2	20

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

Lab Sample ID: MB 490-522637/1
Matrix: Water
Analysis Batch: 522637

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			06/19/18 17:30	1

Lab Sample ID: LCS 490-522637/2
Matrix: Water
Analysis Batch: 522637

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	109.0		mg/L		109	90 - 110		

Lab Sample ID: LCSD 490-522637/3
Matrix: Water
Analysis Batch: 522637

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	110.0		mg/L		110	90 - 110	1	20

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

Lab Sample ID: 490-153938-6 DU
Matrix: Water
Analysis Batch: 522637

Client Sample ID: EQBK-BG-061218
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	21.0			20.00		mg/L				5	20

Lab Sample ID: 490-153938-10 DU
Matrix: Water
Analysis Batch: 522637

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	4270			4284		mg/L				0.4	20

HPLC/IC

Analysis Batch: 523658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153938-1	SFL MW-2	Total/NA	Water	9056A	
490-153938-2	MNW-15	Total/NA	Water	9056A	
490-153938-3	SFL MW-7	Total/NA	Water	9056A	
490-153938-4	SFL MW-3	Total/NA	Water	9056A	
490-153938-5	SFL MW-4	Total/NA	Water	9056A	
490-153938-6	EQBK-BG-061218	Total/NA	Water	9056A	
490-153938-7	Dup 1	Total/NA	Water	9056A	
490-153938-8	AP MW-1D	Total/NA	Water	9056A	
490-153938-9	AP MW-5	Total/NA	Water	9056A	
490-153938-10	AP MW-4	Total/NA	Water	9056A	
490-153938-11	EQBK-BG-061318	Total/NA	Water	9056A	
490-153938-12	Dup 2	Total/NA	Water	9056A	
MB 490-523658/3	Method Blank	Total/NA	Water	9056A	
LCS 490-523658/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-523658/5	Lab Control Sample Dup	Total/NA	Water	9056A	
490-153938-10 MS	AP MW-4	Total/NA	Water	9056A	
490-153938-10 MSD	AP MW-4	Total/NA	Water	9056A	

Analysis Batch: 523854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153938-1	SFL MW-2	Total/NA	Water	9056A	
490-153938-2	MNW-15	Total/NA	Water	9056A	
490-153938-3	SFL MW-7	Total/NA	Water	9056A	
490-153938-3	SFL MW-7	Total/NA	Water	9056A	
490-153938-4	SFL MW-3	Total/NA	Water	9056A	
490-153938-5	SFL MW-4	Total/NA	Water	9056A	
490-153938-7	Dup 1	Total/NA	Water	9056A	
490-153938-8	AP MW-1D	Total/NA	Water	9056A	
490-153938-9	AP MW-5	Total/NA	Water	9056A	
490-153938-9	AP MW-5	Total/NA	Water	9056A	
490-153938-10	AP MW-4	Total/NA	Water	9056A	
490-153938-10	AP MW-4	Total/NA	Water	9056A	
490-153938-12	Dup 2	Total/NA	Water	9056A	
490-153938-12	Dup 2	Total/NA	Water	9056A	
MB 490-523854/3	Method Blank	Total/NA	Water	9056A	
MB 490-523854/30	Method Blank	Total/NA	Water	9056A	
LCS 490-523854/31	Lab Control Sample	Total/NA	Water	9056A	
LCS 490-523854/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-523854/32	Lab Control Sample Dup	Total/NA	Water	9056A	
LCSD 490-523854/5	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 524741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153938-7	Dup 1	Total/NA	Water	9056A	
MB 490-524741/3	Method Blank	Total/NA	Water	9056A	
LCS 490-524741/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-524741/5	Lab Control Sample Dup	Total/NA	Water	9056A	

Metals

Prep Batch: 522915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153938-1	SFL MW-2	Total/NA	Water	7470A	
490-153938-2	MNW-15	Total/NA	Water	7470A	
490-153938-3	SFL MW-7	Total/NA	Water	7470A	
490-153938-4	SFL MW-3	Total/NA	Water	7470A	
490-153938-5	SFL MW-4	Total/NA	Water	7470A	
MB 490-522915/1-A	Method Blank	Total/NA	Water	7470A	
LCS 490-522915/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 523196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153938-1	SFL MW-2	Total Recoverable	Water	3005A	
490-153938-2	MNW-15	Total Recoverable	Water	3005A	
490-153938-3	SFL MW-7	Total Recoverable	Water	3005A	
490-153938-4	SFL MW-3	Total Recoverable	Water	3005A	
490-153938-5	SFL MW-4	Total Recoverable	Water	3005A	
490-153938-6	EQBK-BG-061218	Total Recoverable	Water	3005A	
490-153938-7	Dup 1	Total Recoverable	Water	3005A	
490-153938-8	AP MW-1D	Total Recoverable	Water	3005A	
490-153938-9	AP MW-5	Total Recoverable	Water	3005A	
490-153938-10	AP MW-4	Total Recoverable	Water	3005A	
490-153938-11	EQBK-BG-061318	Total Recoverable	Water	3005A	
490-153938-12	Dup 2	Total Recoverable	Water	3005A	
MB 490-523196/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 490-523196/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 490-523196/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
490-153938-10 MS	AP MW-4	Total Recoverable	Water	3005A	
490-153938-10 MSD	AP MW-4	Total Recoverable	Water	3005A	

Analysis Batch: 523442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153938-1	SFL MW-2	Total/NA	Water	7470A	522915
490-153938-2	MNW-15	Total/NA	Water	7470A	522915
490-153938-3	SFL MW-7	Total/NA	Water	7470A	522915
490-153938-4	SFL MW-3	Total/NA	Water	7470A	522915
490-153938-5	SFL MW-4	Total/NA	Water	7470A	522915
MB 490-522915/1-A	Method Blank	Total/NA	Water	7470A	522915
LCS 490-522915/2-A	Lab Control Sample	Total/NA	Water	7470A	522915

Prep Batch: 523901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153938-9	AP MW-5	Total/NA	Water	7470A	
490-153938-10	AP MW-4	Total/NA	Water	7470A	
490-153938-11	EQBK-BG-061318	Total/NA	Water	7470A	
490-153938-12	Dup 2	Total/NA	Water	7470A	
MB 490-523901/1-A	Method Blank	Total/NA	Water	7470A	
LCS 490-523901/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 490-523901/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
490-153938-10 MS	AP MW-4	Total/NA	Water	7470A	
490-153938-10 MSD	AP MW-4	Total/NA	Water	7470A	

Metals (Continued)

Analysis Batch: 524039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153938-1	SFL MW-2	Total Recoverable	Water	6020A	523196
490-153938-2	MNW-15	Total Recoverable	Water	6020A	523196
490-153938-3	SFL MW-7	Total Recoverable	Water	6020A	523196
490-153938-4	SFL MW-3	Total Recoverable	Water	6020A	523196
490-153938-5	SFL MW-4	Total Recoverable	Water	6020A	523196
490-153938-6	EQBK-BG-061218	Total Recoverable	Water	6020A	523196
490-153938-7	Dup 1	Total Recoverable	Water	6020A	523196
490-153938-8	AP MW-1D	Total Recoverable	Water	6020A	523196
490-153938-9	AP MW-5	Total Recoverable	Water	6020A	523196
490-153938-10	AP MW-4	Total Recoverable	Water	6020A	523196
490-153938-11	EQBK-BG-061318	Total Recoverable	Water	6020A	523196
490-153938-12	Dup 2	Total Recoverable	Water	6020A	523196
MB 490-523196/1-A	Method Blank	Total Recoverable	Water	6020A	523196
LCS 490-523196/2-A	Lab Control Sample	Total Recoverable	Water	6020A	523196
LCSD 490-523196/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	523196
490-153938-10 MS	AP MW-4	Total Recoverable	Water	6020A	523196
490-153938-10 MSD	AP MW-4	Total Recoverable	Water	6020A	523196

Prep Batch: 524345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153938-6	EQBK-BG-061218	Total/NA	Water	7470A	
490-153938-7	Dup 1	Total/NA	Water	7470A	
490-153938-8	AP MW-1D	Total/NA	Water	7470A	
MB 490-524345/1-A	Method Blank	Total/NA	Water	7470A	
LCS 490-524345/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 490-524345/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
490-153938-1 MS	SFL MW-2	Total/NA	Water	7470A	
490-153938-1 MSD	SFL MW-2	Total/NA	Water	7470A	

Analysis Batch: 524523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153938-9	AP MW-5	Total/NA	Water	7470A	523901
490-153938-10	AP MW-4	Total/NA	Water	7470A	523901
490-153938-11	EQBK-BG-061318	Total/NA	Water	7470A	523901
490-153938-12	Dup 2	Total/NA	Water	7470A	523901
MB 490-523901/1-A	Method Blank	Total/NA	Water	7470A	523901
LCS 490-523901/2-A	Lab Control Sample	Total/NA	Water	7470A	523901
LCSD 490-523901/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	523901
490-153938-10 MS	AP MW-4	Total/NA	Water	7470A	523901
490-153938-10 MSD	AP MW-4	Total/NA	Water	7470A	523901

Analysis Batch: 524624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153938-6	EQBK-BG-061218	Total/NA	Water	7470A	524345
490-153938-7	Dup 1	Total/NA	Water	7470A	524345
490-153938-8	AP MW-1D	Total/NA	Water	7470A	524345
MB 490-524345/1-A	Method Blank	Total/NA	Water	7470A	524345
LCS 490-524345/2-A	Lab Control Sample	Total/NA	Water	7470A	524345
LCSD 490-524345/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	524345
490-153938-1 MS	SFL MW-2	Total/NA	Water	7470A	524345
490-153938-1 MSD	SFL MW-2	Total/NA	Water	7470A	524345

Analysis Batch: 525633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153938-1	SFL MW-2	Total Recoverable	Water	6020A	523196
490-153938-2	MNW-15	Total Recoverable	Water	6020A	523196
490-153938-3	SFL MW-7	Total Recoverable	Water	6020A	523196
490-153938-4	SFL MW-3	Total Recoverable	Water	6020A	523196
490-153938-5	SFL MW-4	Total Recoverable	Water	6020A	523196
490-153938-6	EQBK-BG-061218	Total Recoverable	Water	6020A	523196
490-153938-7	Dup 1	Total Recoverable	Water	6020A	523196
490-153938-8	AP MW-1D	Total Recoverable	Water	6020A	523196
490-153938-9	AP MW-5	Total Recoverable	Water	6020A	523196
490-153938-10	AP MW-4	Total Recoverable	Water	6020A	523196
490-153938-11	EQBK-BG-061318	Total Recoverable	Water	6020A	523196
490-153938-12	Dup 2	Total Recoverable	Water	6020A	523196
MB 490-523196/1-A	Method Blank	Total Recoverable	Water	6020A	523196
LCS 490-523196/2-A	Lab Control Sample	Total Recoverable	Water	6020A	523196
LCSD 490-523196/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	523196
490-153938-10 MS	AP MW-4	Total Recoverable	Water	6020A	523196
490-153938-10 MSD	AP MW-4	Total Recoverable	Water	6020A	523196

Analysis Batch: 525903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153938-9	AP MW-5	Total Recoverable	Water	6020A	523196

General Chemistry

Analysis Batch: 522637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-153938-1	SFL MW-2	Total/NA	Water	SM 2540C	
490-153938-2	MNW-15	Total/NA	Water	SM 2540C	
490-153938-3	SFL MW-7	Total/NA	Water	SM 2540C	
490-153938-4	SFL MW-3	Total/NA	Water	SM 2540C	
490-153938-5	SFL MW-4	Total/NA	Water	SM 2540C	
490-153938-6	EQBK-BG-061218	Total/NA	Water	SM 2540C	
490-153938-7	Dup 1	Total/NA	Water	SM 2540C	
490-153938-8	AP MW-1D	Total/NA	Water	SM 2540C	
490-153938-9	AP MW-5	Total/NA	Water	SM 2540C	
490-153938-10	AP MW-4	Total/NA	Water	SM 2540C	
490-153938-11	EQBK-BG-061318	Total/NA	Water	SM 2540C	
490-153938-12	Dup 2	Total/NA	Water	SM 2540C	
MB 490-522637/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 490-522637/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 490-522637/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
490-153938-6 DU	EQBK-BG-061218	Total/NA	Water	SM 2540C	
490-153938-10 DU	AP 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: 490-153938-2

Client Sample ID: SFL MW-2

Date Collected: 06/12/18 11:38
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-1

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		1			523658	06/21/18 21:12	SW1	TAL NSH
Total/NA	Analysis	9056A		200			523854	06/22/18 12:56	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			524039	06/22/18 14:41	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			525633	06/28/18 11:11	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	522915	06/19/18 11:09	RDH	TAL NSH
Total/NA	Analysis	7470A		1			523442	06/20/18 09:18	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	522637	06/19/18 17:30	AEC	TAL NSH

Client Sample ID: MNW-15

Date Collected: 06/12/18 12:53
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-2

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		1			523658	06/21/18 21:31	SW1	TAL NSH
Total/NA	Analysis	9056A		100			523854	06/22/18 13:34	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			524039	06/22/18 14:44	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		10			525633	06/28/18 11:14	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	522915	06/19/18 11:09	RDH	TAL NSH
Total/NA	Analysis	7470A		1			523442	06/20/18 09:20	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	522637	06/19/18 17:30	AEC	TAL NSH

Client Sample ID: SFL MW-7

Date Collected: 06/12/18 14:04
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-3

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			523658	06/21/18 21:50	SW1	TAL NSH
Total/NA	Analysis	9056A		100			523854	06/22/18 14:32	SW1	TAL NSH
Total/NA	Analysis	9056A		200			523854	06/22/18 14:51	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			524039	06/22/18 14:47	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			525633	06/28/18 11:23	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	522915	06/19/18 11:09	RDH	TAL NSH
Total/NA	Analysis	7470A		1			523442	06/20/18 09:23	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	522637	06/19/18 17:30	AEC	TAL NSH

Lab Chronicle

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

TestAmerica Job ID: 490-153938-2

Client Sample ID: SFL MW-3

Date Collected: 06/12/18 15:45
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-4

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		1			523658	06/21/18 22:09	SW1	TAL NSH
Total/NA	Analysis	9056A		200			523854	06/22/18 15:10	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			524039	06/22/18 14:57	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		5			525633	06/28/18 11:26	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	522915	06/19/18 11:09	RDH	TAL NSH
Total/NA	Analysis	7470A		1			523442	06/20/18 09:26	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	522637	06/19/18 17:30	AEC	TAL NSH

Client Sample ID: SFL MW-4

Date Collected: 06/12/18 17:01
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-5

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			523658	06/21/18 22:28	SW1	TAL NSH
Total/NA	Analysis	9056A		200			523854	06/22/18 16:26	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			524039	06/22/18 15:00	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			525633	06/28/18 11:29	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	522915	06/19/18 11:09	RDH	TAL NSH
Total/NA	Analysis	7470A		1			523442	06/20/18 09:28	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	522637	06/19/18 17:30	AEC	TAL NSH

Client Sample ID: EQBK-BG-061218

Date Collected: 06/12/18 17:55
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-6

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		1			523658	06/21/18 22:47	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			524039	06/22/18 15:03	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			525633	06/28/18 11:32	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	524345	06/24/18 12:56	CSL	TAL NSH
Total/NA	Analysis	7470A		1			524624	06/25/18 13:34	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	522637	06/19/18 17:30	AEC	TAL NSH

Lab Chronicle

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

TestAmerica Job ID: 490-153938-2

Client Sample ID: Dup 1

Date Collected: 06/12/18 00:01
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-7
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		50			524741	06/26/18 13:34	SW1	TAL NSH
Total/NA	Analysis	9056A		1			523658	06/21/18 23:06	SW1	TAL NSH
Total/NA	Analysis	9056A		200			523854	06/22/18 17:23	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			524039	06/22/18 15:06	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			525633	06/28/18 11:36	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	524345	06/24/18 12:56	CSL	TAL NSH
Total/NA	Analysis	7470A		1			524624	06/25/18 13:39	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	522637	06/19/18 17:30	AEC	TAL NSH

Client Sample ID: AP MW-1D

Date Collected: 06/13/18 09:56
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-8
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		1			523658	06/21/18 23:25	SW1	TAL NSH
Total/NA	Analysis	9056A		20			523854	06/22/18 18:01	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			524039	06/22/18 15:09	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		5			525633	06/28/18 11:39	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	524345	06/24/18 12:56	CSL	TAL NSH
Total/NA	Analysis	7470A		1			524624	06/25/18 13:36	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	522637	06/19/18 17:30	AEC	TAL NSH

Client Sample ID: AP MW-5

Date Collected: 06/13/18 11:21
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-9
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		1			523658	06/21/18 23:44	SW1	TAL NSH
Total/NA	Analysis	9056A		50			523854	06/22/18 18:59	SW1	TAL NSH
Total/NA	Analysis	9056A		500			523854	06/22/18 19:18	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			524039	06/22/18 15:12	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		5			525633	06/28/18 11:42	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		5			525903	06/29/18 20:20	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	523901	06/22/18 12:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			524523	06/23/18 11:31	CSL	TAL NSH

Client Sample ID: AP MW-5

Date Collected: 06/13/18 11:21
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-9

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	SM 2540C		1	25 mL	100 mL	522637	06/19/18 17:30	AEC	TAL NSH

Client Sample ID: AP MW-4

Date Collected: 06/13/18 12:35
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-10

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		1			523658	06/22/18 00:03	SW1	TAL NSH
Total/NA	Analysis	9056A		50			523854	06/22/18 21:12	SW1	TAL NSH
Total/NA	Analysis	9056A		200			523854	06/22/18 21:31	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			524039	06/22/18 14:26	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		5			525633	06/28/18 10:55	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	523901	06/22/18 12:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			524523	06/23/18 11:18	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	522637	06/19/18 17:30	AEC	TAL NSH

Client Sample ID: EQBK-BG-061318

Date Collected: 06/13/18 13:55
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-11

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		1			523658	06/22/18 01:39	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			524039	06/22/18 15:15	BLG	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			525633	06/28/18 11:45	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	523901	06/22/18 12:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			524523	06/23/18 11:33	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	522637	06/19/18 17:30	AEC	TAL NSH

Client Sample ID: Dup 2

Date Collected: 06/13/18 00:01
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-12

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		1			523658	06/22/18 01:58	SW1	TAL NSH
Total/NA	Analysis	9056A		50			523854	06/22/18 21:50	SW1	TAL NSH
Total/NA	Analysis	9056A		200			523854	06/22/18 22:09	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		1			524039	06/22/18 15:19	BLG	TAL NSH

Lab Chronicle

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

TestAmerica Job ID: 490-153938-2

Client Sample ID: Dup 2

Date Collected: 06/13/18 00:01
Date Received: 06/15/18 10:35

Lab Sample ID: 490-153938-12

Matrix: Water

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	523196	06/20/18 09:33	WJE	TAL NSH
Total Recoverable	Analysis	6020A		5			525633	06/28/18 11:48	BLG	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	523901	06/22/18 12:54	CSL	TAL NSH
Total/NA	Analysis	7470A		1			524523	06/23/18 11:41	CSL	TAL NSH
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	522637	06/19/18 17:30	AEC	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: 490-153938-2

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: 490-153938-2

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Texas	NELAP	6	T104704077	08-31-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6020A	3005A	Water	Boron

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-153938 Chain of Custody

Cooler Received/Opened On 6/15/2018 @ 1035

Time Samples Removed From Cooler 1925 Time Samples Placed In Storage 1928 (2 Hour Window)

1. Tracking # 3001 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960353 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? 1 Front 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? GH 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)

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)

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)

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

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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

Loc: 490
153938

COOLER RECEIPT FORM

Cooler Received/Opened On 06-15-2018 @ 10:35

Time Samples Removed From Cooler 1925 Time Samples Placed In Storage 1948 (2 Hour Window)

1. Tracking # 2965 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 31470368 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 1.1 *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) +1 (back)

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) KJ

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) AA

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)

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)

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

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
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

Loc: 490
153938

COOLER RECEIPT FORM

Cooler Received/Opened On 06-15-2018 @ 10:35

Time Samples Removed From Cooler 1925 Time Samples Placed In Storage 1948 (2 Hour Window)

1. Tracking # N/A (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960357 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 1.1 *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) _____

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) _____

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) _____

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

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

BIS = Broken in shipment

TestAmerica Nashville Da Loc: 490 rth
2960 Foster Creighton Drive
Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

153938

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: B. Gieselman	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-85778-24956.1
Client Contact: Greg Seifert	Phone: 512-241-2321	E-Mail: gail.lage@testamericainc.com		Page: Page ~~1 of 3~~ 2 of 2
Company: Wood E&I Solutions Inc				Job #:
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@amecfw.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 Ra226, 904.0 Ra 228, Combined 226/228	9056A_ORGFM_28D - Chloride, Fluoride, Sulfate	6020A Custom Metals List, 7470A Mercury	FieldSampling - Field pH	2540C_Calcd - Total Dissolved Solids										Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N	N											
DUP-2	6/13/18	—	G	W	N	N	X	X	X	X	X											

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	Brian Gieselman	6/14/18 @1430	Wood		6-15-18 1035	TA-NAS
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: 1.1, 1.1, 1.5

Ver: 08/04/2016

1/11/2019 (Rev. 1)

TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Phone (615) 726-0177 Fax (615) 726-3404

Dall Loc: 490 th
153938
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Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: B. Gieselman	Lab PM: Lage, Gail	Carrier Tracking No(s):	COC No: 490-85778-24956.1
Client Contact: Greg Seifert	Phone: 512-241-2321	E-Mail: gail.lage@testamericainc.com		Page: Page 1 of X 2
Company: Wood E&I Solutions Inc				Job #:
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@amecfw.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 Ra226, 904.0 Ra 228, Combined 226/228	9056A_ORGFM_28D - Chloride, Fluoride, Sulfate	6020A Cusotm Metals List, 7470A Mercury	FieldSampling - Field pH	2540C_Calcd - Total Dissolved Solids											Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N	N												
SFL MW-2	6/12/18	1138	G	W	N	N	X	X	X	X	X												
MNW-15		1253																					
SFL MW-7		1404																					
SFL MW-3		1545																					
SFL MW-4		1701																					
EQBK-BG-061218		1755																					
DUP-1		—																					
AP MW-1D	6/13/18	0956																					
AP MW-5		1121																					
AP MW-4		1235				Y																	MS/MSD
EQBK-BG-06/3/18		1355			N																		

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
Brian Gieselman	6/14/18 @ 1430	Wood		6-15-18 1035	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: 1.1/1.1/1.5

Ver: 08/04/2016

1/11/2019 (Rev. 1)