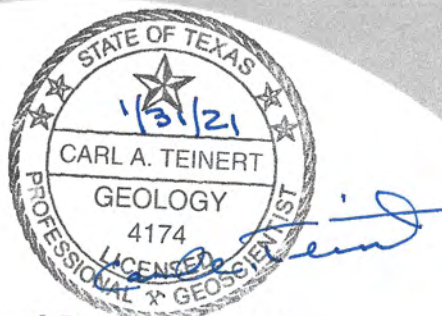




# Annual Groundwater Monitoring and Corrective Action Report

Texas Municipal Power Agency  
Gibbons Creek Steam Electric Station  
Anderson, Texas  
Project #6706200041



Prepared for:

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

January 31, 2021

## Executive Summary

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

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

Appendix III constituents with initial statistically significant increases (SSIs) over background levels calculated in accordance with §257.93(h)(2) in January 2018, are shown in **Table 2.2**.

Assessment monitoring was initiated in March 2018 at the site. Assessment monitoring was continued in 2019 and 2020 in accordance with §40 CFR 257.95. Initial exceedances were identified for three constituents in the December 2019 groundwater monitoring event and four initial exceedances were identified in the June 2020 groundwater monitoring event. Mercury was identified as an SSI in SFL MW-3 in December 2019 but did not exceed the GWPS in the subsequent June 2020 groundwater monitoring event. This exceedance appears to be an underestimation of the natural variance as demonstrated in the ASD and does not require a new or amended ASD. Groundwater sampling will continue so that this condition can be confirmed.

As documented in the April 2019 Alternate Source Determination (ASD) evaluation, potential SSIs identified for Appendix IV constituents are attributed to an alternate source under the CCR rule. Therefore, no corrective action measures are required, and groundwater monitoring under the assessment monitoring program will continue.

## Table of Contents

Executive Summary.....	i
Table of Contents.....	ii
List of Figures.....	ii
List of Tables.....	ii
List of Appendices.....	iii
List of Acronyms.....	iii
1.0 Introduction.....	1
2.0 Groundwater Monitoring.....	1
2.1 Monitoring Networks.....	1
2.1.1 Site F Landfill Groundwater Monitoring Network.....	1
2.1.2 Scrubber Sludge Pond Groundwater Monitoring Network.....	2
2.1.3 Ash Ponds Groundwater Monitoring Network.....	2
3.0 Groundwater Monitoring Events Summary.....	2
3.1 Monitoring Program Status.....	2
3.2 Monitoring Events.....	3
3.2.1 December 2019 Event.....	3
3.2.2 June 2020 Event.....	3
4.0 Groundwater Monitoring Data Summary.....	4
4.1 Groundwater Flow.....	4
4.1.1 Site F Landfill.....	4
4.1.2 Scrubber Sludge Pond.....	5
4.1.3 Ash Ponds.....	5
4.2 Groundwater Quality.....	6

## List of Figures

Figure 1.1	Site Location Map
Figure 1.2	CCR Units
Figure 2.1	Site F Landfill Monitoring Well Network
Figure 2.2	Scrubber Sludge Pond and Ash Ponds Monitoring Well Network
Figure 4.1	Site F Landfill Groundwater Potentiometric Surface Map- December 2019
Figure 4.2	Site F Landfill Groundwater Potentiometric Surface Map- June 2020
Figure 4.3	Scrubber Sludge Pond and Ash Ponds Groundwater Potentiometric Surface Map- December 2019
Figure 4.4	Scrubber Sludge Pond and Ash Ponds Groundwater Potentiometric Surface Map- June 2020

## List of Tables

Table 2.1	Well Construction Details
Table 2.2	Historical Appendix III Constituents with Initial SSIs Above Background
Table 3.1	Groundwater Sampling Summary
Table 4.1	Groundwater Elevation Data
Table 4.2	Site F Landfill Analytical Results
Table 4.3	Scrubber Sludge Pond Analytical Results
Table 4.4	Ash Ponds Analytical Results



## List of Appendices

- Appendix A Field Datasheets
- Appendix B Laboratory Analytical Reports and DUSs

## List of Acronyms

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





## 1.0 Introduction

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

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

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

This annual groundwater and corrective action report has been prepared to meet the requirements of 40 CFR 257.90(e). There are no corrective action programs for CCR units underway at the facility; therefore, only the status of the groundwater monitoring program is summarized. This report covers the period December 1, 2019, through December 31, 2020.

This report contains a discussion of the groundwater monitoring networks for the CCR units, summarizes the groundwater monitoring events, presents groundwater analytical results, and discusses groundwater flow directions and rates at the CCR units. This report also presents a discussion of the statistical evaluations completed as of the end of 2020.

## 2.0 Groundwater Monitoring

### 2.1 Monitoring Networks

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

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

#### 2.1.1 Site F Landfill Groundwater Monitoring Network

The SFL is underlain by stratified, heterogeneous layers of clays, silts, and sands with varying thicknesses. Sandstone was observed at some boring locations as well. The uppermost aquifer is considered confined to semi-confined and generally encountered at depths of 15 to 35 ft below ground surface (bgs). The elevations of screened intervals in monitoring wells completed in the uppermost aquifer range from approximately 250 feet above mean sea level (ft amsl) to 220 ft amsl. The screened intervals are generally completed in silty sands with intervals of clayey sands and silts.

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

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

### 2.1.2 Scrubber Sludge Pond Groundwater Monitoring Network

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

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

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

### 2.1.3 Ash Ponds Groundwater Monitoring Network

The subsurface stratigraphic units at the AP are similar to those found beneath the adjacent SSP and groundwater is also considered confined to semi-confined, and generally encountered at depths of 30 to 40 ft bgs. The elevation of monitoring well screened intervals in the uppermost aquifer ranges from approximately 220 ft amsl to 255 ft amsl. The screened intervals are generally completed in silty sands and sandy clay.

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

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

## 3.0 Groundwater Monitoring Events Summary

### 3.1 Monitoring Program Status

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

The first assessment monitoring event was conducted in March 2018. Pursuant to 40 CFR § 257.95(b), groundwater was analyzed for all Appendix IV constituents in the first sampling event conducted after establishment of the assessment monitoring program. A statistical evaluation conducted for the Appendix IV constituents concluded that the data indicated initial statistically significant increases (SSIs) above Groundwater Protection Standards (GWPS) at the SFL, SSP, and AP CCR units. In accordance with 40 CFR 257.95(g)(3)(ii), an evaluation of alternate sources that caused the increases in Appendix IV constituents in downgradient wells was undertaken. The alternative source determination (ASD) evaluation concluded that the potential SSIs for Appendix IV constituents exceeding the GWPS were attributed to natural variation in groundwater quality, therefore, assessment monitoring was continued and corrective measures were not implemented. The ASD was included the 2019 Annual Groundwater Monitoring Report dated January 31, 2020.

## 3.2 Monitoring Events

Assessment groundwater monitoring events were completed in December 2019 and June 2020. Groundwater monitoring was completed in accordance with the methods and procedures documented in the Field Sampling Plan dated October 16, 2017. The well locations relative to each CCR unit, the number of samples collected, and the sample collection dates are summarized in **Table 3.1**. Field data sheets completed during the 2020 sampling events are included in **Appendix A**. Laboratory analytical reports are provided in **Appendix B**.

### 3.2.1 December 2019 Event

The December 2019 groundwater monitoring event was an assessment monitoring event and was completed from December 16 to December 18, 2019. Water levels were measured in all monitoring wells on December 16, 2019, and groundwater samples were collected on December 17 and 18, 2019. 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.

Appendix IV constituents detected at each CCR unit include:

- SFL: Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Selenium, Thallium, Radium
- SSP: Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Selenium, Thallium, Radium
- AP: Arsenic, Barium, Beryllium, Cadmium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Radium

### 3.2.2 June 2020 Event

The June 2020 groundwater monitoring event was an assessment monitoring event and was completed between June 15 and June 17, 2019. Water levels were measured in all monitoring wells on June 15, 2020, and groundwater samples were collected on June 16 and June 17, 2020. Groundwater samples were collected from monitoring wells at the SFL, SSP and AP CCR units. The groundwater samples were analyzed for all Appendix III and Appendix IV constituents.

Appendix III and IV constituents detected at each CCR unit include:

- SFL: Arsenic, Barium, Boron, Beryllium, Cadmium, Calcium, Chloride, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Sulfate, Thallium, Total Dissolved Solids, Radium

- SSP: Arsenic, Boron, Barium, Beryllium, Cadmium, Calcium, Chloride, Chromium, Cobalt, Lead, Lithium, Sulfate, Thallium, Total Dissolved Solids, Radium
- AP: Arsenic, Boron, Barium, Beryllium, Cadmium, Calcium, Chloride, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Sulfate, Total Dissolved Solids, Thallium, Radium

## 4.0 Groundwater Monitoring Data Summary

### 4.1 Groundwater Flow

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

$$V = Ki/\phi$$

Where:

V = average linear velocity (ft/day)

K = hydraulic conductivity (ft/day)

i = hydraulic gradient (ft/ft)

$\phi$  = effective porosity (%)

For each CCR unit, groundwater average linear velocity was determined using an estimated hydraulic conductivity value of 0.028 ft/day (K) based on observed grain sizes in the screened intervals, and an estimated effective porosity of 25% ( $\phi$ ). The hydraulic gradient (i) and average linear velocity (V) was calculated for each CCR unit and is described below.

#### 4.1.1 Site F Landfill

Groundwater level measurements for the SFL monitoring wells are included in **Table 4.1**. These measurements were completed on December 16, 2019 and June 15, 2020. Potentiometric surface maps for these sampling events are included as **Figures 4.1** and **4.2**, respectively.

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

The hydraulic gradient and average linear velocities calculated for the December 2019 and June 2020 sampling events are estimated as follows:

##### December 2019

$$i = 0.0212 \text{ ft/ft}$$

$$V = 0.0024 \text{ ft/day or } 0.87 \text{ ft/year}$$

##### June 2020

$$i = 0.0187 \text{ ft/ft}$$

$$V = 0.0021 \text{ ft/day or } 0.76 \text{ ft/year}$$

### 4.1.2 Scrubber Sludge Pond

Groundwater level measurements for the SSP monitoring wells are included in **Table 4.1**. These measurements were completed on December 16, 2019 and June 15, 2020. Potentiometric surface maps for these sampling events are included as **Figures 4.3** and **4.4**, respectively.

Groundwater elevations were generally consistent during the monitoring events. Groundwater levels varied by less than one foot in most wells. Based on the potentiometric surface maps, the groundwater flow direction in the vicinity of the SSP is southwest.

The hydraulic gradient and average linear velocities calculated for the December 2019 and June 2020 sampling events are estimated as follows:

#### December 2019

$$i = 0.0084 \text{ ft/ft}$$

$$V = 0.0009 \text{ ft/day or } 0.34 \text{ ft/year}$$

#### June 2020

$$i = 0.0095 \text{ ft/ft}$$

$$V = 0.0011 \text{ ft/day or } 0.39 \text{ ft/year}$$

### 4.1.3 Ash Ponds

Groundwater level measurements for the AP monitoring wells are included in **Table 4.1**. These measurements were completed on December 16, 2019 and June 15, 2020. Potentiometric surface maps for these sampling events are included as **Figures 4.3** and **4.4**, respectively.

Groundwater elevations were generally consistent during the monitoring events. Groundwater levels varied by less than one foot in most wells. The groundwater flow direction within the AP is generally southeast with a northeastern flow direction at the north end of the AP.

The hydraulic gradient and average linear velocities were calculated for each sampling event for both the southeastern and northeastern directions.

#### *Southeast Direction*

##### December 2019

$$i = 0.0044 \text{ ft/ft}$$

$$0.0005 \text{ ft/day or } 0.18 \text{ ft/year}$$

##### June 2020

$$i = 0.0044 \text{ ft/ft}$$

$$0.0011 \text{ ft/day or } 0.39 \text{ ft/year}$$

#### *Northeast Direction*

##### December 2019

$$i = 0.0291 \text{ ft/ft}$$

$$0.0033 \text{ ft/day or } 1.19 \text{ ft/year}$$



*Northeast Direction (continued)*

June 2020

$i = 0.0194 \text{ ft/ft}$

0.0022 ft/day or 0.79 ft/year

## 4.2 Groundwater Quality

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

The analytical data for December 2019 indicated initial exceedances for the following constituents:

- Arsenic – MNW-15, SFL MW-6, AP MW-5
- Selenium – SFL MW-6, AP MW-5
- Lead – SFL MW-6

Mercury in SFL MW-3 was detected at a concentration above the GWPS which caused this constituent to be identified as an SSI. In the subsequent event summarized below, mercury was again below the GWPS. This exceedance appears to be an underestimation of the natural variance as demonstrated in the ASD and does not require a new or amended ASD. Groundwater sampling will continue so that this condition can be confirmed. Note that none of the initial exceedances for arsenic, selenium, and lead in December 2019 exceeded their respective GWPS in the June 2020 summarized below.

The analytical data for June 2020 indicated the following initial exceedances:

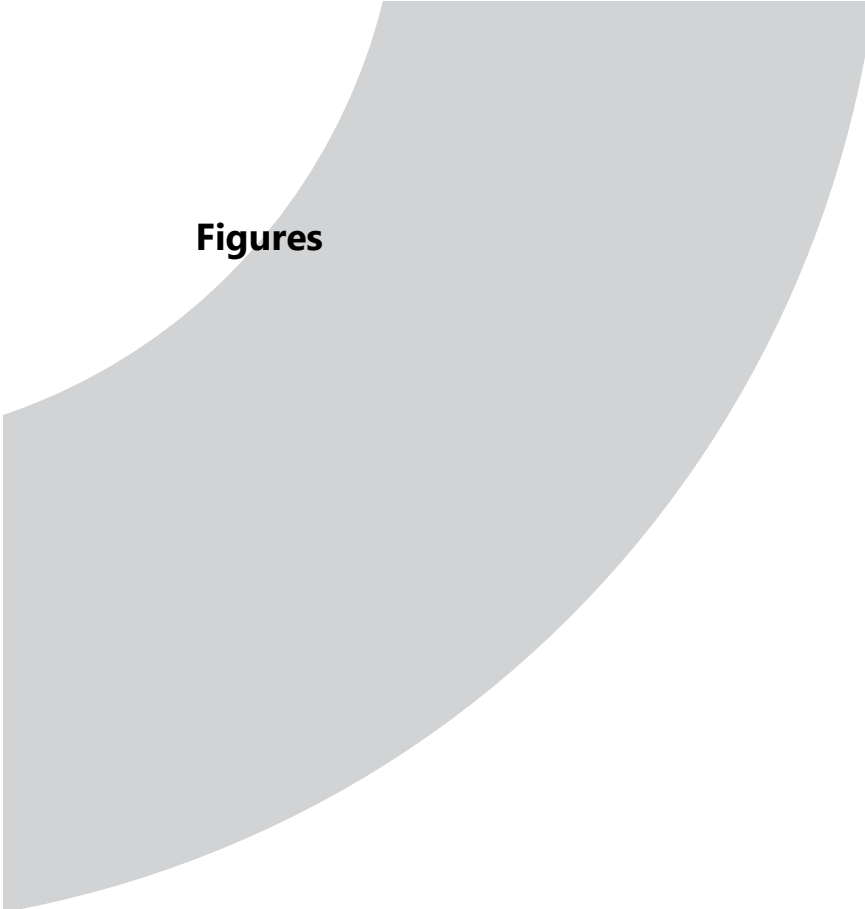
- Beryllium – SFL MW-2
- Cobalt – SFL MW-2
- Radium combined – SFL MW-2
- Thallium – SSP MW-3

In reviewing past data presentations, TMPA discovered that the GWPS values were incorrect in the analytical tables. The GWPS values have been corrected to those values identified in the *CCR Statistical Analysis and Results for Assessment Monitoring (September 2018)* project document.

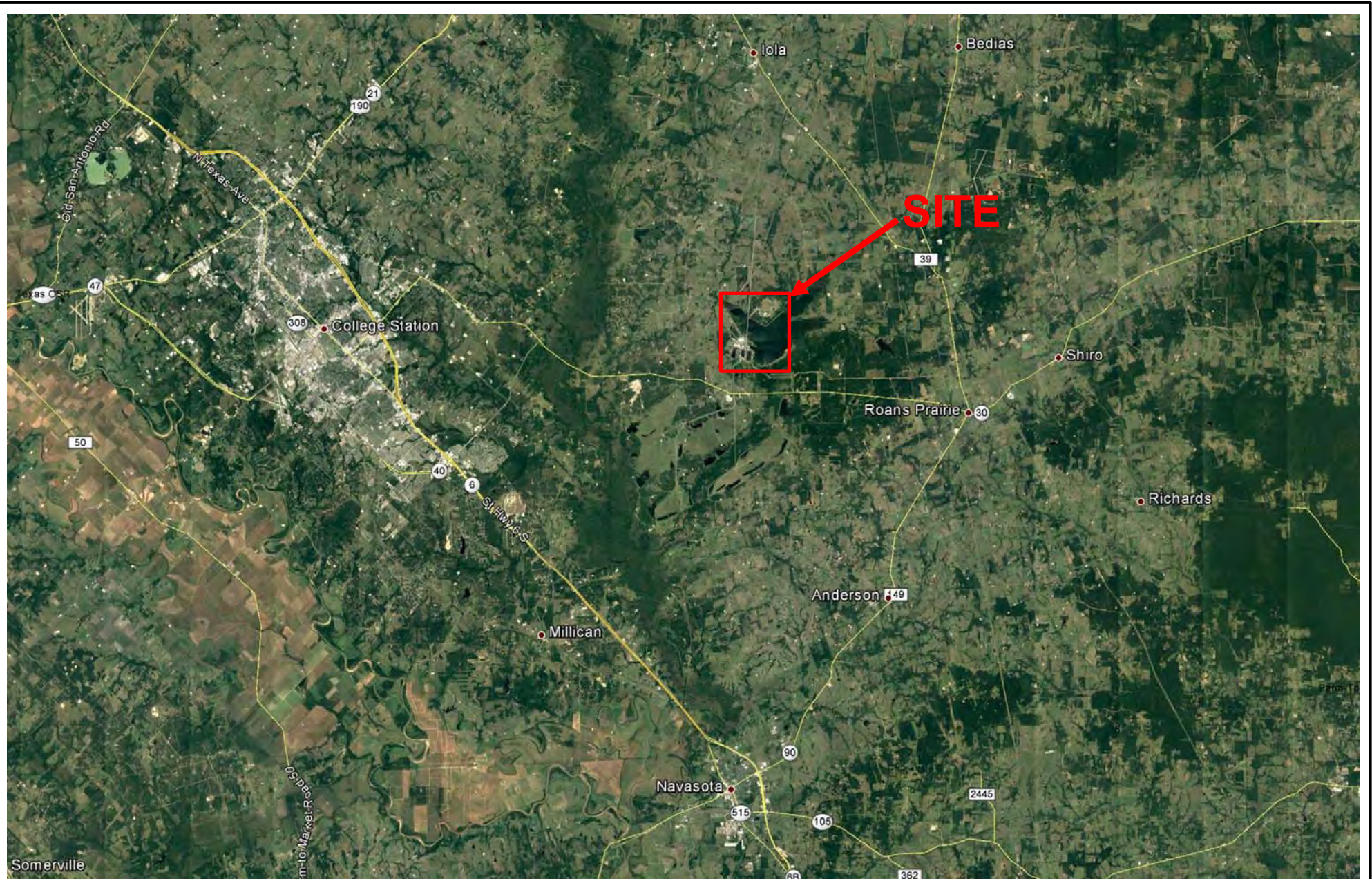


**Figures**

**wood.**







Approximate Scale in Miles



SOURCE: GOOGLE EARTH

**wood.**  
 Environment &  
 Infrastructure  
 Solutions, Inc.



TX Engineering Firm #F-0012

**SITE LOCATION MAP**  
 Texas Municipal Power Agency  
 Gibbons Creek Steam Electric Station  
 Grimes County, Texas

Project No. 6706200041  
 Date: 12/14/2020

**Figure 1.1**

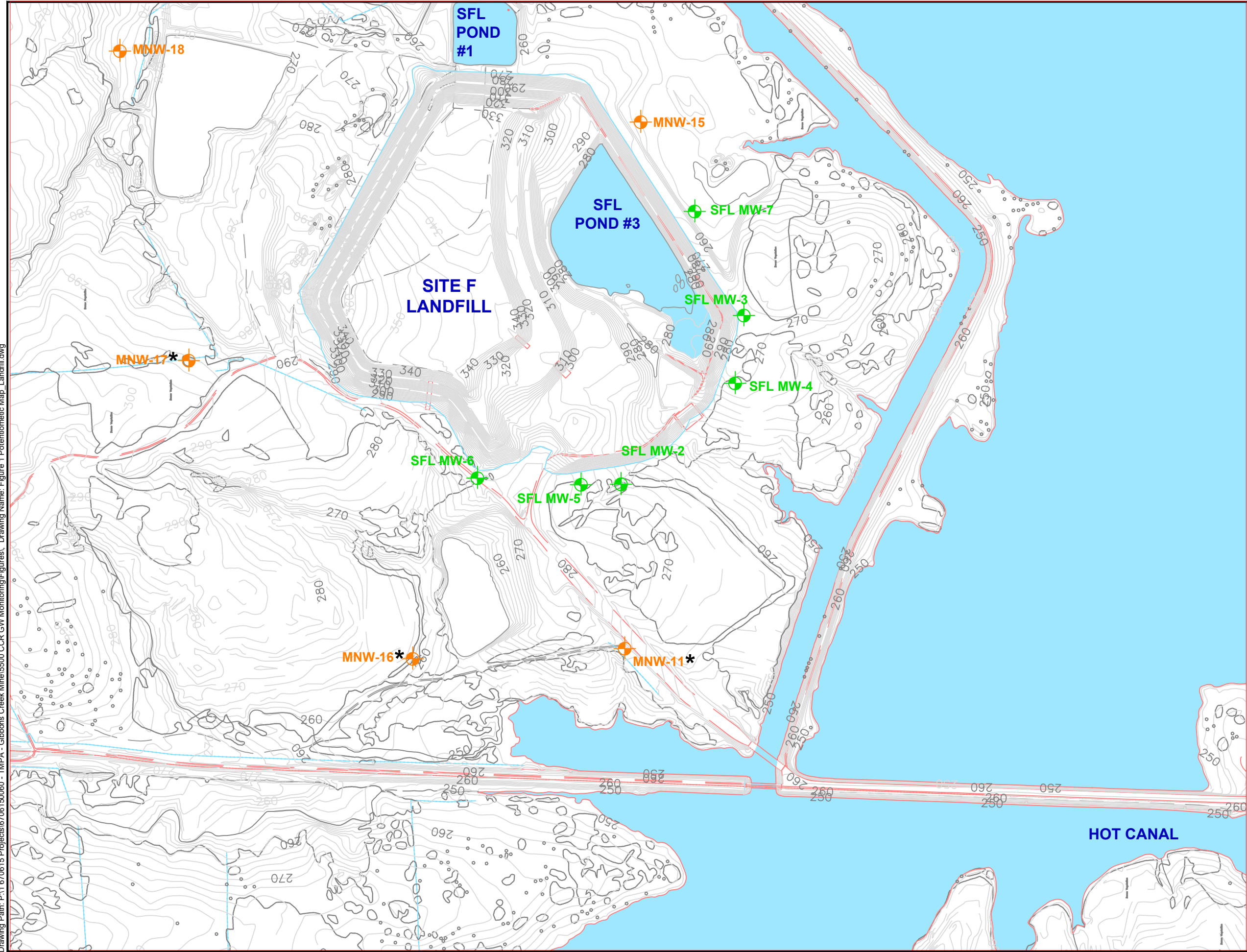




<p style="text-align: center;">N ↑</p> <p>0 <span style="float: right;">1 mi</span></p> <p style="text-align: center;">Approximate Scale in Miles</p> <p style="text-align: center;">Source: Google Earth</p>	<p><b>wood.</b> Environment &amp; Infrastructure Solutions, Inc.</p> <p style="text-align: center;">● ● ●</p> <p>TX Engineering Firm #F-0012</p>	<p style="text-align: center;"><b>CCR UNITS</b> Texas Municipal Power Agency Gibbons Creek Steam Electric Station Grimes County, Texas</p> <table border="1" style="width: 100%;"> <tr> <td data-bbox="1084 1969 1393 2047"> <p>Project No. 6706200041 Date: 12/14/2020</p> </td> <td data-bbox="1393 1969 1544 2047"> <p style="text-align: center;"><b>Figure 1.2</b></p> </td> </tr> </table>	<p>Project No. 6706200041 Date: 12/14/2020</p>	<p style="text-align: center;"><b>Figure 1.2</b></p>
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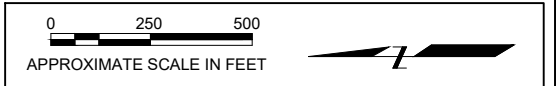
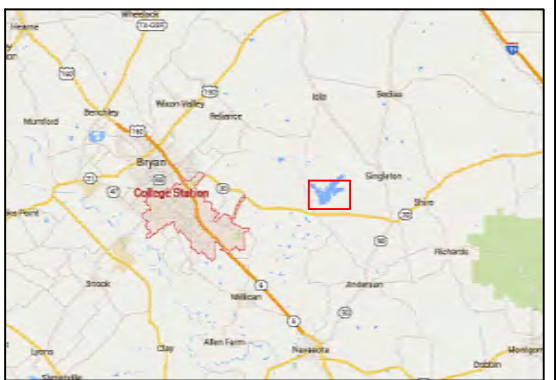


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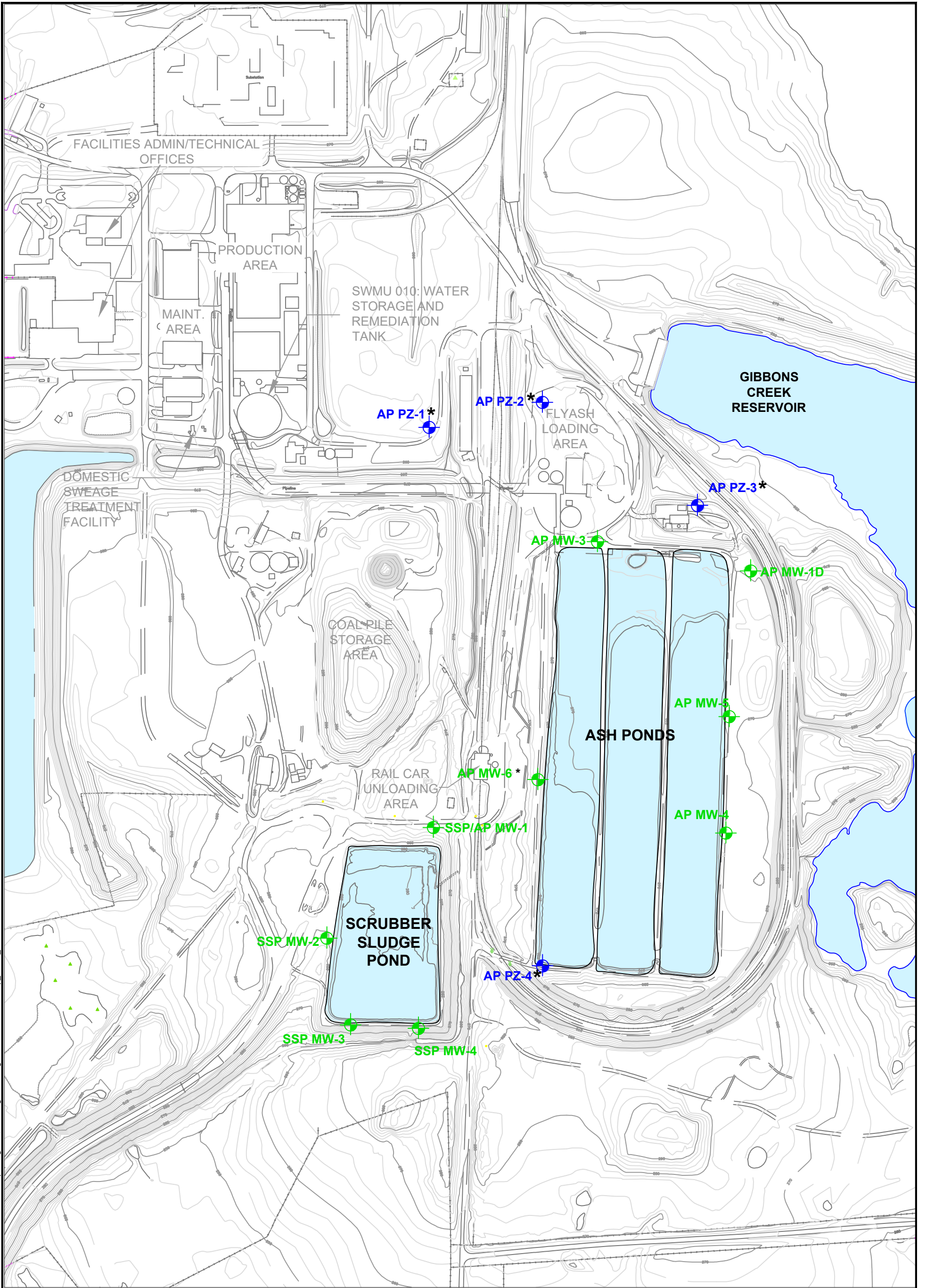
- Wood Monitoring Well
- Black and Veatch Monitoring Well
- Well Used for Groundwater Level Monitoring Only






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

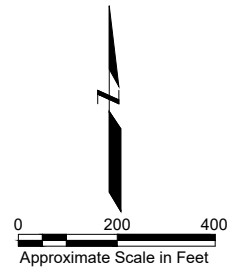
<p>Environment &amp; Infrastructure Solutions, Inc.</p> <p>TX Engineering Firm F-0012</p>	<p><b>SITE F LANDFILL MONITORING WELL NETWORK</b></p> <p>Texas Municipal Power Agency          Gibbons Creek Steam Electric Station          Grimes County, Texas</p>
	<p>Project No. 6706200041</p> <p>Date 02/14/2020</p>
<p><b>Figure 2-1</b></p>	





**LEGEND**

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



**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

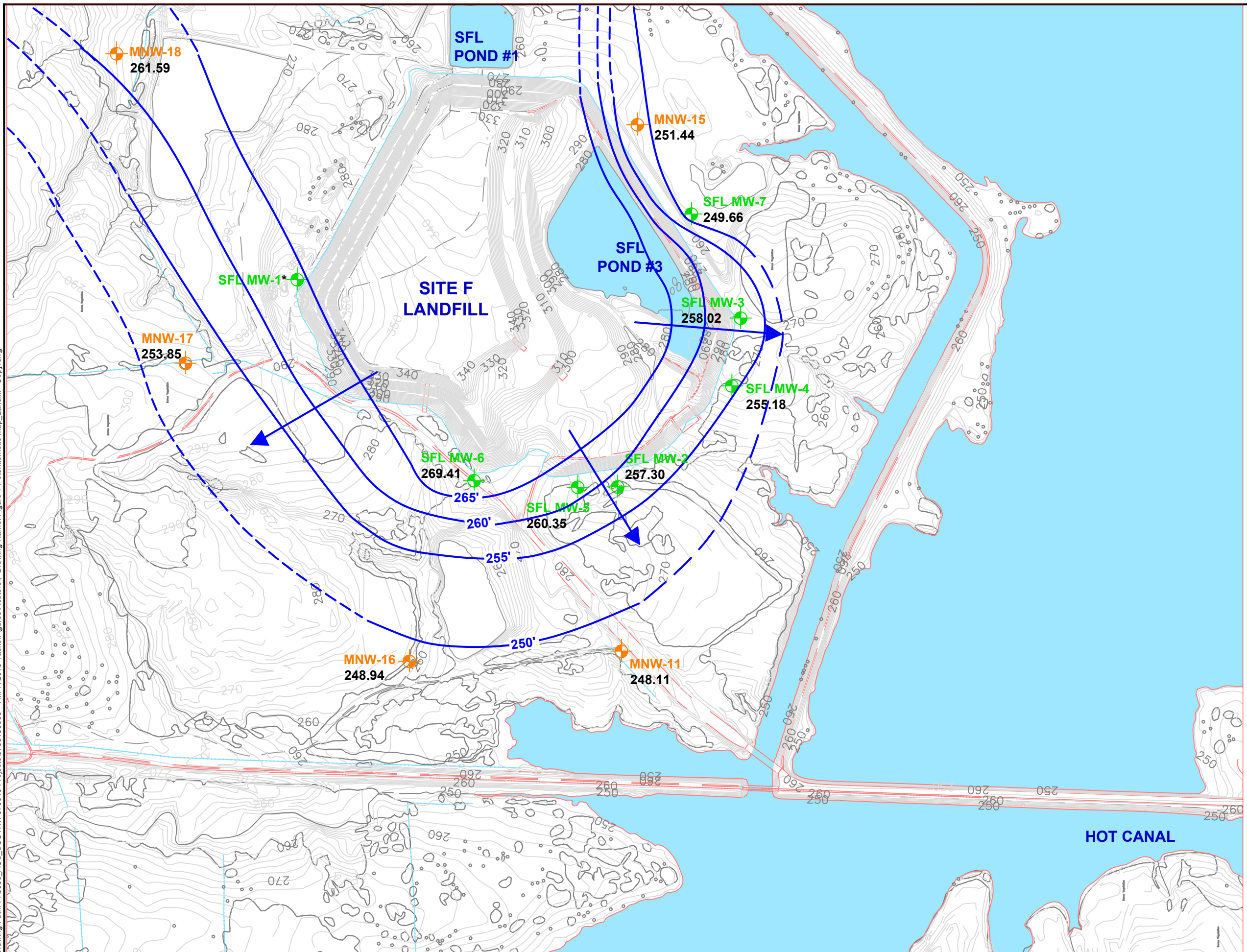
Project No.: 6706200041	Figure 2.2
Date 12/14/2020	

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

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**LEGEND**

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



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

**wood.**  
 Environment & Infrastructure Solutions, Inc.

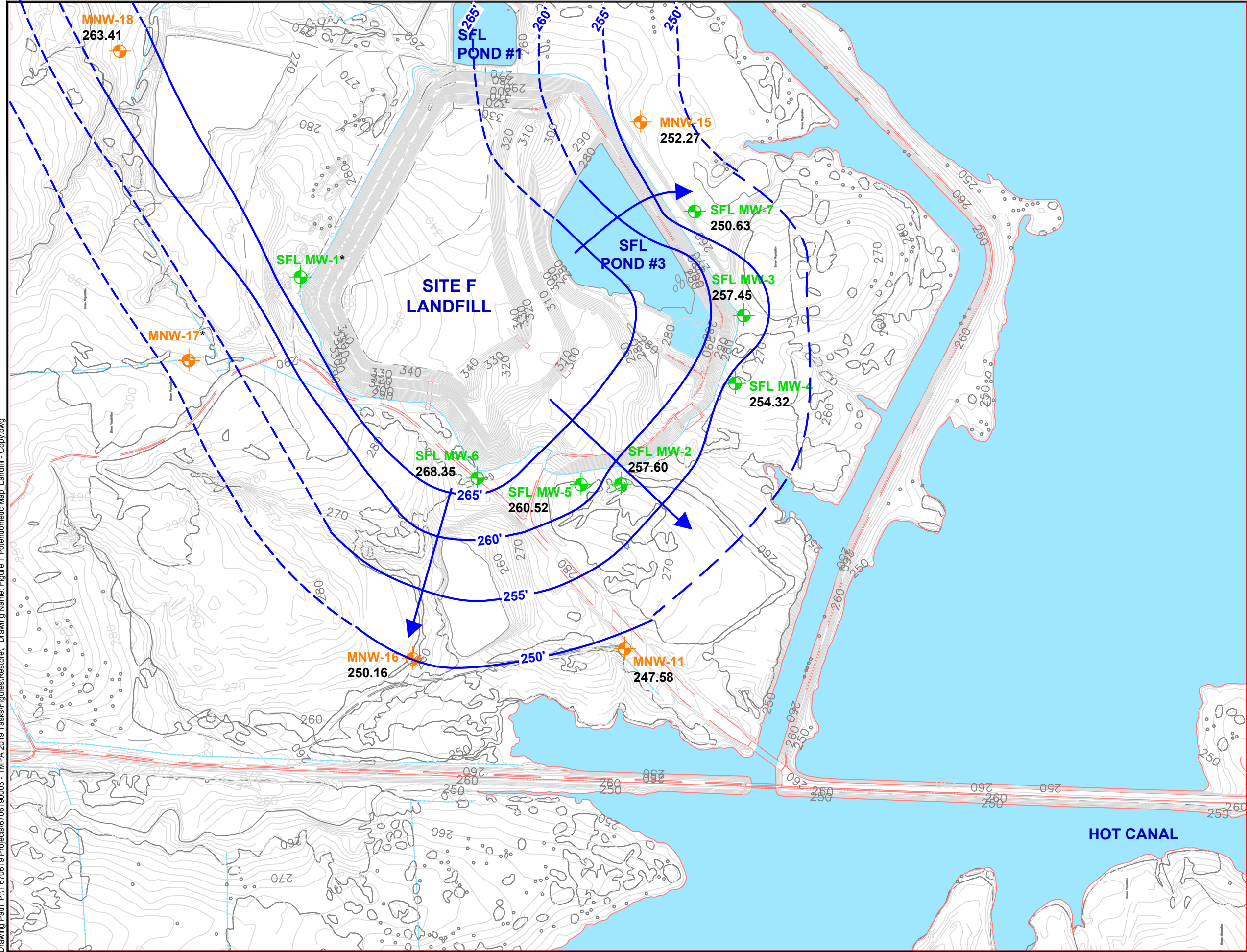
**SITE F LANDFILL**  
 Groundwater Potentiometric Surface Map - December 2019  
 Texas Municipal Power Agency  
 Gibbons Creek Steam Electric Station  
 Grimes County, Texas

Project No. 6706200041  
 Date 1/28/2020  
 Figure 4.1

TX Engineering Firm F-0012  
 TX Geoscience Firm #50814

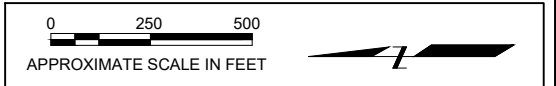
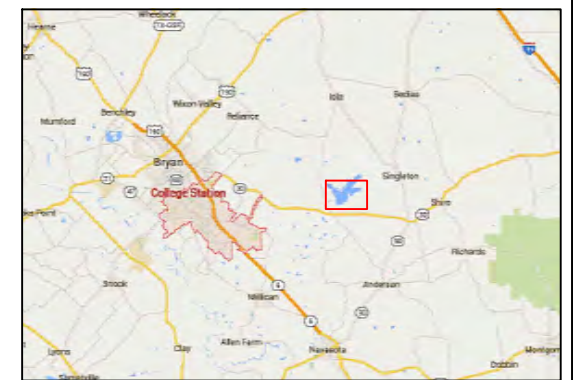


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**LEGEND**

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



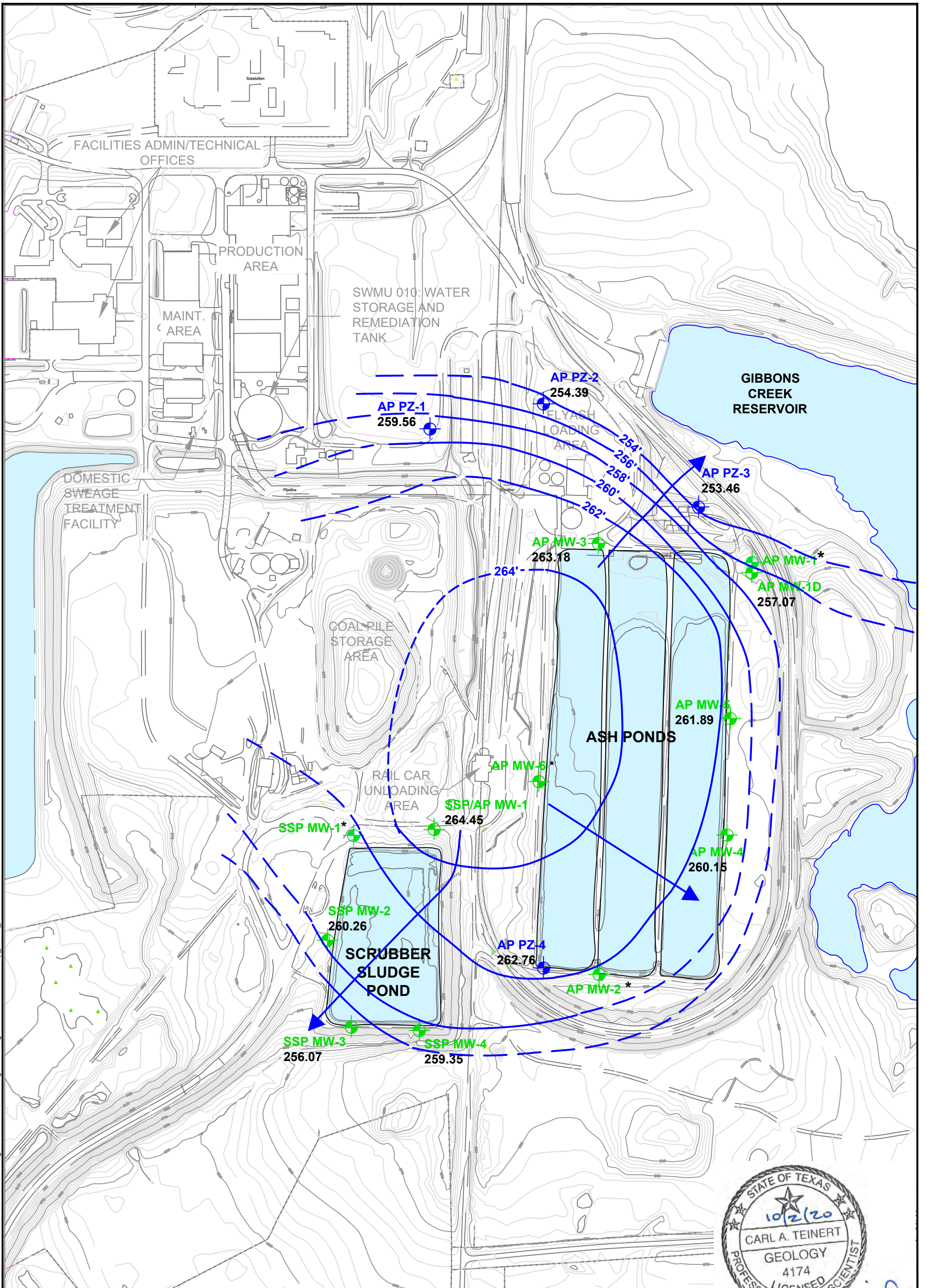
SOURCE:  
 POTENTIOMETRIC SURFACE ELEVATION AND BASE MAP, ERM  
 GOOGLE EARTH PRO

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 Environment &  
 Infrastructure  
 Solutions, Inc.

**SITE F LANDFILL**  
 Groundwater Potentiometric  
 Surface Map - June 2020  
 Texas Municipal Power Agency  
 Gibbons Creek Steam Electric Station  
 Grimes County, Texas

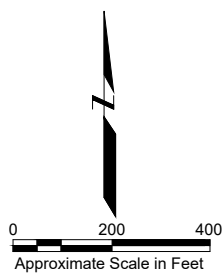
TX Engineering Firm F-0012 TX Geoscience Firm #50814	Project No. 670620041 Date 8/28/2020	Figure 4.2
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**LEGEND**

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



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

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

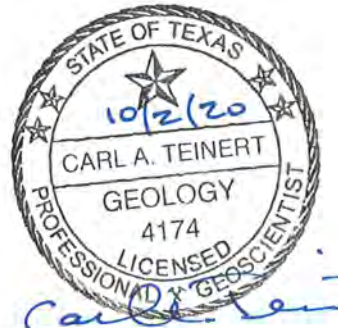
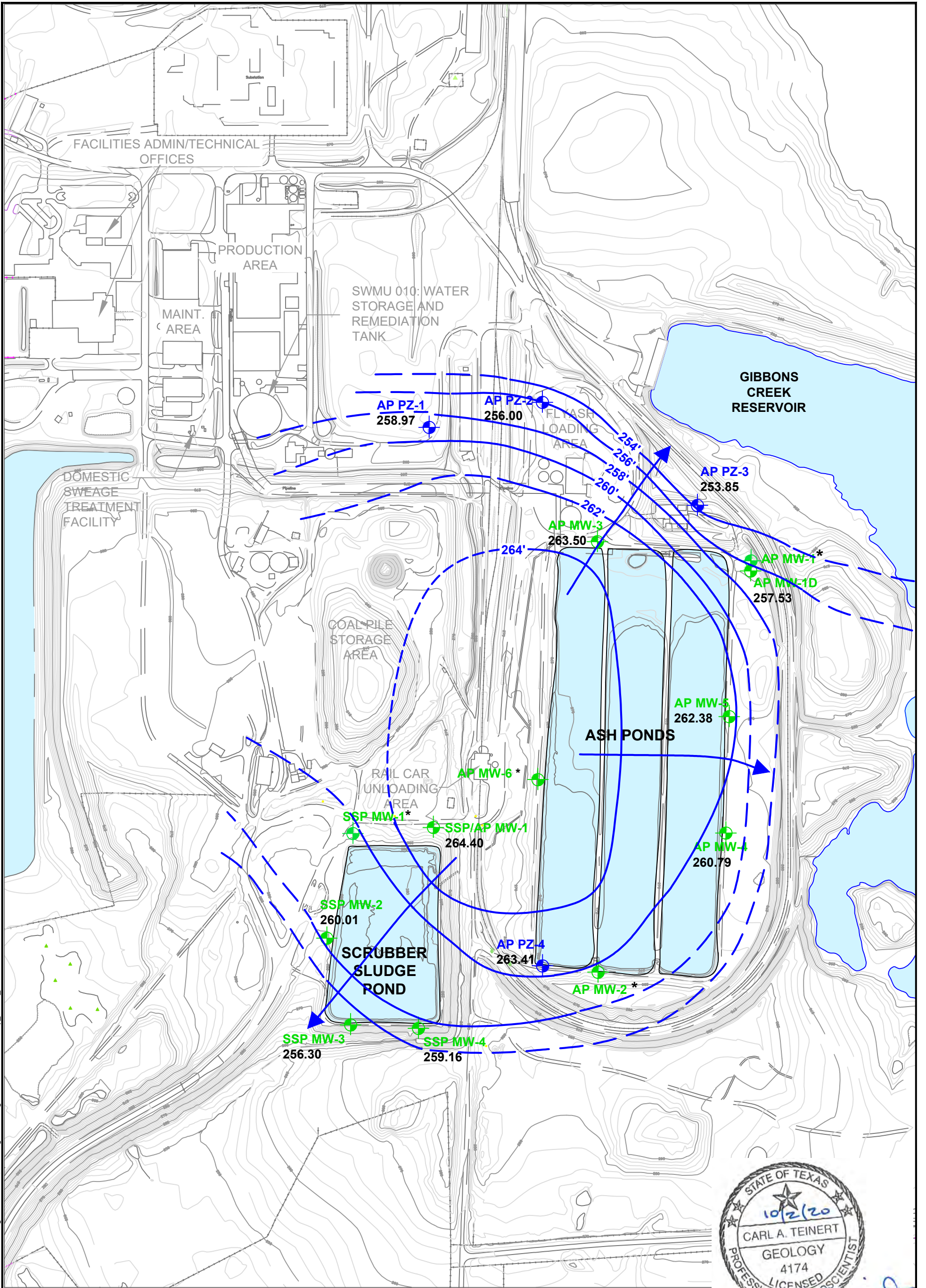
Project No.: 6706190003  
 Date: 9/1/2020

Figure 4.3

Plot Date: 11/20/20 - 10:09am. Plotted by: susan.l.brown  
 Drawing Path: P:\0000\_AUS\_SOUTH1\670619\Projects\6706190003 - TMAPA 2019 Tasks\Figures\Restore\ Drawing Name: Figure 2 Potentiometric Map\_Ponds\_DWG

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

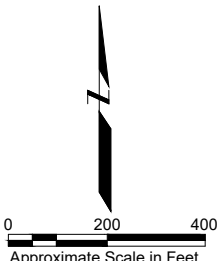




*Carl A. Teinert*

**LEGEND**

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



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

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

**SCRUBBER SLUDGE POND AND ASH PONDS**  
 Groundwater Potentiometric Surface Map - June 2020  
 Texas Municipal Power Agency  
 Gibbons Creek Steam Electric Station  
 Grimes County, Texas

Project No.: 670620041  
 Date: 9/1/2020

Figure 4.4

Plot Date: 11/13/20 - 3:15pm. Plotted by: susan.l.brown  
 Drawing Path: P:\1670619 Projects\670619\0003 - TMLPA 2019 Tasks\Figures\Restored - TMLPA 2019 Tasks\Figures\Restored - TMLPA 2019 Tasks\Figures\Map\_Ponds - DWG

**Tables**

**wood.**

Table 2.1  
Well Construction Details  
2020 Annual Report  
TMPA Gibbons Creek Steam Electric Station  
Anderson, Texas

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

**Notes and Definitions:**

\*Water level monitoring only, not used in groundwater quality monitoring

ft. amsl - feet above mean sea level

ft. bgs - feet below ground surface

ft. btoc - feet below top of casing

in. - inches

Table 2.2  
 Summary of Appendix III Constituents with Initial SSIs Above Background  
 2020 Annual Report  
 TMPA Gibbons Creek Steam Electric Station  
 Anderson, Texas

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

Notes and Definitions

AP - Ash Ponds

SFL - Site F Landfill

SSI - Statistically Significant Increase

SSP - Scrubber Sludge Pond

TDS - Total Dissolved Solids

TMPA - Texas Municipal Power Agency

Statistical evaluation completed in January 2018.



Table 3.1  
Groundwater Sampling Summary  
2020 Annual Report  
TMPA Gibbons Creek Steam Electric Station  
Anderson, Texas

Unit	Well	Location	Monitoring Program	Number of Samples Collected*	Sample Collection Dates	
SFL	MNW-18	Upgradient	Assessment	2	12/17/2019	6/16/2020
	SFL MW-2	Downgradient	Assessment	2	12/17/2019	6/16/2020
	SFL MW-3	Downgradient	Assessment	2	12/17/2019	6/16/2020
	SFL MW-4	Downgradient	Assessment	2	12/17/2019	6/16/2020
	SFL MW-5	Downgradient	Assessment	2	12/17/2019	6/16/2020
	SFL MW-6	Downgradient	Assessment	2	12/17/2019	6/16/2020
	SFL MW-7	Downgradient	Assessment	2	12/17/2019	6/16/2020
	MNW-15	Downgradient	Assessment	2	12/17/2019	6/16/2020
SSP	SSP/AP MW-1	Upgradient	Assessment	2	12/18/2019	6/17/2020
	SSP MW-2	Downgradient	Assessment	2	12/18/2019	6/17/2020
	SSP MW-3	Downgradient	Assessment	2	12/18/2019	6/17/2020
	SSP MW-4	Downgradient	Assessment	2	12/18/2019	6/17/2020
AP	SSP/AP MW-1	Upgradient	Assessment	2	12/18/2019	6/17/2020
	AP MW-1D	Downgradient	Assessment	2	12/18/2019	6/17/2020
	AP MW-3	Downgradient	Assessment	2	12/18/2019	6/17/2020
	AP MW-4	Downgradient	Assessment	2	12/18/2019	6/17/2020
	AP MW-5	Downgradient	Assessment	2	12/18/2019	6/17/2020

Notes and Definitions

\* Does not include duplicate samples collected for Quality Assurance.

AP - Ash Ponds

SFL - Site F Landfill

SSP - Scrubber Sludge Pond

Table 4.1  
Groundwater Elevation Summary  
2020 Annual Report  
TMPA Gibbons Creek Steam Electric Station  
Anderson, Texas

Unit	Well	Date	Depth to Water (ft. btoc)	MP Elevation (ft. amsl)	Water Level Elevation (ft. amsl)
SFL	MNW-11	12/16/2019	20.01	268.12	248.11
		6/15/2020	20.54	268.12	247.58
	MNW-15	12/16/2019	6.10	257.54	251.44
		6/15/2020	5.27	257.54	252.27
	MNW-16	12/16/2019	14.39	263.33	248.94
		6/15/2020	13.17	263.33	250.16
	MNW-17	12/16/2019	40.01	293.86	253.85
		6/15/2020*	45.64	293.86	248.22
	MNW-18	12/16/2019	9.32	270.91	261.59
		6/15/2020	7.50	270.91	263.41
	SFL MW-2	12/16/2019	11.01	268.31	257.30
		6/15/2020	10.71	268.31	257.60
	SFL MW-3	12/16/2019	16.98	275.00	258.02
		6/15/2020	17.55	275.00	257.45
	SFL MW-4	12/16/2019	14.35	269.53	255.18
		6/15/2020	15.21	269.53	254.32
	SFL MW-5	12/16/2019	15.90	276.25	260.35
		6/15/2020	15.73	276.25	260.52
SFL MW-6	12/16/2019	17.25	286.66	269.41	
	6/15/2020	18.31	286.66	268.35	
SFL MW-7	12/16/2019	15.17	264.83	249.66	
	6/15/2020	14.20	264.83	250.63	
SSP	SSP/AP MW-1	12/16/2019	8.08	272.53	264.45
		6/15/2020	8.13	272.53	264.40
	SSP MW-2	12/16/2019	23.40	283.66	260.26
		6/15/2020	23.65	283.66	260.01
	SSP MW-3	12/16/2019	27.90	283.97	256.07
		6/15/2020	27.67	283.97	256.30
	SSP MW-4	12/16/2019	24.51	283.86	259.35
		6/15/2020	24.70	283.86	259.16
AP	SSP/AP MW-1	12/16/2019	8.08	272.53	264.45
		6/15/2020	8.13	272.53	264.40
	AP MW-1D	12/16/2019	14.97	272.04	257.07
		6/15/2020	14.51	272.04	257.53
	AP MW-3	12/16/2019	11.50	274.68	263.18
		6/15/2020	11.18	274.68	263.50
	AP MW-4	12/16/2019	14.01	274.16	260.15
		6/15/2020	13.37	274.16	260.79
	AP MW-5	12/16/2019	12.24	274.13	261.89
		6/15/2020	11.75	274.13	262.38
	AP MW-6	12/16/2019*	16.90	277.95	261.05
		6/15/2020*	16.56	277.95	261.39
	AP PZ-1	12/16/2019	6.11	265.67	259.56
		6/15/2020	6.70	265.67	258.97
	AP PZ-2	12/16/2019	20.52	274.91	254.39
		6/15/2020	18.91	274.91	256.00
AP PZ-3	12/16/2019	5.65	259.11	253.46	
	6/15/2020	5.26	259.11	253.85	
AP PZ-4	12/16/2019	10.89	273.65	262.76	
	6/15/2020	10.24	273.65	263.41	

Notes and Definitions

\* Inconsistent measurement, not used

AP - Ash Ponds

ft. amsl - feet above mean sea level

ft. btoc - feet below top of casing

MN or MNW - Monitoring Well

MP - measuring point

PZ - piezometer

SFL - Site F Landfill

SSP - Scrubber Sludge Pond

TMPA - Texas Municipal Power Agency

Table 4.2  
 Site F Landfill Analytical Results  
 2020 Annual Report  
 TMPA Gibbons Creek Steam Electric Station  
 Anderson, Texas

Sample ID		MNW-18		SFL MW-2		SFL MW-3		SFL MW-4		SFL MW-5		SFL MW-6		SFL MW-7		MNW-15				
		Collection Date	12/17/2019	6/16/2020	12/17/2019	6/16/2020	12/17/2019	6/16/2020	12/17/2019	6/16/2020	12/17/2019	6/16/2020	12/17/2019	6/16/2020	12/17/2019	6/16/2020	12/17/2019	6/16/2020		
Laboratory Report No.		180-100175-1	180-107147-1	180-100175-1	180-107147-1	180-100175-1	180-107147-1	180-100175-1	180-107147-1	180-100175-1	180-107147-1	180-100175-1	180-107147-1	180-100175-1	180-107147-1	180-100175-1	180-107147-1			
Laboratory Report No. <sup>2</sup>		180-100175-2	180-107147-2	180-100175-2	180-107147-2	180-100175-2	180-107147-2	180-100175-2	180-107147-2	180-100175-2	180-107147-2	180-100175-2	180-107147-2	180-100175-2	180-107147-2	180-100175-2	180-107147-2			
Constituent of Concern		Units	CAS	GWPS																
40 CFR 257, Appendix III	Boron	mg/L	7440-42-8	background	-	0.485	-	0.489	-	3.67	-	0.711	-	5.35	-	0.384	-	0.832	-	8.30
	Calcium	mg/L	7440-70-2	background	-	322	-	944	-	600	-	759	-	812	-	950	-	643	-	327
	Chloride	mg/L	16887-00-6	background	-	437	-	3,250 F1	-	1,090	-	1,760	-	3,000	-	3,760	-	2,880	-	654
	Fluoride	mg/L	16984-48-8	4.00	0.138	<0.250	<1.00	<1.00	0.577	0.526	<0.500	<0.500	<1.00	<1.00	<1.00	<1.00	<0.500	<0.500	1.03	0.794
	pH <sup>1</sup>	S.U.	--	background	6.95	6.41	6.64	5.58	3.89	3.45	6.52	5.82	4.91	4.27	4.16	3.90	6.70	6.01	3.78	3.21
	Sulfate	mg/L	18785-72-3	background	-	1,480	-	1,760	-	2,350	-	2,320	-	2,190	-	2,350	-	816	-	1,370
	Total Dissolved Solids	mg/L	--	background	-	3,160	-	6,970	-	5,180	-	6,010	-	7,250	-	11,000	-	5,830	-	3,170
40 CFR 257, Appendix IV	Antimony	mg/L	7440-36-0	0.006	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	Arsenic	mg/L	7440-38-2	0.01	0.00161	0.00135	0.00151	0.00160	0.00564	0.00317	<0.00100	<0.00100	0.00234	0.00145	0.0165	0.00892	<0.00100	<0.00100	0.0114	0.00624
	Barium	mg/L	7440-39-3	2.00	0.0142	0.0477	0.0235	0.0262	0.0136	0.0131	0.0230	0.0240	0.0209	0.0192	0.0247	0.0309	0.0370	0.0342	0.0160	0.0171
	Beryllium	mg/L	7440-41-7	0.004	<0.00100	<0.0800 ^	0.00247	0.00722	0.0357	0.0335	<0.00100	<0.00100	0.0101	0.0113	0.0520	0.0503	<0.00100	<0.00100	0.0910	0.0880
	Cadmium	mg/L	7440-43-9	0.005	<0.00100	<0.00100	0.00185	0.00277	0.00690	0.00620	<0.00100	<0.00100	0.00509	0.00564	0.0118	0.0104	<0.00100	<0.00100	0.0313	0.0388
	Chromium	mg/L	7440-47-3	0.100	<0.00200	0.00617	<0.00200	<0.00200	0.00240	<0.00200	<0.00200	<0.00200	<0.00200	0.00241	0.00797	<0.00200	<0.00200	<0.00200	<0.00200	0.0579
	Cobalt	mg/L	7440-48-4	0.006	<0.000500	0.000561	0.0136	0.0214	0.0556	0.0598	<0.000500	<0.000500	0.0453	0.0512	0.104	0.109	<0.000500	<0.000500	0.300	0.315
40 CFR 257, Appendix IV	Lead	mg/L	7439-92-1	0.015	<0.00100	<0.00100	<0.00100	<0.00100	0.0192	0.0206	<0.00100	<0.00100	0.00102	<0.00100	0.0171	0.0115	<0.00100	<0.00100	<0.00100	0.00225
	Lithium	mg/L	7439-93-2	0.040	0.197	0.365	0.449	0.487	0.325	0.296	0.418	0.432	0.670	0.704	0.640	0.709	0.450	0.447	0.108	0.106
	Mercury	mg/L	7439-97-6	0.002	<0.000200	<0.000200	<0.000200	<0.00200	0.00273	0.00191	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200 F1	<0.000200
	Molybdenum	mg/L	7439-98-7	0.100	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	Selenium	mg/L	7781-49-2	0.05	<0.00500	<0.00500	<0.00500	<0.00500	0.0188	<0.00500	<0.00500	<0.00500	0.00989	<0.00500	0.0525	<0.00500	<0.00500	<0.00500	0.0345	<0.00500
	Thallium	mg/L	7440-28-0	0.002	<0.00100	<0.00100	<0.00100	<0.00100	0.00634	0.00566	<0.00100	<0.00100	0.00136	0.00118	0.00410	0.00333	<0.00100	<0.00100	<0.00100	<0.00100
	Radium 226	pCi/L	7440-14-4	--	0.235	1.48	1.48	1.81	1.07	0.910	0.377	0.329	2.84	2.46	4.20	2.84	0.410	0.560	<0.0811	<0.117
	Radium 228	pCi/L	15262-20-1	--	<0.427	2.77	5.05	6.46	2.67	2.74	0.907	0.933	9.25	9.01	24.1	15.0	1.55	1.43	<0.333	<0.0509
Radium 226 + Radium 228	pCi/L	--	5.00	0.662	4.25	6.53	8.27	3.74	3.65	1.28	1.26	12.1	11.5	28.3	17.8	1.96	1.99	<0.414	<0.167	

Notes and Definitions

- <sup>1</sup> pH values were derived from the field sampling activities.
- <sup>2</sup> Radium results included in separate lab report
- Not sampled
- No CAS number or GWPS available
- ^ Instrument related QC is outside acceptance limits.

- AP Ash Ponds
- CAS Chemical Abstracts Service Number
- F1 MS and/or MSD recovery is outside acceptance limit
- GWPS Groundwater Protection Standards
- mg/L milligrams per liter

- MNW or MW Monitor Well
- pCi/L picocurie per liter
- S.U. standard units
- SSP Scrubber Sludge Pond
- TMPA Texas Municipal Power Agency

Table 4.3  
 Scrubber Sludge Pond Analytical Results  
 2020 Annual Report  
 TMPA Gibbons Creek Steam Electric Station  
 Anderson, Texas

Constituent of Concern		Sample ID			SSP/AP MW-1		SSP MW-2		SSP MW-3		SSP MW-4	
		Units	CAS	GWPS	12/18/2019	6/17/2020	12/18/2019	6/17/2020	12/18/2019	6/17/2020	12/18/2019	6/17/2020
		Collection Date			180-100262-1	180-107191-1	180-100262-1	180-107191-1	180-100262-1	180-107191-1	180-100262-1	180-107191-1
		Laboratory Report No.			180-100262-2	180-107191-2	180-100262-2	180-107191-2	180-100262-2	180-107191-2	180-100262-2	180-107191-2
40 CFR 257, Appendix III	Boron	mg/L	7440-42-8	background	-	0.750	-	0.765	-	2.78	-	1.17
	Calcium	mg/L	7440-70-2	background	-	643	-	822	-	722	-	403
	Chloride	mg/L	16887-00-6	background	-	1,730	-	2,650	-	2,060	-	1,350
	Fluoride	mg/L	16984-48-8	4.00	<0.500	<0.500	0.622	<0.500	0.551	<0.500	<0.500	<0.500
	pH <sup>1</sup>	S.U.	--	background	6.06	5.42	4.95	4.14	4.73	3.60	6.61	5.67
	Sulfate	mg/L	18785-72-3	background	-	3,210	-	2,610	-	2,760	-	1,340
	Total Dissolved Solids	mg/L	--	background	-	7,890	-	5,850	-	6,330	-	3,880
	40 CFR 257, Appendix IV	Antimony	mg/L	7440-36-0	0.006	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
Arsenic		mg/L	7440-38-2	0.01	0.00194	0.00169	0.00918	0.00622	0.00314	0.00695	<0.00100	0.00103
Barium		mg/L	7440-39-3	2.00	0.0252	0.0284	0.0280	0.0261	0.0192	0.0239	0.0203	0.0273
Beryllium		mg/L	7440-41-7	0.004	<0.00100	<0.00100	0.0587	0.0587	0.0992	0.105	<0.00100	<0.00100
Cadmium		mg/L	7440-43-9	0.005	<0.00100	<0.00100	0.00460	0.00410	0.0788	0.0787	<0.00100	<0.00100
Chromium		mg/L	7440-47-3	0.10	<0.00200	<0.00200	<0.00200	<0.00200	0.00427	0.00616	<0.00200	0.00762
Cobalt		mg/L	7440-48-4	0.006	<0.000500	<0.000500	0.0922	0.0933	0.350	0.558	<0.000500	<0.000500
40 CFR 257, Appendix IV	Lead	mg/L	7439-92-1	0.015	<0.00100	0.00100	0.00304	0.00597	0.00519	0.00545	<0.00100	<0.00100
	Lithium	mg/L	7439-93-2	0.040	1.05	1.43	0.579	0.739	0.549	0.622	0.706	0.911
	Mercury	mg/L	7439-97-6	0.002	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200
	Molybdenum	mg/L	7439-98-7	0.100	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	Selenium	mg/L	7781-49-2	0.05	<0.00500	<0.00500	0.0250	<0.00500	0.00676	<0.00500	<0.00500	<0.00500
	Thallium	mg/L	7440-28-0	0.002	<0.00100	<0.00100	0.00130	<0.00100	0.00961	0.0102	<0.00100	<0.00100
	Radium 226	pCi/L	7440-14-4	--	0.273	0.285	0.464	0.568	5.19	5.68	0.838	0.731
	Radium 228	pCi/L	15262-20-1	--	1.2	1.04	1.84	1.56	29.1	26.3	2.23	1.87
Radium 226 + Radium 228	pCi/L	--	5.00	1.47	1.33	2.30	2.13	34.3	32.0	3.07	2.60	

**Notes and Definitions**

- <sup>1</sup> pH values were derived from the field sampling activities.
- <sup>2</sup> Radium results included in separate lab report
- Not sampled
- No CAS number and/or no GWPS available
- AP Ash Ponds

CAS Chemical Abstracts Service Number  
 GWPS Groundwater Protection Standards  
 mg/L milligrams per liter  
 MNW or MW Monitor Well

pCi/L picocurie per liter  
 S.U. standard units  
 SSP Scrubber Sludge Pond  
 TMPA Texas Municipal Power Agency

Table 4.4  
Ash Ponds Analytical Results  
2020 Annual Report  
TMPA Gibbons Creek Steam Electric Station  
Anderson, Texas

		Sample ID			SSP/AP MW-1		AP MW-1D		AP MW-3		AP MW-4		AP MW-5	
		Collection Date	12/18/2019	6/17/2020	12/18/2019	6/17/2020	12/17/2019	6/17/2020	12/18/2019	6/17/2020	12/18/2019	6/17/2020		
		Laboratory Report No.	180-100262-1	180-107191-1	180-100262-1	180-107191-1	180-100175-1	180-107191-1	180-100262-1	180-107191-1	180-100262-1	180-107191-1	180-100262-1	180-107191-1
		Laboratory Report No. <sup>2</sup>	180-100262-2	180-107191-2	180-100262-2	180-107191-2	180-100175-2	180-107191-2	180-100262-2	180-107191-2	180-100262-2	180-107191-2	180-100262-2	180-107191-2
Constituent of Concern		Units	CAS	GWPS										
40 CFR 257, Appendix III	Boron	mg/L	7440-42-8	background	-	0.750	-	4.46	-	3.23	-	2.18	-	3.25
	Calcium	mg/L	7440-70-2	background	-	643	-	108	-	139	-	523	-	362
	Chloride	mg/L	16887-00-6	background	-	1,730	-	201	-	160	-	472	-	361
	Fluoride	mg/L	16984-48-8	4.00	<0.500	<0.500	0.529	0.626	<0.100	<0.100	<0.250	<0.250	2.32	<2.50
	pH <sup>1</sup>	S.U.	--	background	6.06	5.42	5.75	5.48	4.99	4.34	5.71	5.28	3.47	3.21
	Sulfate	mg/L	18785-72-3	background	-	3,210	-	552	-	807	-	2,190	-	2,030
	Total Dissolved Solids	mg/L	--	background	-	7,890	-	1,400	-	1,330	-	3,780	-	3,430
40 CFR 257, Appendix IV	Antimony	mg/L	7440-36-0	0.006	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	Arsenic	mg/L	7440-38-2	0.01	0.00194	0.00169	0.00756	0.00818	<0.00100	0.00129	<0.00100	<0.00100	0.0168	0.00859
	Barium	mg/L	7440-39-3	2.00	0.0252	0.0284	0.0169	0.0234	0.0243	0.0238	0.0137	0.0155	<0.0100	0.0249
	Beryllium	mg/L	7440-41-7	0.004	<0.00100	<0.00100	<0.00100	<0.00100	0.00301	0.00236	<0.00100	<0.00100	0.0743	0.0492
	Cadmium	mg/L	7440-43-9	0.005	<0.00100	<0.00100	<0.00100	<0.00100	0.00424	0.00432	<0.00100	<0.00100	0.00879	0.00594
	Chromium	mg/L	7440-47-3	0.10	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	Cobalt	mg/L	7440-48-4	0.006	<0.000500	<0.000500	0.0146	0.0163	0.0306	0.0358	<0.000500	<0.000500	0.149	0.117
40 CFR 257, Appendix IV	Lead	mg/L	7439-92-1	0.015	<0.00100	0.00100	<0.00100	<0.00100	<0.0546	0.00121	<0.00100	<0.00100	0.00149	0.00632
	Lithium	mg/L	7439-93-2	0.040	1.05	1.43	0.0346	0.0327	0.0546	0.0531	0.720	0.959	0.416	0.395
	Mercury	mg/L	7439-97-6	0.002	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000324	<0.000200	<0.000200	0.000736	0.000753
	Molybdenum	mg/L	7439-98-7	0.100	<0.00500	<0.00500	0.0157	0.0201	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	Selenium	mg/L	7781-49-2	0.05	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0533	<0.00500
	Thallium	mg/L	7440-28-0	0.002	<0.00100	<0.00100	<0.00100	<0.00100	<0.00500	<0.00100	<0.00100	<0.00100	0.00238	0.00224
	Radium 226	pCi/L	7440-14-4	--	0.273	0.285	0.358	0.306	0.192	0.387	0.290	0.249	0.453	0.309
	Radium 228	pCi/L	15262-20-1	--	1.20	1.04	2.14	1.55	1.98	1.21	0.978	0.863	1.15	0.816
	Radium 226 + Radium 228	pCi/L	--	5.00	1.47	1.33	2.50	1.86	2.17	1.60	1.27	1.11	1.60	1.12

Notes and Definitions

- <sup>1</sup> pH values were derived from the field sampling activities.
- <sup>2</sup> Radium results included in separate lab report
- <sup>3</sup> Bolded values exceed GWPS
- Not sampled
- No CAS number and/or GWPS available

CAS Chemical Abstracts Service Number  
GWPS Groundwater Protection Standards  
ID identification

**Appendix A**

**Field Datasheets**

**wood.**



WELL SAMPLING

wood.

AND/OR DEVELOPMENT RECORD

Well ID: SFL MW-2  
 Sample ID: \_\_\_\_\_ Duplicate ID: -  
 Sample Depth: \_\_\_\_\_  
 Project and Task No.: 6706190003.30  
 Project Name: IMPA CCR 2019  
 Date: 12-17-19  
 Sampled By: SCM  
 Method of Purging: Low flow sub  
 Method of Sampling: Low flow sub.

Initial Depth to Water: 11.14  
 Depth to Water after Sampling: 13.11  
 Total Depth to Well: 23.85  
 Well Diameter: 2"  
 1 Casing/Borehole Volume: \_\_\_\_\_  
 (Circle one)  
 4 Casing/Borehole Volumes: \_\_\_\_\_  
 (Circle one)  
 Total Casing/Borehole Volumes Removed: \_\_\_\_\_

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
<del>1320</del>									<del>Start Pump</del>
1330		~150		21.05	6.68	9.86	0.90	170	137 cloudy white
1335				21.42	6.66	9.92	0.99	155	422 cloudy tan
<del>1340</del>	Waiting for NTU to drop below 100								
<del>1345</del>									
1350				21.57	6.65	10.00	0.65	156	92.2 cloudy
1355				21.54	6.65	10.0	0.63	157	48.6 clear
★ 1400		~3.5		21.50	6.64	10.0	0.62	158	56.4 clear; NTU climbing
<del>1405</del>									
→ Sampled @ 1400									

Notes: 1500  
 → EQBK - SCM - 121719 Taken @ 1500



**WELL SAMPLING**

**AND/OR DEVELOPMENT RECORD**

**wood.**

Well ID: SFL MW-3  
 Sample ID: - Duplicate ID: DUP-1  
 Sample Depth: -  
 Project and Task No.: 670619000330  
 Project Name: TMPA CCR 2019  
 Date: 12-17-19  
 Sampled By: SCM  
 Method of Purging: Low flow snb  
 Method of Sampling: Low flow snb

Initial Depth to Water: 17.34'  
 Depth to Water after Sampling: 17.65'  
 Total Depth to Well: 28.38'  
 Well Diameter: 2"  
 1 Casing/Borehole Volume: -  
 (Circle one)  
 4 Casing/Borehole Volumes: -  
 (Circle one)  
 Total Casing/Borehole Volumes Removed: -

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
0855									NTU
↓									Start Pump
<del>0905</del> 0905		~150		21.72	3.81	6.81	1.84	361	15.5
0910				20.60	3.81	6.81	1.35	361	13.4
0915				20.42	3.82	6.71	0.96	352	2.7
0920				20.52	3.86	6.75	0.70	354	1.8
<del>0922</del> 0925				20.81	3.86	6.74	0.60	355	1.8
0930				21.04	3.88	6.74	0.56	356	0.8
0935		~2.5		21.12	3.89	6.75	0.54	357	0.3
<p>Sampled @ 0935</p> <p>Dup 1 Taken</p>									

**Notes:**

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**WELL SAMPLING**

**AND/OR DEVELOPMENT RECORD**

**wood.**

Well ID: SFL-MW4  
 Sample ID: SFL-MW4 Duplicate ID: \_\_\_\_\_  
 Sample Depth: \_\_\_\_\_  
 Project and Task No.: (6700190003-30)  
 Project Name: TMPA CCR 2019  
 Date: 12-17-19  
 Sampled By: Grace Greiner  
 Method of Purging: low flow snb  
 Method of Sampling: low flow snb

Initial Depth to Water: 15.81'  
 Depth to Water after Sampling: 19.32'  
 Total Depth to Well: 42.89'  
 Well Diameter: 2"  
 1 Casing/Borehole Volume: \_\_\_\_\_  
 (Circle one)  
 4 Casing/Borehole Volumes: \_\_\_\_\_  
 (Circle one)  
 Total Casing/Borehole Volumes Removed: \_\_\_\_\_

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)	
0920									NTU Start pump	
									clear	
0930		~150		19.59	6.54	7.48	1.88	23		
0935				19.48	6.53	8.14	19.00	23		
0940				19.50	6.52	8.24	16.20	22		
0945				19.31	6.52	8.25	11.90	22		
0950				19.31	6.51	8.26	14.1	20		
0955				19.32	6.52	8.20	11.93	19		
1000				19.32	6.52	8.19	11.92	19		
1005				19.31	6.52	8.20	11.90	18		
			3.5 gal	Sample @ 10:05 am						

**Notes:** problems getting the gage to scale correctly (took 2. Do at this location instead of mg/L)



**WELL SAMPLING**

**AND/OR DEVELOPMENT RECORD**

**wood.**

Well ID: SFL MW-5  
 Sample ID: - Duplicate ID: -  
 Sample Depth: \_\_\_\_\_  
 Project and Task No.: 6706190003.30  
 Project Name: TMPA CCR 2019  
 Date: 12-17-19  
 Sampled By: SCM  
 Method of Purging: Low flow sub  
 Method of Sampling: Low flow sub

Initial Depth to Water: 16.00'  
 Depth to Water after Sampling: 18.60'  
 Total Depth to Well: 24.45'  
 Well Diameter: 2"  
 1 Casing/Borehole Volume: -  
 (Circle one)  
 4 Casing/Borehole Volumes: -  
 (Circle one)  
 Total Casing/Borehole Volumes Removed: -

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1230									Start Pump
1240		~150		19.87	5.03	11.6	1.23	301	2.2 clear
1245				20.95	5.01	11.6	1.22	307	7.6 "
1250				21.22	4.97	11.7	0.80	307	18.7 " 0.80 DO
1255				21.34	4.94	11.7	0.82	307	14.0 "
1300			~2.0	21.37	4.91	11.7	0.74	308	8.6 "
Sampled @ 1300									

**Notes:**

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WELL SAMPLING

wood.

AND/OR DEVELOPMENT RECORD

Well ID: SFL MW-6  
 Sample ID: \_\_\_\_\_ Duplicate ID: —  
 Sample Depth: \_\_\_\_\_  
 Project and Task No.: 670619000330  
 Project Name: IMPA CCR 2019  
 Date: 12-17-19  
 Sampled By: SOM  
 Method of Purging: Peristaltic Pump  
 Method of Sampling: Peristaltic Pump

Initial Depth to Water: 17.32  
 Depth to Water after Sampling: 19.32  
 Total Depth to Well: 23.10  
 Well Diameter: 2"  
 1 Casing/Borehole Volume: —  
 (Circle one)  
 4 Casing/Borehole Volumes: —  
 (Circle one)  
 Total Casing/Borehole Volumes Removed: —

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	NTU	Remarks (turbidity, color, odor)
<u>11:30</u>										<u>Start Pump</u>
<u>11:40</u>		<u>~100</u>	<u>~10</u>	<u>17.45</u>	<u>4.24</u>	<u>13.5</u>	<u>1.50</u>	<u>387</u>	<u>7.5</u>	<u>clear</u>
<u>11:45</u>	<u>1145</u>			<u>17.77</u>	<u>4.15</u>	<u>13.5</u>	<u>1.08</u>	<u>411</u>	<u>3.3</u>	<u>"</u>
<u>11:50</u>			<u>~1.0</u>	<u>17.71</u>	<u>4.15</u>	<u>13.4</u>	<u>1.44</u>	<u>418</u>	<u>2.3</u>	<u>"</u>
<u>11:55</u>	<u>1155</u>		<u>~1.0</u>	<u>19.20</u>	<u>4.16</u>	<u>13.3</u>	<u>1.50</u>	<u>418</u>	<u>2.3</u>	<u>"</u>
<u>12:00</u>	<u>1200</u>		<u>~1.5</u>	<u>18.99</u>	<u>4.16</u>	<u>13.3</u>	<u>1.57</u>	<u>418</u>	<u>2.2</u>	<u>"</u>
<u>Sampled @ 1200</u>										

Notes:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



WELL SAMPLING

AND/OR DEVELOPMENT RECORD

wood.

Well ID: SFL MW-7

Initial Depth to Water: 15.25'

Sample ID: \_\_\_\_\_ Duplicate ID: \_\_\_\_\_

Depth to Water after Sampling: 16.30'

Sample Depth: \_\_\_\_\_

Total Depth to Well: 58.20'

Project and Task No.: 6706190003.30

Well Diameter: 2"

Project Name: IMPA CCR 2019

1 Casing/Borehole Volume: \_\_\_\_\_  
(Circle one)

Date: 12-17-19

4 Casing/Borehole Volumes: \_\_\_\_\_  
(Circle one)

Sampled By: SEM

Method of Purging: low flow sub.

Total Casing/Borehole Volumes Removed: \_\_\_\_\_

Method of Sampling: low flow sub.

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1015									Start pump
↓									Stop pump
1025		~150	~150	18.24	6.63	8.53	0.78	-78	35.4 clear
1030				18.51	6.67	9.15	0.96	-76	31.1 "
1035				18.55	6.68	9.37	0.89	-77	27.0 " 0.89 DO
1040				18.97	6.69	9.39	0.80	-80	22.3 " 0.80 DO
★ 1045			~2.0	18.80	6.70	9.37	0.83	-82	20.3 "

Notes:  
 ↓ Sampled @ 1045



# WELL SAMPLING

## AND/OR DEVELOPMENT RECORD

# Wood.

Well ID: MWW-15

Sample ID: MWW-15 Duplicate ID: \_\_\_\_\_

Sample Depth: \_\_\_\_\_

Project and Task No.: CET 70003-30

Project Name: TRPA CCR 2019

Date: 12-17-19

Sampled By: Grace Grayner

Method of Purging: low flow snb

Method of Sampling: low flow snb

Initial Depth to Water: 6.55'

Depth to Water after Sampling: 7.30'

Total Depth to Well: 27.02

Well Diameter: 4"

1 Casing/Borehole Volume: -  
(Circle one)

4 Casing/Borehole Volumes: -  
(Circle one)

Total Casing/Borehole Volumes Removed: -

1120

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
<del>1120</del>									
1130		~150		20.38	3.77	4.28	0.0	278	clear water
1135				20.12	3.78	4.28	0.0	272	
1140				20.19	3.77	4.27	0.0	276	
1145				20.20	3.77	4.26	0.0	275	
1150				20.22	3.77	4.25	0.0	275	
1155			2.50 gal	20.23	3.78	4.24	0.0	274	
→ Sample @ 1155 am									

### Notes:

Took MS/MSD at this location as well as regular sample



# WELL SAMPLING

## AND/OR DEVELOPMENT RECORD

# Wood.

Well ID: MNW-18  
 Sample ID: MNW18 Duplicate ID: \_\_\_\_\_  
 Sample Depth: \_\_\_\_\_  
 Project and Task No.: C6786190003-38  
 Project Name: TMPA CCR 2019  
 Date: 12-17-19  
 Sampled By: grace gruner  
 Method of Purging: low flow SOB  
 Method of Sampling: low flow SOB

Initial Depth to Water: 9.42'  
 Depth to Water after Sampling: 12.45'  
 Total Depth to Well: 51.02'  
 Well Diameter: 4"  
 1 Casing/Borehole Volume: \_\_\_\_\_  
 (Circle one)  
 4 Casing/Borehole Volumes: \_\_\_\_\_  
 (Circle one)  
 Total Casing/Borehole Volumes Removed: \_\_\_\_\_

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1255									OTU clear water good flow
1305		~150		18.62	7.21	3.05	0.0	-87	2.0
1310				18.82	7.31	2.73	0.0	-75	2.8
1315				18.87	7.11	2.52	0.0	-66	2.7
1320				18.98	6.94	2.37	0.0	-48	1.8
1325				19.01	7.02	2.19	0.0	-48	0.8
1330				19.03	8.08	2.12	0.0	-24	0.4
1335				19.49	7.01	2.08	0.0	-25	0.0
1340				19.50	6.92	2.08	0.0	-24	0.0
1345			2 gal	19.51	6.95	2.07	0.0	-24	0.0
<p>→ Sample @ 1345</p>									

Notes:

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WELL SAMPLING

wood.

AND/OR DEVELOPMENT RECORD

Well ID: AP MW-1D  
 Sample ID: AP MW-1D Duplicate ID: \_\_\_\_\_  
 Sample Depth: \_\_\_\_\_  
 Project and Task No.: 6706190003.30  
 Project Name: TMPA CCR 2019  
 Date: 12/18/19  
 Sampled By: groce groce  
 Method of Purging: low flow snb  
 Method of Sampling: low flow snb

Initial Depth to Water: 15.61'  
 Depth to Water after Sampling: 15.60'  
 Total Depth to Well: 42.96'  
 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)	OTU	Remarks (turbidity, color, odor)
0830									→	Start pump
↓										clear water
0840		~150		18.92	5.76	1.93	0.0	134	40.0	
0845				19.11	5.75	1.92	0.0	134	0.8	
0850				19.27	5.76	1.92	0.0	137	0.0	
0855				19.27	5.76	1.91	0.0	137	0.0	
0900				19.28	5.75	1.91	0.0	137	0.0	↓
2.0 gal → Sampling @ 0900										

Notes:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_







# WELL SAMPLING

## AND/OR DEVELOPMENT RECORD

# Wood.

Well ID: AP MW-4  
 Sample ID: AP MW-4 Duplicate ID: \_\_\_\_\_  
 Sample Depth: \_\_\_\_\_  
 Project and Task No.: C0706190003.3  
 Project Name: TURPA CCR 209  
 Date: 12/18/19  
 Sampled By: grace greener  
 Method of Purging: low flow SWB  
 Method of Sampling: low flow SWB

Initial Depth to Water: 14.45'  
 Depth to Water after Sampling: 16.20'  
 Total Depth to Well: 35.42'  
 Well Diameter: 2"  
 1 Casing/Borehole Volume: \_\_\_\_\_  
 (Circle one)  
 4 Casing/Borehole Volumes: \_\_\_\_\_  
 (Circle one)  
 Total Casing/Borehole Volumes Removed: \_\_\_\_\_

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1035									
↓									Start pump
1045		~150		17.91	5.70	4.49	0.0	61	
1050				18.02	5.71	4.48	0.0	54	clear water
1055				18.01	5.70	4.45	0.0	50	
1100				18.22	5.71	4.44	0.0	48	
1105				18.23	5.71	4.43	0.0	45	
1110				18.22	5.70	4.43	0.0	45	
1115				18.23	5.71	4.44	0.0	44	
1120				18.23	5.71	4.43	0.0	44	
1125				18.22	5.70	4.44	0.0	43	
1130			2.5 gal	18.23	5.71	4.43	0.0	44	
									Sample @ 1130

Notes:

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**WELL SAMPLING**

**AND/OR DEVELOPMENT RECORD**

**wood.**

Well ID: AP MW-6

Initial Depth to Water: 17.43'

Sample ID: APMW-6 Duplicate ID: \_\_\_\_\_

Depth to Water after Sampling: 18.40'

Sample Depth: \_\_\_\_\_

Total Depth to Well: 48.81

Project and Task No.: 6706190003-30

Well Diameter: 2'

Project Name: Tampa CCR 2019

1 Casing/Borehole Volume: —  
(Circle one)

Date: 12-17-19

4 Casing/Borehole Volumes: —  
(Circle one)

Sampled By: Grace Gruner

Method of Purging: low flow sub

Total Casing/Borehole Volumes Removed: —

Method of Sampling: low flow sub

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)	
1205									STU → Started Pump	
1215		-150		20.95	6.48	4.82	3.73	-103	0.0 clear water	
1220				20.98	6.47	4.81	2.39	-108	0.0	
1225				21.06	6.45	4.79	1.91	-110	0.0	
1230				21.17	6.45	4.78	1.16	-111	0.0	
1235				21.31	6.45	4.76	0.88	-113	0.0	
1240				21.28	6.45	4.76	0.50	-114	0.0	
1245				21.29	6.44	4.76	0.30	-115	0.0	
1250			2.5	21.49	6.44	4.75	0.0	-116	0.0	
			→	Sample @ 1250						↓
				Equip Bank @ @ 1450						

**Notes:**

EQBK-GG-121819 @



# WELL SAMPLING

# wood.

## AND/OR DEVELOPMENT RECORD

Well ID: SSP/AA MW-1  
 Sample ID: \_\_\_\_\_ Duplicate ID: DUP-2  
 Sample Depth: \_\_\_\_\_  
 Project and Task No.: 6706190003.30  
 Project Name: IMPA CCR 2019  
 Date: 12-18-19  
 Sampled By: SCM  
 Method of Purging: Low flow sub.  
 Method of Sampling: Low flow sub

Initial Depth to Water: 8.60'  
 Depth to Water after Sampling: 13.20'  
 Total Depth to Well: 43.38'  
 Well Diameter: 2"  
 1 Casing/Borehole Volume: \_\_\_\_\_  
 (Circle one)  
 4 Casing/Borehole Volumes: \_\_\_\_\_  
 (Circle one)  
 Total Casing/Borehole Volumes Removed: \_\_\_\_\_

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	NTU	Remarks (turbidity, color, odor)
0840										Start Pump
0850		~150		17.59	6.00	8.94	2.88	75	>1000	cloudy tan
0855										
0900										
0905										
0910										
0925			19.71	19.94	6.06	8.99	0.63	34	109	cloudy
0930				19.78	6.06	8.99	0.61	32	61.2	"
0935				19.78	6.06	8.90	0.62	32	50.2	clear
0940			5.0	19.69	6.06	9.01	0.62	32	48.1	clear
<p>→ Sampled @ 0940</p> <p>→ Dup-2 taken</p>										

### Notes:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# WELL SAMPLING

## AND/OR DEVELOPMENT RECORD

# Wood.

Well ID: SSP MW-2  
 Sample ID: - Duplicate ID: -  
 Sample Depth: -  
 Project and Task No.: 6706190003.30  
 Project Name: IMPA CCR 2019  
 Date: 12-18-19  
 Sampled By: SCM  
 Method of Purging: low flow sub  
 Method of Sampling: low flow sub

Initial Depth to Water: 23.2'  
 Depth to Water after Sampling: 37.65'  
 Total Depth to Well: 47.15'  
 Well Diameter: 2"  
 1 Casing/Borehole Volume: -  
 (Circle one)  
 4 Casing/Borehole Volumes: -  
 (Circle one)  
 Total Casing/Borehole Volumes Removed: -

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1255									MU
									Start Pump
									↓
									Waiting for NTU to be <100
1335		~150		23.20	5.08	9.29	0.50	188	79.2
1340				22.91	5.02	9.17	0.53	202	71.4
1345				22.79	4.97	8.98	0.57	215	68.2
1350				23.13	4.99	8.92	0.52	213	63.0
1355				23.22	4.99	8.84	0.46	213	56.9
1400				23.24	4.98	8.72	0.44	218	55.3
★ 1405			~5.5	23.25	4.95	8.69	0.43	222	55.4
									NTU stabilized
									Sampled @ 1405

### Notes:

★ EQBK-SCM-12/18/19 @ 1440



# WELL SAMPLING

## AND/OR DEVELOPMENT RECORD

# Wood.

Well ID: SSP-MW-3

Sample ID: \_\_\_\_\_ Duplicate ID: \_\_\_\_\_

Sample Depth: \_\_\_\_\_

Project and Task No.: 6706190003.30

Project Name: IMPA CCR 2019

Date: \_\_\_\_\_

Sampled By: SCM

Method of Purging: Low flow sub.

Method of Sampling: Low flow sub.

Initial Depth to Water: 28.52'

Depth to Water after Sampling: 30.10'

Total Depth to Well: 48.35'

Well Diameter: 2"

1 Casing/Borehole Volume: \_\_\_\_\_  
(Circle one)

4 Casing/Borehole Volumes: \_\_\_\_\_  
(Circle one)

Total Casing/Borehole Volumes Removed: \_\_\_\_\_

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1025									NTU
↓									Start Pump
1035		~150							↓
1040				22.13	4.70	8.59	4.42	302	386 cloudy tan
1045				22.48	4.71	8.58	3.94	301	202 "
1050				22.84	4.72	8.56	3.59	301	120 cloudy
1055				22.91	4.73	8.54	3.26	300	75.9 "
1100				22.93	4.73	8.53	2.67	299	51.1 clear
1105				22.96	4.73	8.53	<del>2.10</del>	297	34.3 "DO=2.21
★ 1110			~3.5	22.91	4.73	8.50	2.13	298	24.1 "
				22.81	4.73	8.51	1.99	299	20.1 "

Sampled @ 1110

Notes:

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WELL SAMPLING

wood.

AND/OR DEVELOPMENT RECORD

Well ID: 55P MW-4  
 Sample ID: \_\_\_\_\_ Duplicate ID: \_\_\_\_\_  
 Sample Depth: \_\_\_\_\_  
 Project and Task No.: 6706190003.30  
 Project Name: IMPA CCR 2019  
 Date: 12-18-19  
 Sampled By: SCM  
 Method of Purging: Low flow sub.  
 Method of Sampling: Low flow sub.

Initial Depth to Water: 27.81  
 Depth to Water after Sampling: 38.79  
 Total Depth to Well: 51.80  
 Well Diameter: 2"  
 1 Casing/Borehole Volume: \_\_\_\_\_  
 (Circle one)  
 4 Casing/Borehole Volumes: \_\_\_\_\_  
 (Circle one)  
 Total Casing/Borehole Volumes Removed: \_\_\_\_\_

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1135									
↓									
1145		~150		21.89	6.55	5.66	0.67	67	76.8 cloudy
1150				21.68	6.56	5.68	0.61	69	61.0 cloudy
1155				21.58	6.57	5.69	0.62	78	60.5 cloudy
1200				22.19	6.50	5.70	0.64	75	55.1 "
1205				22.78	6.59	5.69	0.66	78	66.5 mtal is clinking
1210				22.86	6.59	5.68	0.47	72	137 cloudy - Pump stop
1215				22.04	6.60	5.68	0.41	72	101 cloudy
1220				22.15	6.61	5.66	0.40	74	72.1 cloudy
1225				22.21	6.61	5.64	0.40	78	60.3 cloudy
1230			~3.5	22.52	6.61	5.64	0.41	81	35.1 clear

Sampled @ 1230

Notes:

~~FOR SCM - 121849 taken~~



# Water Level Monitoring Record



Project Name: TPMA CCR 2019

Project and Task Number: 6706190003.30

Date: 12/16/2019

Measured by: SCM/GG

Instrument Used: Solinst 101

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

P = Pumping

I = Inaccessible

D = Dedicated Pump

ST = Steel Tape

ES = Electric Sounder

MP = Measuring Point

WL = Water Level

Well No.	Time	Water Level (feet)	Previous Water Level Below MP 6/24/19	Previous Water Level Below MP 1/14/19	Remarks
AP PZ-1	1311	6.11	6.39	5.62	
AP PZ-2	1315	20.52	17.19	17.15	
AP PZ-3	1319	5.65	4.59	4.65	
AP MW-3	1323	11.50	10.64	10.68	marked ~6.50
AP MW-1	1325	13.40	12.49	12.66	
APP MW-1D	1326	14.97	14.14	14.10	
AP MW-5	1329	12.24	11.27	11.38	
AP MW-4	1332	14.01	13.10	13.16	
AP MW-2	1335	8.01	6.88	6.65	
AP PZ-4	1337	10.89	9.54	8.86	
AP MW-6	1340	16.90	16.17	16.33	
SSP/AP MW-1	1344	8.18	7.32	7.80	
SSP MW-1	1346	16.10	14.36	14.46	
SSP MW-2	1349	23.40	21.18	21.82	
SSP MW-3	1351	27.90	26.35	26.44	
SSP MW-4	1354	24.51	23.87	23.82	
MNW-11	1404	20.01	20.87	19.45	
MNW-16	1410	14.37	12.49	11.94	
SFL MW-6	1416	17.25	17.31	18.49	
MNW-17	1422	40.01	43.85	34.82	
SFL MW-1	1426	22.80	20.63	19.43	
MNW-18	1432	9.32	8.37	5.63	
MNW-15	1439	6.10	4.02	3.81	
SFL MW-7	1442	15.17	13.17	12.64	
SFL MW-3	1446	16.98	16.39	17.00	
SFL MW-4	1450	14.35	14.21	14.60	
SFL MW-5	<del>1508</del> 1505	15.90	15.03	15.80	
SFL MW-2	<del>1538</del>	<del>11.10</del>	10.11	10.81	
	1510	11.01			







# DAILY FIELD RECORD

**wood.**

Project and Task Number: 6706190003.30 Date: 12-17-19  
 Project Name: TMPA CCR 2019 Field Activity: GW sampling  
 Location: Job/Anderson, Tx Weather: 35-45, windy, some clouds

PERSONNEL:	Name	Company	Time In	Time Out
	<u>Samuel C. Moran</u>	<u>Wood</u>	<u>0700</u>	<u>1730</u>

**PERSONAL SAFETY CHECKLIST**

<input checked="" type="checkbox"/>	Steel-toed Boots	<input checked="" type="checkbox"/>	Hard Hat	<input type="checkbox"/>	Tyvek Coveralls
<input checked="" type="checkbox"/>	Rubber Gloves	<input checked="" type="checkbox"/>	Safety Goggles <u>Glasses</u>	<input type="checkbox"/>	1/2-Face Respirator

DRUM I.D.	DESCRIPTION OF CONTENTS AND QUANTITY	LOCATION

TIME	DESCRIPTION OF WORK PERFORMED
<u>0700</u>	<u>Left hotel; bought ice on way to site.</u>
<u>0740</u>	<u>Arrive on site; Tailgate safety meeting; organize vehicles</u>
<u>0805</u>	<u>Calibrate thrubos and assign wells for the day.</u>
<u>0830</u>	<u>Moving to Site <del>F</del> Landfill, to sample SFL MW-3; Purging @</u>
<u>0935</u>	<u>SFL MW-3 and WP-1 Sampled; pack up/decan; Move to SFL MW-7; Purging @</u>
<u>1045</u>	<u>SFL MW-7 sampled; pack up + decan; Move to SFL MW-6; Purging @</u>
<u>1200</u>	<u>SFL MW-6 Sampled; pack up + decan; Move to SFL MW-5; Purging @</u>
<u>1300</u>	<u>SFL MW-5 Sampled; pack up + decan; Move to SFL MW-2; Purging @</u>
<u>1500/1400</u>	<u>SFL MW-2 Sampled; pack up + decan; Move to AP MW-3 to sample w/ peristaltic pump w/ Grace</u>
<u>1525</u>	<u>Sampled AP MW-3; (might also be on GG's field notes)</u>
<u>1500/1540</u>	<u>pack up + decan; EQBX-SCM-121719 taken @ 1500; 1540</u>
<u>1600</u>	<u>Final packing at site storage; leave site for FedEx</u>
<u>1700</u>	<u>All samples from today shipped,</u>
<u>1730</u>	<u>Arrive at hotel.</u>



# DAILY FIELD RECORD

**wood.**

Page 1 of 1

Project and Task Number: <u>6706190003.30</u>	Date: <u>12-17-19</u>
Project Name: <u>TMPA GW Sampling</u>	Field Activity: <u>Sampling</u>
Location: <u>TMPA</u>	Weather: <u>cold / windy</u>

PERSONNEL:	Name	Company	Time In	Time Out
	<u>Grace Evner</u>	<u>wood</u>	<u>6:45</u>	<u>1730</u>

**PERSONAL SAFETY CHECKLIST**

<input checked="" type="checkbox"/>	Steel-toed Boots	<input checked="" type="checkbox"/>	Hard Hat	<input type="checkbox"/>	Tyvek Coveralls
<input checked="" type="checkbox"/>	Rubber Gloves	<input checked="" type="checkbox"/>	Safety Goggles <u>safety glasses</u>	<input type="checkbox"/>	1/2-Face Respirator

DRUM I.D.	DESCRIPTION OF CONTENTS AND QUANTITY	LOCATION
		<u>TMPA</u>
		<u>out side of</u>
		<u>college station</u>

TIME	DESCRIPTION OF WORK PERFORMED
<u>6:45 am</u>	<u>Loaded out the site</u>
<u>7:30 am</u>	<u>Got to site began to set everything up to begin sampling.</u>
<u>8:20 am</u>	<u>Finish getting set up / loading the truck up.</u>
<u>9:20 am</u>	<u>started well MW4.</u>
<u>10:05 am</u>	<u>sampled well MW4.</u>
<u>10:20 am</u>	<u>comp. sampling MW4 - on to the next</u>
<u>12:32</u>	<u>finished <del>at</del> MW-15 on to the next</u>
<u>12:45</u>	<u>Starting on MW-18.</u>
<u>13:45</u>	<u>about to sample MW-18</u>
<u>14:05</u>	<u>Done sampling, packing up to next well.</u>
<u>14:20</u>	<u>loaded out to meet Sam @ next well</u>
<u>14:40</u>	<u>Starting a well with Sam (last well of the day)</u>
<u>15:50</u>	<u>finishing up / about to go ship samples.</u>



# DAILY FIELD RECORD



Project and Task Number: <u>6706190013.30</u>	Date: <u>12-18-19</u>
Project Name: <u>TMA RCR 2019</u>	Field Activity: <u>GW Sampling</u>
Location: <u>Toby Anderson, TX</u>	Weather: <u>30s-40s F, breeze, No clouds</u>

PERSONNEL:	Name	Company	Time In	Time Out
	<u>Samuel C. Macon</u>	<u>Wood</u>	<u>0700</u>	<u>1800</u>

## PERSONAL SAFETY CHECKLIST

<input checked="" type="checkbox"/> Steel-toed Boots	<input checked="" type="checkbox"/> Hard Hat	<input type="checkbox"/> Tyvek Coveralls
<input checked="" type="checkbox"/> Rubber Gloves	<input checked="" type="checkbox"/> Safety Goggles <u>Glasses</u>	<input type="checkbox"/> 1/2-Face Respirator

DRUM I.D.	DESCRIPTION OF CONTENTS AND QUANTITY	LOCATION

TIME	DESCRIPTION OF WORK PERFORMED
<u>0700</u>	<u>Check out and leave hotel for site.</u>
<u>0740</u>	<u>Arrive on site, <del>organize</del> tailgate safety meeting, organize plan.</u>
<u>0755-0805</u>	<u>Calibrate Horibas and change out batteries on both.</u>
<u>0820</u>	<u>Split up, moving to SSP/AP MW: Purging @ 0840</u>
<u>0940</u>	<u>SSP/AP MW-1 Sampled, DUP-2 also taken, pack up + decommission</u>
	<u><del>Move to SSP MW-2 to sample, Purging @ 1030</del></u>
	<u><del>SSP MW-2 Sampled, pack up + decommission, move to SSP MW-3</del></u>
<u>1110</u>	<u>SSP MW-3 Sampled, pack up/decom, move to SSP MW-4 Purging @ 1135</u>
<u>1230</u>	<u>SSP MW-4 Sampled, pack up/decom, Move to warehouse for</u>
<u>1440</u>	<u>Equipment blanks and final pack up. EDBK-SCM-121819 @ 1440</u>
<u>1800</u>	<u>Locked shed, turn in badges + tappers, and leave site</u>
<u>1800</u>	<u>Arrive in Austin. Returning Equipment in morning</u>
<u>1405</u>	<u>1255 - 1405: Purge + Sample <u>SSP MW-2</u></u>



# DAILY FIELD RECORD



Project and Task Number: <u>670619003.30</u>	Date: <u>12/18/19</u>
Project Name: <u>TMPA CCR 2019</u>	Field Activity:
Location: <u>Bryon TX</u>	Weather: <u>clear / sunny / cold</u>

PERSONNEL: Name	Company	Time In	Time Out
<u>Grace Gruner</u>	<u>Wood</u>	<u>6:30</u>	<u>1800</u>

**PERSONAL SAFETY CHECKLIST**

<input checked="" type="checkbox"/> Steel-toed Boots	<input checked="" type="checkbox"/> Hard Hat	<input type="checkbox"/> Tyvek Coveralls
<input checked="" type="checkbox"/> <del>Nitrile</del> Rubber Gloves	<input checked="" type="checkbox"/> Safety Goggles <u>Glasses</u>	<input type="checkbox"/> 1/2-Face Respirator

DRUM I.D.	DESCRIPTION OF CONTENTS AND QUANTITY	LOCATION
		<u>Bryon TX</u>

**TIME DESCRIPTION OF WORK PERFORMED**

<u>0630</u>	<u>Started day / get set up / check out of hotel / drive to site.</u>
<u>0830</u>	<u>Started first well → AP MW-1D. will take first reading @ 0840</u>
<u>0900</u>	<u>will sample first well @ 0900</u>
<u>0925</u>	<u>Starting AP MW-5</u>
<u>0945</u>	<u>will be the first reading for AP MW-5</u>
<u>1025</u>	<u>packed up / headed to my 3rd well.</u>
<u>1045</u>	<u>my first <del>sample</del> <sup>reading</sup> @ 3rd well (AP MW-4)</u>
<u>1150</u>	<u>finished sampling AP MW-4 headed out to my 4th well.</u>
<u>1155</u>	<u>@ my 4th well AP MW-6</u>
<u>1205</u>	<u>Started pump @ 1205, will take first sample / reading @ 1215</u>
<u>1250</u>	<u>Take my first sample @ 1250</u>

# DAILY FIELD RECORD



Project and Task Number:

Date:

TIME	DESCRIPTION OF WORK PERFORMED
1315	finished well AP MW - Ce, due to
	go help Sam out with his lost
	well
1415	Got back from picking up Sams tobiney
	Organized the Sams well while he
	finishes up his lost well. Did my
	Equip. blank and found bottles for
	Sam to do his. <del>Sam</del> Should be out
	of here in report on hour.
15:35	Drove home → 2hr 30 min







TAILGATE SAFETY MEETING

Date: 12-17-19

Project Name: Tmpa CCR

Project Number: 6706190003.30

Site Location: Fola/Anderson Tx

Scope of Work for Day: GW Sampling

Lead By: SCM

Name (printed)	Signature
Samuel C. Mason	Samuel C. Mason
Gracia Granor Calhoun →	Calhoun





FIELD INSTRUMENT CALIBRATION SHEET

wood.

Project Name: TMPA CCR 2019

Project Number: 6706190003.30

Date: ~~12-16-19~~ EM  
12-17-19

Equipment Type: Water Quality Meter  
Manufacturer: Horiba  
Model Number: U-52

Serial Number: CMV4JL3K

Calibration (as necessary, minimum twice per day):

<b>Calibration #1</b>	pH	Cond.	Turb.	DO	ORP	Time: <u>0805</u>
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	<u>3.77</u>	<u>4.52</u>	<u>0.0</u>	<u>12.25</u>	<u>299</u>	

Calibration (as necessary, minimum twice per day):

<b>Calibration #2</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

<b>Calibration #3</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

<b>Calibration #4</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Date of Last Calibration: \_\_\_\_\_ Date(s) Instrument Used: \_\_\_\_\_

Name of person(s) who calibrated instruments: \_\_\_\_\_

- Calibration Standards Used:
- (1) Antocal Standard Solution
  - (2) \_\_\_\_\_
  - (3) \_\_\_\_\_
  - (4) \_\_\_\_\_

Source of Calibration Standards: Aquaphoenix

Miscellaneous Comments: \_\_\_\_\_

Calibrated by: Samuel C. Moxon





FIELD INSTRUMENT CALIBRATION SHEET

Project Name: MFA CR 2019

Project Number: 6706190003.30  
Date: 12-17-19 gg

Equipment Type: Water Quality Meter  
Manufacturer: Horiba  
Model Number: U-52

Serial Number: 94H496JH

Calibration (as necessary, minimum twice per day):

<b>Calibration #1</b>	pH	Cond.	Turb.	DO	ORP	Time: <u>10:05</u>
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	<u>3.96</u>	<u>4.52</u>	<u>0.0</u>	<u>11.22</u>	<u>312</u>	

Calibration (as necessary, minimum twice per day):

<b>Calibration #2</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

<b>Calibration #3</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

<b>Calibration #4</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Date of Last Calibration: \_\_\_\_\_ Date(s) Instrument Used: \_\_\_\_\_

Name of person(s) who calibrated instruments: \_\_\_\_\_

Calibration Standards Used:

- (1) Auto cal standard sol exp 2019 lot # 765020
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_
- (4) \_\_\_\_\_

Source of Calibration Standards: Aqua max soln.

Miscellaneous Comments: \_\_\_\_\_

Calibrated by: grace graner



FIELD INSTRUMENT CALIBRATION SHEET

Project Name: IMPA CCR 2019

Project Number: 670619000330

Date: 12-18-19

Equipment Type: Water Quality Meter

Manufacturer: Horiba

Model Number: U-52

Serial Number: 4YH4961H

Calibration (as necessary, minimum twice per day):

<b>Calibration #1</b>	pH	Cond.	Turb.	DO	ORP	Time: <u>0755</u>
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>16.55</u>	<u>200-300</u>	
Instrument Reading:	<u>3.99</u>	<u>4.62</u>	<u>0.0</u>	<u>12.8</u>	<u>281</u>	

Calibration (as necessary, minimum twice per day):

<b>Calibration #2</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

<b>Calibration #3</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

<b>Calibration #4</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Date of Last Calibration: \_\_\_\_\_ Date(s) Instrument Used: \_\_\_\_\_

Name of person(s) who calibrated instruments: \_\_\_\_\_

Calibration Standards Used:

- (1) \_\_\_\_\_
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_
- (4) \_\_\_\_\_

Source of Calibration Standards: \_\_\_\_\_

Miscellaneous Comments:

\_\_\_\_\_

Calibrated by: SCM/GG





**FIELD INSTRUMENT CALIBRATION SHEET**

Project Name: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Project Number: 6706190003.30  
Date: 12-18-19

Equipment Type: Water Quality Meter  
Manufacturer: Horiba  
Model Number: U-52

Serial Number: CMW4JL3K

Calibration (as necessary, minimum twice per day):

Calibration #1	pH	Cond.	Turb.	DO	ORP	Time: <u>0800</u>
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	<u>4.00</u>	<u>4.61</u>	<u>0.0</u>	<u>1328</u>	<u>290</u>	

Calibration (as necessary, minimum twice per day):

Calibration #2	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

Calibration #3	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

Calibration #4	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Date of Last Calibration: \_\_\_\_\_ Date(s) Instrument Used: \_\_\_\_\_

Name of person(s) who calibrated instruments: \_\_\_\_\_

Calibration Standards Used:

- (1) \_\_\_\_\_
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_
- (4) \_\_\_\_\_

Source of Calibration Standards: \_\_\_\_\_

Miscellaneous Comments:

\_\_\_\_\_  
\_\_\_\_\_

Calibrated by: SCM/EG





# DAILY FIELD RECORD



Project and Task Number: <u>6706 200041</u>	Date: <u>6-16-20</u>
Project Name: <u>TMPA CCR 2020</u>	Field Activity: <u>GW Sampling</u>
Location: <u>Anderson, Tx</u>	Weather: <u>85-95°F</u>

PERSONNEL:	Name	Company	Time In	Time Out
	<u>Samuel C. Macan</u>	<u>Wood</u>	<u>0700</u>	<u>1630</u>

### PERSONAL SAFETY CHECKLIST

<input checked="" type="checkbox"/> Steel-toed Boots	<input checked="" type="checkbox"/> Hard Hat	<input type="checkbox"/> Tyvek Coveralls
<input checked="" type="checkbox"/> Rubber Gloves	<input checked="" type="checkbox"/> Safety Goggles <u>Clases</u>	<input type="checkbox"/> 1/2-Face Respirator

DRUM I.D.	DESCRIPTION OF CONTENTS AND QUANTITY	LOCATION

TIME	DESCRIPTION OF WORK PERFORMED
<u>0700</u>	<u>Leave hotel for site, Get Ice on way</u>
<u>0730</u>	<u>On site; Move to shed to calibrate and load up</u>
<u>0740</u>	<u>Calibrated YSI; finish loading; moving to site.</u>
<u>0830</u>	<u>Setting up to sample <del>MNW</del> MNW-18; inverter issues</u>
<u>0950</u>	<u>MNW-18 Sampled; pack up, decom, move to SFL MW-5</u>
<u>1105</u>	<u>SFL-MW-5 Sampled " " , move to SFL MW-6; purge @ 1155</u>
<u>1235</u>	<u>SFL MW-6 Sampled, " " , move to SFL MW-2; Grace is sampling</u>
<u>1405</u>	<u>Finished sampling and moving to warehouse</u>
<u>1430</u>	<u>Unload, shuffle coolers, begin packing 3 coolers to be shipped.</u>
<u>1455</u>	<u>EQBK-SCM-061620 taken; final pack up</u>
<u>1530</u>	<u>LF site, purchase Tce to finish packing; travel to FedEx</u>
<u>1600</u>	<u>Samples shipped via FedEx.</u>
<u>1630</u>	<u>Arrive at hotel</u>



# DAILY FIELD RECORD



Project and Task Number: <u>6706200041</u>	Date: <u>6-17-20</u>
Project Name: <u>TMPA CCR 2020</u>	Field Activity: <u>GW Sampling</u>
Location: <u>Anderson, Tx</u>	Weather: <u>85-95°F Sunny</u>

PERSONNEL:	Name	Company	Time In	Time Out
	<u>Samuel C. Macken</u>	<u>Wood</u>	<u>0700</u>	<u>1230</u>

**PERSONAL SAFETY CHECKLIST**

<input checked="" type="checkbox"/> Steel-toed Boots	<input checked="" type="checkbox"/> Hard Hat	<input type="checkbox"/> Tyvek Coveralls
<input checked="" type="checkbox"/> Rubber Gloves	<input checked="" type="checkbox"/> Safety Goggles <u>Glasses</u>	<input type="checkbox"/> 1/2-Face Respirator

DRUM I.D.	DESCRIPTION OF CONTENTS AND QUANTITY	LOCATION

TIME	DESCRIPTION OF WORK PERFORMED
<u>0700</u>	<u>Leave hotel; purchase ice.</u>
<u>0730</u>	<u>On site. Calibrate horiba and load up; Tailgate safety meeting.</u>
<u>0830</u>	<u>Purging <del>MW</del> SSP MW-4</u>
<u>0905</u>	<u>SSP MW-4 and Dup-2 Taken; pack + decan; farg.</u>
<u>1000</u>	<u>off site to pick up replacement peristaltic pump</u>
<u>1100</u>	<u>Back on site; purging SSP MW-3 @ 1130</u>
<u>1210</u>	<u>SSP MW-3 taken; pack up + decan; purging AP MW-3 @ 1255</u>
<u>1330</u>	<u>AP MW-3 Sampled; pack up + decan;</u> <u>meet w/ Grace to finish last well</u>
<u>1455</u>	<u>EQBK-SCM-061720 Taken</u> <u>pack up - final tank shed - check out w/ Kevin W.</u>
<u>1530</u>	<u>off site to pack and ship coolers.</u>
<u>1605</u>	<u>Coolers shipped via FedEx; Heading to Austin,</u>
<u>1830</u>	<u>Arrive in Austin</u>



# DAILY FIELD RECORD



Project and Task Number: <u>6706 200041</u>	Date: <u>6/16/20</u>
Project Name: <u>TMPA</u>	Field Activity:
Location: <u>TMPA</u>	Weather: <u>Hot / sunny</u>

PERSONNEL:	Name	Company	Time In	Time Out
	<u>Groce Gerner</u>	<u>Wood</u>	<u>7:00</u>	

### PERSONAL SAFETY CHECKLIST

<input checked="" type="checkbox"/>	Steel-toed Boots	<input checked="" type="checkbox"/>	Hard Hat	<input type="checkbox"/>	Tyvek Coveralls
<input type="checkbox"/>	Rubber Gloves	<input type="checkbox"/>	Safety Goggles	<input type="checkbox"/>	1/2-Face Respirator

DRUM I.D.	DESCRIPTION OF CONTENTS AND QUANTITY	LOCATION

TIME	DESCRIPTION OF WORK PERFORMED
<u>7:00</u>	<u>left the hotel.</u>
<u>7:30</u>	<u>got to site / started getting ready to sample (some of us are going to try to sample 4-5 wells today).</u>
<u>8:30</u>	<u>start sampling first well MNW-15.</u>
<u>9:30</u>	<u>finished well MNW-15.</u>
<u>9:32</u>	<u>got to next well SFL-MW7 (this one will have 3 DOP).</u>
<u>10:45</u>	<u>finished sampling well SFL-MW7</u>
<u>10:47</u>	<u>headed to SFL-MW3.</u>
<u>11:45</u>	<u>finished with well SFL-MW3. on to <del>SFL-MW-4</del></u>
<u>11:48</u>	<u>got to well SFL-MW-4</u>
<u>12:50</u>	<u>finished sampling SFL-MW-4. going to head back and find Sam to fig. out what well to sample next.</u>





# DAILY FIELD RECORD

# wood.

Page 1 of 2

Project and Task Number: <u>6706200041</u>	Date: <u>6/17/20</u>
Project Name: <u>TMPA</u>	Field Activity: <u>well water sampling</u>
Location: <u>TMPA</u>	Weather: <u>Hot / Sunny</u>

PERSONNEL:	Name	Company	Time In	Time Out
	<u>Grace Greener</u>	<u>Wood</u>	<u>7:00</u>	

### PERSONAL SAFETY CHECKLIST

<input checked="" type="checkbox"/>	Steel-toed Boots	<input checked="" type="checkbox"/>	Hard Hat	<input type="checkbox"/>	Tyvek Coveralls
<input type="checkbox"/>	Rubber Gloves	<input type="checkbox"/>	Safety Goggles	<input type="checkbox"/>	1/2-Face Respirator

DRUM I.D.	DESCRIPTION OF CONTENTS AND QUANTITY	LOCATION

TIME	DESCRIPTION OF WORK PERFORMED
<u>7:45</u>	<u>got to site, getting everything ready to sample first well</u>
<u>8:15</u>	<u>got to first well → AP-MW-1D.</u>
<u>9:15</u>	<u>finished with well AP-MW-1D, on to</u>
<u>9:16</u>	<u>well AP-MW-5</u>
<u>9:16</u>	<u>got to well AP-MW-5.</u>
<u>10:00</u>	<u>well took longer to get started. <del>battery</del> battery died and FUSC went out on voltage output box.</u>
<u>10:50</u>	<u>finished with well AP-MW-5 on to AP-MW-4.</u>
<u>10:51</u>	<u>got to well AP-MW-4.</u>
<u>11:55</u>	<u>finished AP-MW-4, on to SSP/AP MW-1</u>
<u>12:15</u>	<u>started well SSP/AP MW-1.</u>
<u>1:10</u>	<u>finished well SSP/AP-MW-1 on to well SSP-MW-2</u>





TAILGATE SAFETY MEETING

Date: 6-15-20

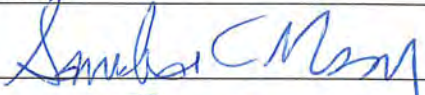

Project Name: IMPA CCR 2020

Project Number: 6706

Site Location: Anderson, Tx

Scope of Work for Day: Gauging + <sup>Pen Pump</sup> Sampling

Lead By: Samuel C. Mason

Name (printed)	Signature
Samuel Mason	
Grace Edwards	

## TAILGATE SAFETY MEETING

Date: 6-16-20

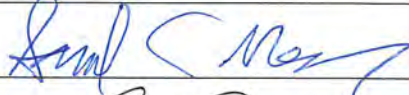

Project Name: TMPACCR 2020

Project Number:

Site Location: Anderson Tx

Scope of Work for Day: GW Sampling

Lead By: SCM

Name (printed)	Signature
Samuel Macon	
Gross Gruber	





# Water Level Monitoring Record



Project Name: TMPA CCR 2020

Project and Task Number: \_\_\_\_\_

6706190003.03

Date: 6/15/2020

Measured by: SCM/GG

Instrument Used: Salinst 100 (pine)

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

P = Pumping

I = Inaccessible

D = Dedicated Pump

TOC = Top of Casing

ST = Steel Tape

ES = Electric Sound

MP = Measuring Point

WL = Water Level

Well No.	Time	Water Level Below TOC (feet)	Previous Water Level Below TOC (12/16/19)	Previous Water Level Below TOC (6/24/19)	Remarks
AP PZ-1	<del>1324</del> 1324	6.70	6.11	6.39	
AP PZ-2	1327	18.91	20.52	17.19	
AP PZ-3	1335	5.26	5.65	4.59	<del>1335</del>
AP MW-3	1331	11.18	11.50	10.64	
AP MW-1	<del>1335</del> 1335	12.60	13.40	12.49	
AP MW-1D	1340	14.51	14.97	14.14	
AP MW-5	1344	11.75	12.24	11.27	
AP MW-4	1346	13.37	14.01	13.10	
AP MW-2	1350	7.41	8.01	6.88	
AP PZ-4	1352	10.24	10.89	9.54	
AP MW-6	1355	16.56	16.90	16.17	
SSP/AP MW-1	<del>1358</del> 1358	8.13	8.08	7.32	
SSP MW-1	1401	15.26	16.10	14.36	
SSP MW-2	1405	23.65	23.40	21.18	
SSP MW-3	1408	27.67	27.90	26.35	
SSP MW-4	1412	24.70	24.51	23.87	
MNW-11	<del>1422</del> 1422	20.54	20.01	20.87	
MNW-16	1429	13.17	14.39	12.49	
SFL MW-6	1434	18.31	17.25	17.31	
MNW-17	1441	45.64	40.01	43.85	
SFL MW-1	1444	22.53	22.80	20.63	
MNW-18	1450	7.50	9.32	8.37	
MNW-15	1558	5.27	6.10	4.02	
SFL MW-7	1501	14.20	15.17	13.17	
SFL MW-3	1505	17.55	16.98	16.39	
SFL MW-4	1509	15.21	14.35	14.21	
SFL MW-5	1520	15.73	15.90	15.03	
SFL MW-2	1524	10.71	11.01	10.11	





# WELL SAMPLING



## AND/OR DEVELOPMENT RECORD

Well ID: MNW-18  
 Sample ID:          Duplicate ID:           
 Sample Depth:           
 Project and Task No.: 6706 200041  
 Project Name: TMPA CLR 2020  
 Date: 6-16-20  
 Sampled By: SCM  
 Method of Purging: Low flow sub  
 Method of Sampling: Low flow sub

Initial Depth to Water: 7.98  
 Depth to Water after Sampling: 11.40  
 Total Depth to Well:           
 Well Diameter: 4"  
 1 Casing/Borehole Volume:           
 (Circle one)  
 4 Casing/Borehole Volumes:           
 (Circle one)  
 Total Casing/Borehole Volumes Removed:         

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
<del>0920</del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>
<del>0930</del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>
<del>0935</del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>
<del>0940</del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>
<del>0945</del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>	<del>        </del>
0950		~1.25	~2.0	23.45	6.41	4.06	0.46	-51	0.0

sampled @ 0950

Notes: Originally started pumping at 0900; but inverter kept failing; switched to a different inverter for Geosub pump and restarted purge @ 0920



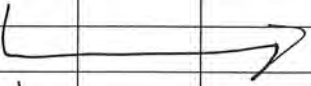
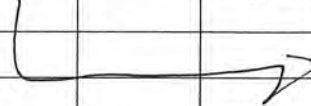
# WELL SAMPLING



## AND/OR DEVELOPMENT RECORD

Well ID: SFL-mw-2  
 Sample ID: \_\_\_\_\_ Duplicate ID: \_\_\_\_\_  
 Sample Depth: 12  
 Project and Task No.: 6708200041  
 Project Name: TMPA  
 Date: 6/16/20  
 Sampled By: gg / scm  
 Method of Purging: LFS  
 Method of Sampling: LFS

Initial Depth to Water: 10-81'  
 Depth to Water after Sampling: 12-40'  
 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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1:10		150		28.92	5.91	10.7	0.72	178	ASTM 313
1:15				29.54	5.52	10.9	0.31	237	95.6
1:20				30.03	5.53	10.9	0.29	238	81.6
1:25				30.27	5.56	10.9	0.27	238	70.5
1:30				30.44	5.57	10.9	0.25	237	52.8
1:35				30.65	5.58	10.8	0.23	235	25.7
 Sampled @ 1:35									
 purged 1 gal									

Notes:  
ZABK-66-06/16/20 taken @ 2:50 pm

# WELL SAMPLING



## AND/OR DEVELOPMENT RECORD

Well ID: SFL-MW3  
 Sample ID: \_\_\_\_\_ Duplicate ID: \_\_\_\_\_  
 Sample Depth: \_\_\_\_\_  
 Project and Task No.: 6706200041  
 Project Name: TMPA  
 Date: 6/16/20  
 Sampled By: gg  
 Method of Purging: LFS  
 Method of Sampling: LFS

Initial Depth to Water: 18.17'  
 Depth to Water after Sampling: 18.25'  
 Total Depth to Well: 28.21'  
 Well Diameter: 2"  
 1 Casing/Borehole Volume: \_\_\_\_\_  
 (Circle one)  
 4 Casing/Borehole Volumes: \_\_\_\_\_  
 (Circle one)  
 Total Casing/Borehole Volumes Removed: \_\_\_\_\_

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
10:50		150		26.10	3.79	6.32	0.82	465	NTU 2.0
10:55		↓		26.39	3.56	6.09	0.31	478	72.8
11:00			26.56	3.49	6.15	0.16	471	27.3	
11:05			26.83	3.46	6.17	0.10	498	10.5	
11:10			26.94	3.45	6.16	0.09	435	0.0	
11:15			27.01	3.45	6.16	0.06	432	0.0	
→ Sampled @ 11:15									
→ purged 1.5 gal									

Notes:

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# WELL SAMPLING



## AND/OR DEVELOPMENT RECORD

Well ID: SFL MW-5  
 Sample ID:        Duplicate ID:         
 Sample Depth:         
 Project and Task No.: 6706200041  
 Project Name: IMPACCR 2020  
 Date: 6-16-20  
 Sampled By: SCM  
 Method of Purging: Low flow sub  
 Method of Sampling: Low flow sub

Initial Depth to Water: 15.80'  
 Depth to Water after Sampling: 16.80'  
 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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1030	<del>Start</del>								<del>Start pump</del>
	↓	NTU > 500; waiting for it to be < 100							
1045		~150		24.19	4.57	11.2	0.57	349	30.1 clear
1050				24.58	4.54	11.1	0.52	348	22.9 "
1055				24.60	4.39	11.1	0.45	351	13.3 "
1100				25.01	4.35	11.1	0.41	355	6.9 "
1105			~3.0	25.30	4.27	11.1	0.41	356	4.5 "
								<del>357</del>	<del>6.5</del>
L → Sampled @ 1105									

Notes:

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**WELL SAMPLING**

**wood.**

**AND/OR DEVELOPMENT RECORD**

Well ID: SFL MW-6  
 Sample ID: - Duplicate ID: -  
 Sample Depth: -  
 Project and Task No.: 6706200041  
 Project Name: IMPA SCA 2020  
 Date: 6-16-20  
 Sampled By: SCM  
 Method of Purging: Peristaltic Pump  
 Method of Sampling: Peristaltic Pump

Initial Depth to Water: 18.30  
 Depth to Water after Sampling: 22.41  
 Total Depth to Well: 23.10  
 Well Diameter: 2"  
 1 Casing/Borehole Volume: -  
 (Circle one)  
 4 Casing/Borehole Volumes: -  
 (Circle one)  
 Total Casing/Borehole Volumes Removed: -

Time	Intake Depth	Rate (ml/min)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1155									NTU
<del>1200</del>		NTU > 300							Start Pump
1210		~125		28.66	4.05	12.3	2.32	470	61.0 cloudy
1215				28.44	4.01	12.4	1.20	476	57.4 cloudy
1220				28.42	3.99	12.4	0.88	479	54.7 Clear
1225				28.38	3.92	12.4	0.80	474	26.5 "
1230				28.57	3.90	12.3	0.78	473	27.4 "
★ 1235			~1.0	28.65	3.90	12.3	0.79	471	28.1 "
Sampled @ 1235									

**Notes:**

EQBK-SCM-061620  
 taken @ 1455







**WELL SAMPLING**



**AND/OR DEVELOPMENT RECORD**

Well ID: AP MW-3  
 Sample ID:            Duplicate ID:             
 Sample Depth:             
 Project and Task No.: 6706200041  
 Project Name: IMPA CCR 2020  
 Date: 6-17-20  
 Sampled By: SCM  
 Method of Purging: peristaltic pump  
 Method of Sampling: peristaltic pump

Initial Depth to Water: 11.06  
 Depth to Water after Sampling: 11.48'  
 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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
<del>1255</del>									Start Pump
<del>1305</del>		~150							↓ ↓
1310		~150		28.34	4.63	1.74	0.86	306	0.0 clear
1315				26.62	4.58	1.69	0.80	372	0.0 "
1320				26.03	4.52	1.69	0.74	427	0.0 " (0.74) = DO
1325				26.88	4.44	1.70	0.71	427	0.0 "
* 1330			~1.5	26.96	4.34	1.70	0.67	407	0.0 "
<p>→ Sampled @ 1330</p>									

**Notes:**

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# WELL SAMPLING



## AND/OR DEVELOPMENT RECORD

Well ID: SSP/AP MW-1  
 Sample ID: \_\_\_\_\_ Duplicate ID: \_\_\_\_\_  
 Sample Depth: \_\_\_\_\_  
 Project and Task No.: CE706200041  
 Project Name: TMPA  
 Date: 6/17/20  
 Sampled By: gg  
 Method of Purging: LFS  
 Method of Sampling: LFS

Initial Depth to Water: 8.21'  
 Depth to Water after Sampling: 12.50'  
 Total Depth to Well: 41.9'  
 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 (turbidity, color, odor)	
12:10		150		25.36	5.45	8.58	0.38	98	NTU 209	
12:15		↓		26.90	5.43	8.68	0.05	95	288	
12:20			27.21	5.44	8.61	0.04	94	490		
12:25			28.11	5.45	8.51	0.04	93	376		
12:30			27.25	5.45	8.39	0.06	100	225		
12:35			27.46	5.45	8.35	0.08	105	108		
12:40			27.81	5.44	8.32	0.08	110	59.5		
12:45			27.82	5.43	8.32	0.07	108	32.1		
12:50			27.81	5.42	8.31	0.08	107	20.9		
↳ Sampled @ 12:50 ↳ Purged 3 gal										

Notes:

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# WELL SAMPLING

# wood.

## AND/OR DEVELOPMENT RECORD

Well ID: SSP-MW-2  
 Sample ID: \_\_\_\_\_ Duplicate ID: \_\_\_\_\_  
 Sample Depth: \_\_\_\_\_  
 Project and Task No.: 6706200041  
 Project Name: TMPA  
 Date: 6/17/20  
 Sampled By: gg/SM  
 Method of Purging: LFS  
 Method of Sampling: LFS

Initial Depth to Water: 23.59'  
 Depth to Water after Sampling: 32.50'  
 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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
1:30		150		28.43	4.91	9.24	0.25	223	397
1:35				28.06	4.85	9.66	0.19	199	299
1:40						Battery Died			
1:45						Battery Died			
1:50				28.94	4.43	8.70	0.15	243	77.3
1:55				29.31	4.31	8.47	0.35	264	38.2
2:00				29.23	4.24	8.35	0.33	276	20.5
2:05				29.21	4.16	8.46	0.33	284	19.6
2:10				29.21	4.15	8.44	0.33	284	17.5
2:15				29.22	4.14	8.45	0.30	290	14.6
<p>→ sampled @ 2:15</p> <p>→ purged 2 gal</p> <p>2:50 → EQBK-GG-061720                  Taken @ 2:50</p>									

### Notes:

Horiba died after the second reading.  
 Sam brought me his dad we switched it out.



# WELL SAMPLING



## AND/OR DEVELOPMENT RECORD

Well ID: SSP MW-3  
 Sample ID:          Duplicate ID:           
 Sample Depth:           
 Project and Task No.: 6706200041  
 Project Name: TMPA CCR 2020  
 Date: 6-17-20  
 Sampled By: SCM  
 Method of Purging: Low flow sub.  
 Method of Sampling: Low flow sub.

Initial Depth to Water: 27.64'  
 Depth to Water after Sampling: 29.48'  
 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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	NTU	Remarks (turbidity, color, odor)
11:30										Start pump
11:40		~150		25.37	4.03	8.00	3.85	318	25.3	cloudy
11:45				25.22	3.80	7.93	2.85	326	48.2	clear
11:50				25.08	3.71	7.93	2.31	332	26.0	Lost power
11:55				25.60	4.06	7.99	3.95	304	33.2	"
12:00				25.74	3.78	7.95	4.29	327	21.5	"
12:05				25.67	3.68	7.94	4.12	329	28.0	"
★ 12:10			~3.5	25.61	3.60	7.87	3.99	331	42.6	"
L → Sampled @ 12:10										

Notes: New kink ~ 5.0 feet down hole  
Managed to bend it to allow pump to pass through.



# WELL SAMPLING



## AND/OR DEVELOPMENT RECORD

Well ID: SST MW-4  
 Sample ID: - Duplicate ID: DUP-2  
 Sample Depth: -  
 Project and Task No.: 6706200041  
 Project Name: TMPA <CR 2000  
 Date: 6-17-20  
 Sampled By: SCM  
 Method of Purging: Low flow sub  
 Method of Sampling: Low flow sub

Initial Depth to Water: 29.66'  
 Depth to Water after Sampling: 37.98'  
 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 (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Remarks (turbidity, color, odor)
0830									<del>NTU</del> Start
									Start Pump
0840		~150		25.63	5.58	5.18	3.95	70	31.7 clear
0845				25.47	5.75	5.14	3.52	56	5.5 "
0850				25.34	5.69	5.22	3.07	47	1.7 "
0855				25.53	5.67	5.27	2.66	43	3.0 "
0900				25.58	5.67	5.23	2.52	41	0.0 "
* 0905			~2.0	25.55	5.67	5.26	2.45	41	0.0 "
Sampled @ 0905									

**Notes:**

→ DUP - 2 taken





FIELD INSTRUMENT CALIBRATION SHEET

Project Name: TMPA CCR 2020

Project Number: 6706 200041

Date: 6-16-20

Equipment Type: Water Quality Meter

Manufacturer: Horiba

Model Number: U-52

Serial Number: CMW4JL3K

Calibration (as necessary, minimum twice per day):

<b>Calibration #1</b>	pH	Cond.	Turb.	DO	ORP	Time: <u>0740</u>
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	<u>4.01</u>	<u>452</u>	<u>0.0</u>	<u>767</u>	<u>283</u>	

Calibration (as necessary, minimum twice per day):

<b>Calibration #2</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

<b>Calibration #3</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

<b>Calibration #4</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Date of Last Calibration: \_\_\_\_\_

Date(s) Instrument Used: \_\_\_\_\_

Name of person(s) who calibrated instruments: \_\_\_\_\_

Calibration Standards Used:

- (1) \_\_\_\_\_
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_
- (4) \_\_\_\_\_

Source of Calibration Standards: \_\_\_\_\_

Miscellaneous Comments:

\_\_\_\_\_

Calibrated by: Samuel Mason

## FIELD INSTRUMENT CALIBRATION SHEET

Project Name: TPMA CCR 2020

Project Number: 6706200041

Date: 6-17-20

Equipment Type: Water Quality Meter

Manufacturer: Horiba

Model Number: U-52

Serial Number: CMW4JL3K

Calibration (as necessary, minimum twice per day):

Calibration #1	pH	Cond.	Turb.	DO	ORP	Time: <u>0755</u>
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	<u>4.0</u>	<u>4.50</u>	<u>0.0</u>	<u>8.32</u>	<u>227</u>	

Calibration (as necessary, minimum twice per day):

Calibration #2	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

Calibration #3	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

Calibration #4	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Date of Last Calibration: \_\_\_\_\_

Date(s) Instrument Used: \_\_\_\_\_

Name of person(s) who calibrated instruments: \_\_\_\_\_

Calibration Standards Used:

- (1) \_\_\_\_\_
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_
- (4) \_\_\_\_\_

Source of Calibration Standards: \_\_\_\_\_

Miscellaneous Comments:

\_\_\_\_\_

Calibrated by: Samuel Hagan





**FIELD INSTRUMENT CALIBRATION SHEET**

Project Name: TMPA CCR 2020

Project Number: 6706200041

Date: 6/16/20

Equipment Type: Water Quality Meter

Manufacturer: Horiba

Model Number: U-52

Serial Number: JHJNK7BU

Calibration (as necessary, minimum twice per day):

<b>Calibration #1</b>	pH	Cond.	Turb.	DO	ORP	Time: <u>7:43</u>
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	<u>3.99</u>	<u>4.50</u>	<u>0.0</u>		<u>299</u>	

Calibration (as necessary, minimum twice per day):

<b>Calibration #2</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

<b>Calibration #3</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

<b>Calibration #4</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Date of Last Calibration: \_\_\_\_\_

Date(s) Instrument Used: \_\_\_\_\_

Name of person(s) who calibrated instruments: \_\_\_\_\_

Calibration Standards Used:

- (1) \_\_\_\_\_
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_
- (4) \_\_\_\_\_

Source of Calibration Standards: \_\_\_\_\_

Miscellaneous Comments:

\_\_\_\_\_

Calibrated by: Grace Gruber

FIELD INSTRUMENT CALIBRATION SHEET

wood.

Project Name: TMPA CCR 2020

Project Number: 6706200041

Date: 6/17/20

Equipment Type: Water Quality Meter

Manufacturer: Horiba

Model Number: U-52

Serial Number: JHJNK780

Calibration (as necessary, minimum twice per day):

<b>Calibration #1</b>	pH	Cond.	Turb.	DO	ORP	Time: <u>7:55 am</u>
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	<u>3.86</u>	<u>4.48</u>	<u>0.0</u>	<u>7.69</u>	<u>287</u>	

Calibration (as necessary, minimum twice per day):

<b>Calibration #2</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

<b>Calibration #3</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Calibration (as necessary, minimum twice per day):

<b>Calibration #4</b>	pH	Cond.	Turb.	DO	ORP	Time: _____
Calibration Standard:	<u>4.0</u>	<u>4.49</u>	<u>0.0</u>	<u>--</u>	<u>200-300</u>	
Instrument Reading:	_____	_____	_____	_____	_____	

Date of Last Calibration: \_\_\_\_\_

Date(s) Instrument Used: \_\_\_\_\_

Name of person(s) who calibrated instruments: \_\_\_\_\_

Calibration Standards Used:

- (1) \_\_\_\_\_
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_
- (4) \_\_\_\_\_

Source of Calibration Standards: \_\_\_\_\_

Miscellaneous Comments:

\_\_\_\_\_  
\_\_\_\_\_

Calibrated by: grace gruner



The text 'Appendix B' is positioned in the upper left area of the page. It is written in a bold, black, sans-serif font.The text 'Laboratory Analytical Reports and DUSs' is located directly below 'Appendix B'. It is written in a purple, sans-serif font.

## Data Usability Summary Report

December 17-18, 2019 Groundwater Monitoring Event

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

### Introduction

Wood reviewed four (4) data packages from Eurofins TestAmerica (TA) in Pittsburgh, Pennsylvania for the analyses of groundwater samples collected during the December 17 – 18, 2019 groundwater monitoring event conducted at the Texas Municipal Power Agency (TMPA) - Gibbons Creek Steam Electric Station (GCSES) located in Anderson, Texas (the Site). This Data Usability Summary (DUS) documents the review of the following laboratory data packages:

- 180-100175-1 – CCR, dated January 23, 2020
- 180-100175-2 – CCR, dated January 7, 2020
- 180-100262-1 – CCR, dated January 23, 2020
- 180-100262-2 – CCR, dated January 7, 2020

These data were reviewed for adherence to project objectives that conform to the requirements of the Texas Commission on Environmental Quality's (TCEQ) Texas Risk Reduction Program (TRRP) guidance document, Review and Reporting of COC Concentration Data (RG-366/TRRP-13). At the time the laboratory data were generated for the project, TA was National Environmental Laboratory Accreditation Program (NELAP)-accredited (NELAP Certification No. T104704528-15-2) for the matrices, methods, and analyses associated with this project except as qualified in the laboratory's exception report and/or this DUS summary.

### Intended Use of Data

Analytical results were collected to provide current concentrations of Chemicals of Concern (COCs) in groundwater samples within the Site to meet project requirements. The requested chemical analyses and methods for both data packages were comprised of the following:

- Fluoride by Method 9056A,
- Metals (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Molybdenum, Selenium, Thallium) by Method 6020A,
- Mercury by Method 7470A, and
- Radium 226 and 228 by Methods 903.0, 904.0, and Ra226\_Ra228.

Data were reviewed and validated as described in RG-366/TRRP-13 and **Table 1**, and the results of the review/validation are discussed in this DUS. The following laboratory submittals and field data were examined:

- the reportable data; and
- the laboratory quality assurance/quality control (QA/QC) Report Summaries.

The laboratory data packages and a list of the abbreviations used in this review are attached.



**Table 1: RG-366/TRRP-13 Objectives**

Data Usability Summary Report  
 December 17-18, 2019 Groundwater Monitoring Event

COC	Recovery %	RPD
Metals	75-125%	<30%
Inorganic Compounds	70-130%	<40%

Abbreviation:

RPD – Relative Percent Difference

## Data Review / Validation Results

One (1) set of groundwater samples, totaling sixteen (17) field samples, was collected and analyzed. Samples were collected from monitoring wells located within and adjacent to the Scrubber Sludge Pond (SSP), Ash Pond (AP), and Site F Landfill (SFL) areas within the Site. The SSP contained a total of four (4) field samples, AP contained a total of six (6) field samples, and the SFL contained a total of eight (8) field samples, sample SSP/AP MW-1 is included in the SSP and AP field sample counts. In addition to field groundwater samples, QA/QC samples were also submitted and analyzed. These QC/QA samples included four (4) equipment blank (EQBK) samples and two (2) field duplicate (Dup) samples. The sample identifications cross-referenced to laboratory identifications are listed in **Table 2**.

All field groundwater samples and QA/QC samples were analyzed for a site-specific list of Fluoride, Metals, Mercury, and Radionuclides.

## Analytical Results

Detected results with matrix spike (MS) and/or matrix spike duplicate (MSD) recovery outside of the acceptance limits are qualified as "F1". Qualified data are summarized in **Table 3**.

## Preservation and Holding Times

Samples were evaluated for agreement with the chain-of-custody (C-O-C). All samples were received in the appropriate containers and in good condition with the paperwork filled out properly. Sample receipt temperatures were recorded between 1.4 degrees Celsius (°C) and 3.1°C.

Samples were preserved in the field as specified in SW-846 *Table 2-40B*. All additional analyses were completed within the holding times specified in SW-846 *Table 2-40B*.

## Blanks

Target analytes were not detected in any of the laboratory method blanks or field equipment blanks associated with the groundwater samples, except for the EQBK samples: EQBK-GG-121719 and EQBK-GG-121819. Chromium and lead results for sample EQBK-GG-121719 were reported as 0.00297 mg/L and 0.00168 mg/L, respectively. Sample EQBK-GG-121819 results for radium-228 and combined Radium (226+228) were reported as 0.452 pCi/L and 0.472 pCi/L, respectively.

## Laboratory Control Samples (LCS)

The LCS recoveries and RPDs, where provided, were within laboratory control limits and met the project review criteria.

## MS/MSD

The assumption has been made that only site-specific MS/MSD affects the samples in the respective batch from the same matrix. All MS/MSD analyses were within the project review criteria with the exception of the following:

- Batch 320485 – The MS/MSD sample results for Mercury was flagged with a “F1,” recovery outside the acceptance limits.

## Field Precision

Concentrations of flouride, some metals, and radionuclides were detected in duplicate samples Dup 1 and Dup 2 (**Table 4**). Duplicate sample results were compared to field sample results and the RPD was determined utilizing the following equation:

$$\text{RPD} = \frac{((\text{Sample Result} - \text{Duplicate Result}) * 200)}{(\text{Sample Result} + \text{Duplicate Result})}$$

All RPD values were within the project review criteria, with the exception of Radium-226 in SSP/AP MW-1/Dup-2.

## Summary

The overall quality of the analytical data was found to be within the QC limits established by the analytical methods and project review criteria presented in *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13). Sample MNW-15 (Lab Sample ID 180-100175-7) results for mercury were qualified due to QC issues as described above and listed in **Table 3**. Target analytes were not detected in any of the laboratory method blanks or equipment blanks associated with the groundwater samples, except for the samples EQBK-GG-121719 and EQBK-GG-12181 for the analytes described above. All RPD values were within the project review criteria, with the exception of Radium-226 in SSP/AP MW-1/Dup-2. The LCS recoveries and RPDs, where provided, were within the project review criteria.

Groundwater analytical data collected on December 17-18, 2019 are usable to support project decisions on determining COC concentrations for the groundwater samples collected at the Site.

**Prepared By:**



Jessica L. Hinojosa, P.G.  
Geoscientist

**Reviewed By:**



Carl Teinert, P.G.  
Senior Geoscientist



## **Attachments**

Table 2 – Cross Reference Field Sample Identification and Laboratory Identification

Table 3 – Qualified Chemical Data

Table 4 – Field Duplicate Sample Comparison Table

Laboratory Data Packages

List of Abbreviations



**Table 2**  
**Cross Reference Field Sample Identification and Laboratory  
Identification**





**Table 2: Cross Reference Field Sample Identification and Laboratory Identification**

Data Usability Summary Report

December 17-18, 2019 Groundwater Monitoring Event

Laboratory Job Number	Lab Sample ID	Sample ID	Collection Date	Matrix	Comments
180-100175-1	180-100175-1	SFL MW-3	12/17/2019	Water	
180-100175-1	180-100175-2	SFL MW-7	12/17/2019	Water	
180-100175-1	180-100175-3	SFL MW-6	12/17/2019	Water	
180-100175-1	180-100175-4	SFL MW-5	12/17/2019	Water	
180-100175-1	180-100175-5	SFL MW-2	12/17/2019	Water	
180-100175-1	180-100175-6	SFL MW-4	12/17/2019	Water	
180-100175-1	180-100175-7	MNW-15	12/17/2019	Water	
180-100175-1	180-100175-8	MNW-18	12/17/2019	Water	
180-100175-1	180-100175-9	AP MW-3	12/17/2019	Water	
180-100175-1	180-100175-10	Dup 1	12/17/2019	Water	Field duplicate sample of SFL MW-3
180-100175-1	180-100175-11	EQBK-SCM-121719	12/17/2019	Water	Equipment blank collected on 12/17/19
180-100175-1	180-100175-12	EQBK-GG-121719	12/17/2019	Water	Equipment blank collected on 12/17/19
180-100175-2	180-100175-1	SFL MW-3	12/17/2019	Water	
180-100175-2	180-100175-2	SFL MW-7	12/17/2019	Water	
180-100175-2	180-100175-3	SFL MW-6	12/17/2019	Water	
180-100175-2	180-100175-4	SFL MW-5	12/17/2019	Water	
180-100175-2	180-100175-5	SFL MW-2	12/17/2019	Water	
180-100175-2	180-100175-6	SFL MW-4	12/17/2019	Water	
180-100175-2	180-100175-7	MNW-15	12/17/2019	Water	
180-100175-2	180-100175-8	MNW-18	12/17/2019	Water	
180-100175-2	180-100175-9	AP MW-3	12/17/2019	Water	
180-100175-2	180-100175-10	Dup 1	12/17/2019	Water	Field duplicate sample of SFL MW-3
180-100175-2	180-100175-11	EQBK-SCM-121719	12/17/2019	Water	Equipment blank collected on 12/17/19
180-100175-2	180-100175-12	EQBK-GG-121719	12/17/2019	Water	Equipment blank collected on 12/17/19
180-100262-1	180-100262-1	SSP/AP MW-1	12/18/2019	Water	
180-100262-1	180-100262-2	SSP MW-3	12/18/2019	Water	
180-100262-1	180-100262-3	SSP MW-4	12/18/2019	Water	
180-100262-1	180-100262-4	SSP MW-2	12/18/2019	Water	
180-100262-1	180-100262-5	AP MW-1D	12/18/2019	Water	
180-100262-1	180-100262-6	AP MW-5	12/18/2019	Water	
180-100262-1	180-100262-7	AP MW-4	12/18/2019	Water	
180-100262-1	180-100262-8	AP MW-6	12/18/2019	Water	
180-100262-1	180-100262-9	Dup 2	12/18/2019	Water	Field duplicate of sample SSP/AP MW-1
180-100262-1	180-100262-10	EQBK-SCM-121819	12/18/2019	Water	Equipment blank collected on 12/18/19
180-100262-1	180-100262-11	EQBK-GG-121819	12/18/2019	Water	Equipment blank collected on 12/18/19
180-100262-2	180-100262-1	SSP/AP MW-1	12/18/2019	Water	
180-100262-2	180-100262-2	SSP MW-3	12/18/2019	Water	
180-100262-2	180-100262-3	SSP MW-4	12/18/2019	Water	
180-100262-2	180-100262-4	SSP MW-2	12/18/2019	Water	
180-100262-2	180-100262-5	AP MW-1D	12/18/2019	Water	
180-100262-2	180-100262-6	AP MW-5	12/18/2019	Water	
180-100262-2	180-100262-7	AP MW-4	12/18/2019	Water	
180-100262-2	180-100262-8	AP MW-6	12/18/2019	Water	
180-100262-2	180-100262-9	Dup 2	12/18/2019	Water	Field duplicate of sample SSP/AP MW-1
180-100262-2	180-100262-10	EQBK-SCM-121819	12/18/2019	Water	Equipment blank collected on 12/18/19
180-100262-2	180-100262-11	EQBK-GG-121819	12/18/2019	Water	Equipment blank collected on 12/18/19

## **Table 3**

### **Qualified Chemical Data**





**Table 3: Qualified Chemical Data**  
Data Usability Summary Report  
December 17-18, 2019 Groundwater Monitoring Event

Lab Sample ID	Sample ID	Analyte	Qualifier	Reason for Qualification
180-100175-7	MNW-15	Mercury	F1	MS and/or MSD Recovery is outside acceptance limits.
180-100175-7 MS	MNW-15	Mercury	F1	MS and/or MSD Recovery is outside acceptance limits.
180-100175-7 MSD	MNW-15	Mercury	F1	MS and/or MSD Recovery is outside acceptance limits.

**Table 4**  
**Field Duplicate Sample Comparison Table**





**Table 4: Field Duplicate Sample Comparison Table**  
 Data Usability Summary Report  
 December 17-18, 2019 Groundwater Monitoring Event

Lab Sample ID	Sample ID	Duplicate ID	Analyte	Matrix	Units	Sample Result	Duplicate Result	RPD%	Qualifier
180-100175-1	SFL MW-3	Dup 1	Radium-226	Water	pCi/L	1.07	1.11	3.67	Pass
180-100175-1	SFL MW-3	Dup 1	Radium-228	Water	pCi/L	2.67	3.19	17.75	Pass
180-100175-1	SFL MW-3	Dup 1	Combined Radium 226+228	Water	pCi/L	3.74	4.3	13.93	Pass
180-100175-1	SFL MW-3	Dup 1	Fluoride	Water	mg/L	0.577	0.644	10.97	Pass
180-100175-1	SFL MW-3	Dup 1	Antimony	Water	mg/L	<0.00200	<0.00200	---	Pass
180-100175-1	SFL MW-3	Dup 1	Arsenic	Water	mg/L	0.00564	0.005000	12.03	Pass
180-100175-1	SFL MW-3	Dup 1	Barium	Water	mg/L	0.0136	0.127	161.31	Pass
180-100175-1	SFL MW-3	Dup 1	Beryllium	Water	mg/L	0.0357	0.0311	13.77	Pass
180-100175-1	SFL MW-3	Dup 1	Cadmium	Water	mg/L	0.00690	0.00692	0.29	Pass
180-100175-1	SFL MW-3	Dup 1	Chromium	Water	mg/L	0.00240	<0.00200	---	Pass
180-100175-1	SFL MW-3	Dup 1	Cobalt	Water	mg/L	0.0556	0.0542	2.55	Pass
180-100175-1	SFL MW-3	Dup 1	Lead	Water	mg/L	0.0192	0.0185	3.71	Pass
180-100175-1	SFL MW-3	Dup 1	Lithium	Water	mg/L	0.325	0.317	2.49	Pass
180-100175-1	SFL MW-3	Dup 1	Molybdenum	Water	mg/L	<0.00500	<0.00500	---	Pass
180-100175-1	SFL MW-3	Dup 1	Selenium	Water	mg/L	0.0188	0.0161	15.47	Pass
180-100175-1	SFL MW-3	Dup 1	Thallium	Water	mg/L	0.00634	0.00531	17.68	Pass
180-100175-1	SFL MW-3	Dup 1	Mercury	Water	mg/L	2.73	2.62	4.11	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Radium-226	Water	pCi/L	0.273	0.147	60.00	FAIL
180-100262-1	SSP/AP MW-1	Dup 2	Radium-228	Water	pCi/L	1.20	1.27	5.67	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Combined Radium 226+228	Water	pCi/L	1.47	1.41	4.17	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Fluoride	Water	mg/L	<0.500	<0.500	---	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Antimony	Water	mg/L	<0.00200	<0.00200	---	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Arsenic	Water	mg/L	0.00194	0.00183	5.84	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Barium	Water	mg/L	0.0252	0.0244	3.23	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Beryllium	Water	mg/L	<0.00100	<0.00100	---	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Cadmium	Water	mg/L	<0.00100	<0.00100	---	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Chromium	Water	mg/L	<0.000200	<0.000200	---	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Cobalt	Water	mg/L	<0.000500	<0.000500	---	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Lead	Water	mg/L	<0.00100	<0.00100	---	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Lithium	Water	mg/L	1.05	1.04	0.96	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Molybdenum	Water	mg/L	<0.00500	<0.00500	---	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Selenium	Water	mg/L	<0.00500	<0.00500	---	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Thallium	Water	mg/L	<0.00100	<0.00100	---	Pass
180-100262-1	SSP/AP MW-1	Dup 2	Mercury	Water	mg/L	<0.200	<0.200	---	Pass

## Laboratory Data Packages





## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

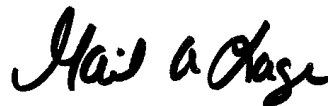
Laboratory Job ID: 180-100175-1

Client Project/Site: AMEC CCR TMPA Gibbons Creek  
Sampling Event: CCR

**For:**

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

Attn: Greg Seifert



Authorized for release by:  
1/23/2020 9:39:51 PM

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

### LINKS

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

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

PA Lab ID: 02-00416



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions/Glossary . . . . .	4
Certification Summary . . . . .	5
Sample Summary . . . . .	6
Method Summary . . . . .	7
Lab Chronicle . . . . .	8
Client Sample Results . . . . .	12
QC Sample Results . . . . .	24
QC Association Summary . . . . .	26
Chain of Custody . . . . .	27
Receipt Checklists . . . . .	31



# Case Narrative

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

Job ID: 180-100175-1

## Job ID: 180-100175-1

### Laboratory: Eurofins TestAmerica, Pittsburgh

#### Narrative

#### Job Narrative 180-100175-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/18/2019 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.4° C, 1.6° C and 1.7° C.

#### RAD

Methods 903.0, 9315: Ra-226 Prep Batch 160-455297

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

SFL MW-3 (180-100175-1), SFL MW-7 (180-100175-2), SFL MW-6 (180-100175-3), SFL MW-5 (180-100175-4), SFL MW-2 (180-100175-5), SFL MW-4 (180-100175-6), MNW-15 (180-100175-7), MNW-15 (180-100175-7[MS]), MNW-15 (180-100175-7[MSD]), MNW-18 (180-100175-8), AP MW-3 (180-100175-9), Dup 1 (180-100175-10), EQBK-SCM-121719 (180-100175-11), EQBK-GG-121719 (180-100175-12), (LCS 160-455297/1-A) and (MB 160-455297/22-A)

Methods 904.0, 9320: Radium-228 Prep Batch 160-455299

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

SFL MW-3 (180-100175-1), SFL MW-7 (180-100175-2), SFL MW-6 (180-100175-3), SFL MW-5 (180-100175-4), SFL MW-2 (180-100175-5), SFL MW-4 (180-100175-6), MNW-15 (180-100175-7), MNW-15 (180-100175-7[MS]), MNW-15 (180-100175-7[MSD]), MNW-18 (180-100175-8), AP MW-3 (180-100175-9), Dup 1 (180-100175-10), EQBK-SCM-121719 (180-100175-11), EQBK-GG-121719 (180-100175-12), (LCS 160-455299/1-A) and (MB 160-455299/22-A)

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

# Definitions/Glossary

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

Job ID: 180-100175-1

## Qualifiers

### Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

## Glossary

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



# Accreditation/Certification Summary

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

Job ID: 180-100175-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

## Laboratory: Eurofins TestAmerica, Nashville

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0473	05-05-14 *

## Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-20
California	Los Angeles County Sanitation Districts	10259	06-30-20
California	State	2886	06-30-20
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-20
HI - RadChem Recognition	State	n/a	06-30-20
Illinois	NELAP	004553	11-30-19 *
Iowa	State	373	09-17-20
Kansas	NELAP	E-10236	10-31-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	06-30-20
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-20
MI - RadChem Recognition	State	9005	06-30-20
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-20
New Jersey	NELAP	MO002	06-30-20
New York	NELAP	11616	04-01-20
North Dakota	State	R-207	06-30-20
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-20
Pennsylvania	NELAP	68-00540	02-28-20
South Carolina	State	85002001	06-30-20
Texas	NELAP	T104704193-19-13	07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00028	02-02-20
Utah	NELAP	MO000542019-11	07-31-20
Virginia	NELAP	10310	06-14-20
Washington	State	C592	08-30-20
West Virginia DEP	State	381	10-31-20

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

# Sample Summary

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

Job ID: 180-100175-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-100175-1	SFL MW-3	Water	12/17/19 09:35	12/18/19 10:30	
180-100175-2	SFL MW-7	Water	12/17/19 10:45	12/18/19 10:30	
180-100175-3	SFL MW-6	Water	12/17/19 12:00	12/18/19 10:30	
180-100175-4	SFL MW-5	Water	12/17/19 13:00	12/18/19 10:30	
180-100175-5	SFL MW-2	Water	12/17/19 14:00	12/18/19 10:30	
180-100175-6	SFL MW-4	Water	12/17/19 10:05	12/18/19 10:30	
180-100175-7	MNW-15	Water	12/17/19 11:55	12/18/19 10:30	
180-100175-8	MNW-18	Water	12/17/19 13:45	12/18/19 10:30	
180-100175-9	AP MW-3	Water	12/17/19 15:25	12/18/19 10:30	
180-100175-10	Dup 1	Water	12/17/19 15:00	12/18/19 10:30	
180-100175-11	EQBK-SCM-121719	Water	12/17/19 15:00	12/18/19 10:30	
180-100175-12	EQBK-GG-121719	Water	12/17/19 15:40	12/18/19 10:30	



# Method Summary

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

Job ID: 180-100175-1

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 = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



# Lab Chronicle

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

Job ID: 180-100175-1

## Client Sample ID: SFL MW-3

## Lab Sample ID: 180-100175-1

Date Collected: 12/17/19 09:35

Matrix: Water

Date Received: 12/18/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.5 mL	1.0 g	455297	12/26/19 11:30	MNH	TAL SL
Total/NA	Analysis	903.0		1			457241	01/17/20 11:38	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.5 mL	1.0 g	455299	12/26/19 11:59	MNH	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	456366	01/09/20 15:42	AJD	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			457410	01/21/20 08:07	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SFL MW-7

## Lab Sample ID: 180-100175-2

Date Collected: 12/17/19 10:45

Matrix: Water

Date Received: 12/18/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.8 mL	1.0 g	455297	12/26/19 11:30	MNH	TAL SL
Total/NA	Analysis	903.0		1			457241	01/17/20 11:54	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.8 mL	1.0 g	455299	12/26/19 11:59	MNH	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	456366	01/09/20 15:42	AJD	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			457410	01/21/20 08:07	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SFL MW-6

## Lab Sample ID: 180-100175-3

Date Collected: 12/17/19 12:00

Matrix: Water

Date Received: 12/18/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.2 mL	1.0 g	455297	12/26/19 11:30	MNH	TAL SL
Total/NA	Analysis	903.0		1			457241	01/17/20 11:38	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.2 mL	1.0 g	455299	12/26/19 11:59	MNH	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	456366	01/09/20 15:45	AJD	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			457410	01/21/20 08:07	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SFL MW-5

## Lab Sample ID: 180-100175-4

Date Collected: 12/17/19 13:00

Matrix: Water

Date Received: 12/18/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.6 mL	1.0 g	455297	12/26/19 11:30	MNH	TAL SL
Total/NA	Analysis	903.0		1			457241	01/17/20 11:39	CJQ	TAL SL
Instrument ID: GFPCBLUE										

Eurofins TestAmerica, Pittsburgh



# Lab Chronicle

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

Job ID: 180-100175-1

## Client Sample ID: SFL MW-5

Lab Sample ID: 180-100175-4

Date Collected: 12/17/19 13:00

Matrix: Water

Date Received: 12/18/19 10:30

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			999.6 mL	1.0 g	455299	12/26/19 11:59	MNH	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	456366	01/09/20 15:43	AJD	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			457410	01/21/20 08:07	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SFL MW-2

Lab Sample ID: 180-100175-5

Date Collected: 12/17/19 14:00

Matrix: Water

Date Received: 12/18/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.0 mL	1.0 g	455297	12/26/19 11:30	MNH	TAL SL
Total/NA	Analysis	903.0		1			457241	01/17/20 11:39	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.0 mL	1.0 g	455299	12/26/19 11:59	MNH	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	456366	01/09/20 15:43	AJD	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			457410	01/21/20 08:07	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SFL MW-4

Lab Sample ID: 180-100175-6

Date Collected: 12/17/19 10:05

Matrix: Water

Date Received: 12/18/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.2 mL	1.0 g	455297	12/26/19 11:30	MNH	TAL SL
Total/NA	Analysis	903.0		1			457241	01/17/20 11:39	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.2 mL	1.0 g	455299	12/26/19 11:59	MNH	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	456366	01/09/20 15:43	AJD	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			457410	01/21/20 08:07	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MNW-15

Lab Sample ID: 180-100175-7

Date Collected: 12/17/19 11:55

Matrix: Water

Date Received: 12/18/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.2 mL	1.0 g	455297	12/26/19 11:30	MNH	TAL SL
Total/NA	Analysis	903.0		1			457241	01/17/20 11:39	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.2 mL	1.0 g	455299	12/26/19 11:59	MNH	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	456366	01/09/20 15:44	AJD	TAL SL
Instrument ID: GFPCPURPLE										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-100175-1

## Client Sample ID: MNW-15

Date Collected: 12/17/19 11:55

Date Received: 12/18/19 10:30

## Lab Sample ID: 180-100175-7

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	Ra226_Ra228		1			457410	01/21/20 08:07	SMP	TAL SL

## Client Sample ID: MNW-18

Date Collected: 12/17/19 13:45

Date Received: 12/18/19 10:30

## Lab Sample ID: 180-100175-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.8 mL	1.0 g	455297	12/26/19 11:30	MNH	TAL SL
Total/NA	Analysis	903.0		1			457223	01/19/20 18:01	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.8 mL	1.0 g	455299	12/26/19 11:59	MNH	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	456370	01/09/20 15:48	KLS	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			457410	01/21/20 08:07	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP MW-3

Date Collected: 12/17/19 15:25

Date Received: 12/18/19 10:30

## Lab Sample ID: 180-100175-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.6 mL	1.0 g	455297	12/26/19 11:30	MNH	TAL SL
Total/NA	Analysis	903.0		1			457223	01/19/20 18:01	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.6 mL	1.0 g	455299	12/26/19 11:59	MNH	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	456370	01/09/20 15:48	KLS	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			457410	01/21/20 08:07	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: Dup 1

Date Collected: 12/17/19 15:00

Date Received: 12/18/19 10:30

## Lab Sample ID: 180-100175-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.3 mL	1.0 g	455297	12/26/19 11:30	MNH	TAL SL
Total/NA	Analysis	903.0		1			457223	01/19/20 18:01	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.3 mL	1.0 g	455299	12/26/19 11:59	MNH	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	456370	01/09/20 15:49	KLS	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			457410	01/21/20 08:07	SMP	TAL SL
Instrument ID: NOEQUIP										

# Lab Chronicle

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

Job ID: 180-100175-1

**Client Sample ID: EQBK-SCM-121719**

**Lab Sample ID: 180-100175-11**

**Date Collected: 12/17/19 15:00**

**Matrix: Water**

**Date Received: 12/18/19 10:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.6 mL	1.0 g	455297	12/26/19 11:30	MNH	TAL SL
Total/NA	Analysis	903.0		1			457223	01/19/20 18:02	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.6 mL	1.0 g	455299	12/26/19 11:59	MNH	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	456370	01/09/20 15:49	KLS	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			457410	01/21/20 08:07	SMP	TAL SL
Instrument ID: NOEQUIP										

**Client Sample ID: EQBK-GG-121719**

**Lab Sample ID: 180-100175-12**

**Date Collected: 12/17/19 15:40**

**Matrix: Water**

**Date Received: 12/18/19 10:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.1 mL	1.0 g	455297	12/26/19 11:30	MNH	TAL SL
Total/NA	Analysis	903.0		1			457223	01/19/20 18:02	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.1 mL	1.0 g	455299	12/26/19 11:59	MNH	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	456370	01/09/20 15:49	KLS	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			457410	01/21/20 08:07	SMP	TAL SL
Instrument ID: NOEQUIP										

**Laboratory References:**

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

**Analyst References:**

Lab: TAL SL

Batch Type: Prep

MNH = Molly Howard

Batch Type: Analysis

AJD = Audra DeMariano

CJQ = Caleb Quinn

KLS = Kody Saulters

SMP = Siobhan Perry



# Client Sample Results

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

Job ID: 180-100175-1

**Client Sample ID: SFL MW-3**

**Lab Sample ID: 180-100175-1**

Date Collected: 12/17/19 09:35

Matrix: Water

Date Received: 12/18/19 10:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.07		0.171	0.197	1.00	0.0918	pCi/L	12/26/19 11:30	01/17/20 11:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	108		40 - 110					12/26/19 11:30	01/17/20 11:38	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	2.67		0.369	0.443	1.00	0.351	pCi/L	12/26/19 11:59	01/09/20 15:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	108		40 - 110					12/26/19 11:59	01/09/20 15:42	1
Y Carrier	90.5		40 - 110					12/26/19 11:59	01/09/20 15:42	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	3.74		0.407	0.485	3.50	0.351	pCi/L		01/21/20 08:07	1

# Client Sample Results

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

Job ID: 180-100175-1

**Client Sample ID: SFL MW-7**

**Lab Sample ID: 180-100175-2**

Date Collected: 12/17/19 10:45

Matrix: Water

Date Received: 12/18/19 10:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.410</b>		0.121	0.127	1.00	0.108	pCi/L	12/26/19 11:30	01/17/20 11:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.4		40 - 110					12/26/19 11:30	01/17/20 11:54	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>1.55</b>		0.322	0.352	1.00	0.359	pCi/L	12/26/19 11:59	01/09/20 15:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.4		40 - 110					12/26/19 11:59	01/09/20 15:42	1
Y Carrier	89.3		40 - 110					12/26/19 11:59	01/09/20 15:42	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
<b>Combined Radium 226 + 228</b>	<b>1.96</b>		0.344	0.374	3.50	0.359	pCi/L		01/21/20 08:07	1

# Client Sample Results

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

Job ID: 180-100175-1

**Client Sample ID: SFL MW-6**

**Lab Sample ID: 180-100175-3**

Date Collected: 12/17/19 12:00

Matrix: Water

Date Received: 12/18/19 10:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.20		0.351	0.515	1.00	0.106	pCi/L	12/26/19 11:30	01/17/20 11:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					12/26/19 11:30	01/17/20 11:38	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	24.1		0.989	2.43	1.00	0.367	pCi/L	12/26/19 11:59	01/09/20 15:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					12/26/19 11:59	01/09/20 15:45	1
Y Carrier	89.6		40 - 110					12/26/19 11:59	01/09/20 15:45	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	28.3		1.05	2.48	3.50	0.367	pCi/L		01/21/20 08:07	1



# Client Sample Results

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

Job ID: 180-100175-1

**Client Sample ID: SFL MW-5**

**Lab Sample ID: 180-100175-4**

Date Collected: 12/17/19 13:00

Matrix: Water

Date Received: 12/18/19 10:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>2.84</b>		0.281	0.380	1.00	0.100	pCi/L	12/26/19 11:30	01/17/20 11:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					12/26/19 11:30	01/17/20 11:39	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>9.25</b>		0.630	1.06	1.00	0.361	pCi/L	12/26/19 11:59	01/09/20 15:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					12/26/19 11:59	01/09/20 15:43	1
Y Carrier	89.3		40 - 110					12/26/19 11:59	01/09/20 15:43	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
<b>Combined Radium 226 + 228</b>	<b>12.1</b>		0.690	1.13	3.50	0.361	pCi/L		01/21/20 08:07	1

# Client Sample Results

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

Job ID: 180-100175-1

**Client Sample ID: SFL MW-2**

**Lab Sample ID: 180-100175-5**

Date Collected: 12/17/19 14:00

Matrix: Water

Date Received: 12/18/19 10:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.48		0.216	0.254	1.00	0.132	pCi/L	12/26/19 11:30	01/17/20 11:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					12/26/19 11:30	01/17/20 11:39	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	5.05		0.505	0.686	1.00	0.341	pCi/L	12/26/19 11:59	01/09/20 15:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					12/26/19 11:59	01/09/20 15:43	1
Y Carrier	88.1		40 - 110					12/26/19 11:59	01/09/20 15:43	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.53		0.549	0.732	3.50	0.341	pCi/L		01/21/20 08:07	1

# Client Sample Results

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

Job ID: 180-100175-1

**Client Sample ID: SFL MW-4**

**Lab Sample ID: 180-100175-6**

Date Collected: 12/17/19 10:05

Matrix: Water

Date Received: 12/18/19 10:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.377		0.115	0.120	1.00	0.0986	pCi/L	12/26/19 11:30	01/17/20 11:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					12/26/19 11:30	01/17/20 11:39	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	0.907		0.265	0.278	1.00	0.336	pCi/L	12/26/19 11:59	01/09/20 15:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					12/26/19 11:59	01/09/20 15:43	1
Y Carrier	87.8		40 - 110					12/26/19 11:59	01/09/20 15:43	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.28		0.289	0.303	3.50	0.336	pCi/L		01/21/20 08:07	1



# Client Sample Results

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

Job ID: 180-100175-1

**Client Sample ID: MNW-15**

**Lab Sample ID: 180-100175-7**

Date Collected: 12/17/19 11:55

Matrix: Water

Date Received: 12/18/19 10:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0811	U	0.0803	0.0807	1.00	0.127	pCi/L	12/26/19 11:30	01/17/20 11:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.9		40 - 110					12/26/19 11:30	01/17/20 11:39	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	0.333	U	0.262	0.264	1.00	0.417	pCi/L	12/26/19 11:59	01/09/20 15:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.9		40 - 110					12/26/19 11:59	01/09/20 15:44	1
Y Carrier	89.3		40 - 110					12/26/19 11:59	01/09/20 15:44	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	0.414	U	0.274	0.276	3.50	0.417	pCi/L		01/21/20 08:07	1

# Client Sample Results

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

Job ID: 180-100175-1

**Client Sample ID: MNW-18**

**Lab Sample ID: 180-100175-8**

Date Collected: 12/17/19 13:45

Matrix: Water

Date Received: 12/18/19 10:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.235		0.0971	0.0993	1.00	0.113	pCi/L	12/26/19 11:30	01/19/20 18:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.8		40 - 110					12/26/19 11:30	01/19/20 18:01	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	0.427	U	0.278	0.281	1.00	0.432	pCi/L	12/26/19 11:59	01/09/20 15:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.8		40 - 110					12/26/19 11:59	01/09/20 15:48	1
Y Carrier	88.7		40 - 110					12/26/19 11:59	01/09/20 15:48	1

## Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.662		0.294	0.298	3.50	0.432	pCi/L		01/21/20 08:07	1

# Client Sample Results

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

Job ID: 180-100175-1

**Client Sample ID: AP MW-3**

**Lab Sample ID: 180-100175-9**

Date Collected: 12/17/19 15:25

Matrix: Water

Date Received: 12/18/19 10:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.192</b>		0.0820	0.0838	1.00	0.0859	pCi/L	12/26/19 11:30	01/19/20 18:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.9		40 - 110					12/26/19 11:30	01/19/20 18:01	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>1.98</b>		0.400	0.439	1.00	0.487	pCi/L	12/26/19 11:59	01/09/20 15:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.9		40 - 110					12/26/19 11:59	01/09/20 15:48	1
Y Carrier	88.7		40 - 110					12/26/19 11:59	01/09/20 15:48	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Combined Radium 226 + 228</b>	<b>2.17</b>		0.408	0.447	3.50	0.487	pCi/L		01/21/20 08:07	1



# Client Sample Results

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

Job ID: 180-100175-1

**Client Sample ID: Dup 1**

**Lab Sample ID: 180-100175-10**

Date Collected: 12/17/19 15:00

Matrix: Water

Date Received: 12/18/19 10:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>1.11</b>		0.171	0.198	1.00	0.0752	pCi/L	12/26/19 11:30	01/19/20 18:01	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	105		40 - 110					12/26/19 11:30	01/19/20 18:01	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>3.19</b>		0.406	0.501	1.00	0.363	pCi/L	12/26/19 11:59	01/09/20 15:49	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	105		40 - 110					12/26/19 11:59	01/09/20 15:49	1
Y Carrier	90.8		40 - 110					12/26/19 11:59	01/09/20 15:49	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
<b>Combined Radium 226 + 228</b>	<b>4.30</b>		0.441	0.539	3.50	0.363	pCi/L		01/21/20 08:07	1

# Client Sample Results

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

Job ID: 180-100175-1

**Client Sample ID: EQBK-SCM-121719**

**Lab Sample ID: 180-100175-11**

Date Collected: 12/17/19 15:00

Matrix: Water

Date Received: 12/18/19 10:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0191	U	0.0687	0.0687	1.00	0.127	pCi/L	12/26/19 11:30	01/19/20 18:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	109		40 - 110					12/26/19 11:30	01/19/20 18:02	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	0.0735	U	0.202	0.202	1.00	0.349	pCi/L	12/26/19 11:59	01/09/20 15:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	109		40 - 110					12/26/19 11:59	01/09/20 15:49	1
Y Carrier	89.3		40 - 110					12/26/19 11:59	01/09/20 15:49	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	0.0926	U	0.213	0.213	3.50	0.349	pCi/L		01/21/20 08:07	1

# Client Sample Results

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

Job ID: 180-100175-1

**Client Sample ID: EQBK-GG-121719**

**Lab Sample ID: 180-100175-12**

Date Collected: 12/17/19 15:40

Matrix: Water

Date Received: 12/18/19 10:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00728	U	0.0439	0.0439	1.00	0.0870	pCi/L	12/26/19 11:30	01/19/20 18:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					12/26/19 11:30	01/19/20 18:02	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	0.349	U	0.255	0.257	1.00	0.403	pCi/L	12/26/19 11:59	01/09/20 15:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					12/26/19 11:59	01/09/20 15:49	1
Y Carrier	90.5		40 - 110					12/26/19 11:59	01/09/20 15:49	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	0.356	U	0.259	0.261	3.50	0.403	pCi/L		01/21/20 08:07	1



# QC Sample Results

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

Job ID: 180-100175-1

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

**Lab Sample ID: MB 160-455297/22-A**  
**Matrix: Water**  
**Analysis Batch: 457223**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 455297**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.06202	U	0.0621	0.0624	1.00	0.0973	pCi/L	12/26/19 11:30	01/19/20 18:02	1
Carrier	MB MB		Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	%Yield	Qualifier	40 - 110					12/26/19 11:30	01/19/20 18:02	1

**Lab Sample ID: LCS 160-455297/1-A**  
**Matrix: Water**  
**Analysis Batch: 457241**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 455297**

Analyte	Spike Added	LCS LCS		Total	RL	MDC	Unit	%Rec	%Rec. Limits
		Result	Qual	Uncert. (2σ+/-)					
Radium-226	11.3	10.14		1.05	1.00	0.102	pCi/L	89	75 - 125
Carrier	LCS	LCS	Limits						
Ba Carrier	%Yield	Qualifier	40 - 110						

**Lab Sample ID: 180-100175-7 MS**  
**Matrix: Water**  
**Analysis Batch: 457241**

**Client Sample ID: MNW-15**  
**Prep Type: Total/NA**  
**Prep Batch: 455297**

Analyte	Sample Sample		Spike Added	MS MS		Total	RL	MDC	Unit	%Rec	%Rec. Limits
	Result	Qual		Result	Qual	Uncert. (2σ+/-)					
Radium-226	0.0811	U	11.3	11.26		1.17	1.00	0.127	pCi/L	99	75 - 138
Carrier	MS	MS	Limits								
Ba Carrier	%Yield	Qualifier	40 - 110								

**Lab Sample ID: 180-100175-7 MSD**  
**Matrix: Water**  
**Analysis Batch: 457223**

**Client Sample ID: MNW-15**  
**Prep Type: Total/NA**  
**Prep Batch: 455297**

Analyte	Sample Sample		Spike Added	MSD MSD		Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
	Result	Qual		Result	Qual	Uncert. (2σ+/-)							
Radium-226	0.0811	U	11.4	10.02		1.04	1.00	0.109	pCi/L	87	75 - 138	0.56	1
Carrier	MSD	MSD	Limits										
Ba Carrier	%Yield	Qualifier	40 - 110										

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

**Lab Sample ID: MB 160-455299/22-A**  
**Matrix: Water**  
**Analysis Batch: 456370**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 455299**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	-0.03171	U	0.229	0.229	1.00	0.411	pCi/L	12/26/19 11:59	01/09/20 15:49	1

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# QC Sample Results

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

Job ID: 180-100175-1

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

Carrier	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Yield	Qualifier				
Ba Carrier	106		40 - 110	12/26/19 11:59	01/09/20 15:49	1
Y Carrier	90.2		40 - 110	12/26/19 11:59	01/09/20 15:49	1

Lab Sample ID: LCS 160-455299/1-A  
 Matrix: Water  
 Analysis Batch: 456366

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 455299

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits

Carrier	LCS LCS		Limits
	%Yield	Qualifier	
Ba Carrier	107		40 - 110
Y Carrier	88.1		40 - 110

Lab Sample ID: 180-100175-7 MS  
 Matrix: Water  
 Analysis Batch: 456370

Client Sample ID: MNW-15  
 Prep Type: Total/NA  
 Prep Batch: 455299

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits

Carrier	MS MS		Limits
	%Yield	Qualifier	
Ba Carrier	101		40 - 110
Y Carrier	89.0		40 - 110

Lab Sample ID: 180-100175-7 MSD  
 Matrix: Water  
 Analysis Batch: 456370

Client Sample ID: MNW-15  
 Prep Type: Total/NA  
 Prep Batch: 455299

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit

Carrier	MSD MSD		Limits
	%Yield	Qualifier	
Ba Carrier	99.7		40 - 110
Y Carrier	89.9		40 - 110

# QC Association Summary

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

Job ID: 180-100175-1

## Rad

### Prep Batch: 455297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100175-1	SFL MW-3	Total/NA	Water	PrecSep-21	
180-100175-2	SFL MW-7	Total/NA	Water	PrecSep-21	
180-100175-3	SFL MW-6	Total/NA	Water	PrecSep-21	
180-100175-4	SFL MW-5	Total/NA	Water	PrecSep-21	
180-100175-5	SFL MW-2	Total/NA	Water	PrecSep-21	
180-100175-6	SFL MW-4	Total/NA	Water	PrecSep-21	
180-100175-7	MNW-15	Total/NA	Water	PrecSep-21	
180-100175-8	MNW-18	Total/NA	Water	PrecSep-21	
180-100175-9	AP MW-3	Total/NA	Water	PrecSep-21	
180-100175-10	Dup 1	Total/NA	Water	PrecSep-21	
180-100175-11	EQBK-SCM-121719	Total/NA	Water	PrecSep-21	
180-100175-12	EQBK-GG-121719	Total/NA	Water	PrecSep-21	
MB 160-455297/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-455297/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
180-100175-7 MS	MNW-15	Total/NA	Water	PrecSep-21	
180-100175-7 MSD	MNW-15	Total/NA	Water	PrecSep-21	

### Prep Batch: 455299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100175-1	SFL MW-3	Total/NA	Water	PrecSep_0	
180-100175-2	SFL MW-7	Total/NA	Water	PrecSep_0	
180-100175-3	SFL MW-6	Total/NA	Water	PrecSep_0	
180-100175-4	SFL MW-5	Total/NA	Water	PrecSep_0	
180-100175-5	SFL MW-2	Total/NA	Water	PrecSep_0	
180-100175-6	SFL MW-4	Total/NA	Water	PrecSep_0	
180-100175-7	MNW-15	Total/NA	Water	PrecSep_0	
180-100175-8	MNW-18	Total/NA	Water	PrecSep_0	
180-100175-9	AP MW-3	Total/NA	Water	PrecSep_0	
180-100175-10	Dup 1	Total/NA	Water	PrecSep_0	
180-100175-11	EQBK-SCM-121719	Total/NA	Water	PrecSep_0	
180-100175-12	EQBK-GG-121719	Total/NA	Water	PrecSep_0	
MB 160-455299/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-455299/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
180-100175-7 MS	MNW-15	Total/NA	Water	PrecSep_0	
180-100175-7 MSD	MNW-15	Total/NA	Water	PrecSep_0	



**Eurofins TestAmerica, Pittsburgh**

301 Alpha Drive RIDC Park  
 Pittsburgh, PA 15238  
 Phone: 412-963-7058 Fax: 412-963-2468

**Chain of Custody Record**

<b>Client Information</b>		Sampler: <i>Samuel Moran / Grace Grapes</i>		Lab PM: Lage, Gail		Carrier Tracking No(s):		COC No: 490-104350-24093.1	
Client Contact: Greg Seifert		Phone: 512-413-3876		E-Mail: gail.lage@testamericainc.com				Page: Page 1 of 2	
Company: Wood E&I Solutions Inc		Due Date Requested:		Analysis Requested 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		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)	
Address: 3755 South Capital of Texas Highway Suite 375		TAT Requested (days):							
City: Austin		PO #: Purchase Order Requested							
State, Zip: TX, 78704		WO #:							
Phone:		Project #: 49013510							
Email: greg.seifert@woodplc.com		SSOW#:							
Project Name: CCR TMPA Gibbons Creek/ Event Desc: CCR									
Site: Texas									
<b>Sample Identification</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (C=comp, G=grab)</b>		<b>Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)</b>	
								Preservation Code:	
<i>SFL MW-3</i>		<i>12-17-19</i>		<i>0935</i>		<i>G</i>		<i>Water</i>	
<i>SFL MW-7</i>				<i>1045</i>				<i>Water</i>	
<i>SFL MW-6</i>				<i>1200</i>				<i>Water</i>	
<i>SFL MW-5</i>				<i>1300</i>				<i>Water</i>	
<i>SFL MW-2</i>				<i>1400</i>				<i>Water</i>	
<i>SFL MW-4</i>				<i>1005</i>				<i>Water</i>	
<i>MNW-15</i>				<i>1155</i>				<i>Water</i>	
<i>MNW-18</i>				<i>1345</i>				<i>Water</i>	
<i>AP MW-3</i>				<i>1525</i>				<i>Water</i>	
<i>EQBK-SCM-121719</i>				<i>1500</i>				<i>Water</i>	
<i>EQBK-GG-121719</i>				<i>1540</i>				<i>Water</i>	
<b>Possible Hazard Identification</b>					<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b>				
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> 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: <i>Samuel C. Moran / Samuel C. Moran</i>		Date/Time: <i>12-17-19 1700</i>		Company: <i>Wood</i>		Received by: <i>Debbie Winters</i>		Date/Time: <i>12-18-19 10:30</i>	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:					



Page 27 of 32

1/23/2020







**Eurofins TestAmerica, Pittsburgh**

301 Alpha Drive RIDC Park  
 Pittsburgh, PA 15238  
 Phone: 412-963-7058 Fax: 412-963-2468

**Chain of Custody Record**



Environment Testing  
 TestAmerica

<b>Client Information (Sub Contract Lab)</b>		Sampler: Lage, Gail		Lab PM: Lage, Gail		Carrier Tracking No(s):		COC No: 180-381361.1																																														
Client Contact: Shipping/Receiving		Phone:		E-Mail: gail.lage@testamericainc.com		State of Origin: Texas		Page: Page 1 of 2																																														
Company: TestAmerica Laboratories, Inc.				Accreditations Required (See note): NELAP - Texas				Job #: 180-100175-1																																														
Address: 13715 Rider Trail North, City: Earth City State, Zip: MO, 63045		Due Date Requested: 1/21/2020		<table border="1"> <thead> <tr> <th colspan="10">Analysis Requested</th> </tr> <tr> <th>Field Filtered Sample (Yes or No)</th> <th>Perform MS/MSD (Yes or No)</th> <th>904.0/PrecSep_0 Standard Target List</th> <th>903.0/PrecSep_21 Standard Target List</th> <th>Raz26Ra228_GFPC</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Total Number of containers</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						Analysis Requested										Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0/PrecSep_0 Standard Target List	903.0/PrecSep_21 Standard Target List	Raz26Ra228_GFPC						Total Number of containers																							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)	
Analysis Requested																																																						
Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0/PrecSep_0 Standard Target List	903.0/PrecSep_21 Standard Target List							Raz26Ra228_GFPC						Total Number of containers																																						
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# Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-100175-1

**Login Number: 100175**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

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



# Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-100175-1

**Login Number: 100175**

**List Number: 2**

**Creator: Hellm, Michael**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 12/24/19 11:16 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	22.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

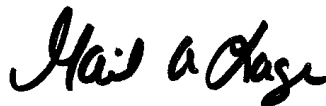
Laboratory Job ID: 180-100175-2

Client Project/Site: AMEC CCR TMPA Gibbons Creek  
Sampling Event: CCR

**For:**

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

Attn: Greg Seifert



Authorized for release by:  
1/7/2020 1:07:48 PM

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

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

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

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

PA Lab ID: 02-00416

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions/Glossary . . . . .	4
Certification Summary . . . . .	5
Sample Summary . . . . .	6
Method Summary . . . . .	7
Lab Chronicle . . . . .	8
Client Sample Results . . . . .	12
QC Sample Results . . . . .	24
QC Association Summary . . . . .	27
Chain of Custody . . . . .	30
Receipt Checklists . . . . .	32



# Case Narrative

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

Job ID: 180-100175-2

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## Job ID: 180-100175-2

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Laboratory: Eurofins TestAmerica, Pittsburgh

### Narrative

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#### Job Narrative 180-100175-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/18/2019 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.4° C, 1.6° C and 1.7° C.

#### GC Semi VOA

Method 9056A: The following samples were diluted due to the abundance of non-target analytes: SFL MW-3 (180-100175-1), SFL MW-7 (180-100175-2), SFL MW-4 (180-100175-6) and MNW-15 (180-100175-7). Elevated reporting limits (RLs) are provided.

Method 9056A: The following samples were diluted due to the abundance of non-target analytes: SFL MW-6 (180-100175-3), SFL MW-5 (180-100175-4) and SFL MW-2 (180-100175-5). Elevated reporting limits (RLs) are provided.

Method 9056A: The following samples were diluted due to the abundance of non-target analytes: MNW-15 (180-100175-7) and Dup 1 (180-100175-10). 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 7470A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 180-302437 and analytical batch 180-302485 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. A post digestion spike (PDS) was prepared and analyzed to confirm.

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





# Definitions/Glossary

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

Job ID: 180-100175-2

## Qualifiers

### Metals

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

## Glossary

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

# Accreditation/Certification Summary

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

Job ID: 180-100175-2

## Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

## Laboratory: Eurofins TestAmerica, Nashville

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

Authority	Program	Identification Number	Expiration Date
A2LA	ISO/IEC 17025	0453.07	12-31-19
Arizona	State Program	AZ0473	05-05-14 *
Georgia	State Program	NA: NELAP & A2LA	12-31-19

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



# Sample Summary

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

Job ID: 180-100175-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-100175-1	SFL MW-3	Water	12/17/19 09:35	12/18/19 10:30	
180-100175-2	SFL MW-7	Water	12/17/19 10:45	12/18/19 10:30	
180-100175-3	SFL MW-6	Water	12/17/19 12:00	12/18/19 10:30	
180-100175-4	SFL MW-5	Water	12/17/19 13:00	12/18/19 10:30	
180-100175-5	SFL MW-2	Water	12/17/19 14:00	12/18/19 10:30	
180-100175-6	SFL MW-4	Water	12/17/19 10:05	12/18/19 10:30	
180-100175-7	MNW-15	Water	12/17/19 11:55	12/18/19 10:30	
180-100175-8	MNW-18	Water	12/17/19 13:45	12/18/19 10:30	
180-100175-9	AP MW-3	Water	12/17/19 15:25	12/18/19 10:30	
180-100175-10	Dup 1	Water	12/17/19 15:00	12/18/19 10:30	
180-100175-11	EQBK-SCM-121719	Water	12/17/19 15:00	12/18/19 10:30	
180-100175-12	EQBK-GG-121719	Water	12/17/19 15:40	12/18/19 10:30	





# Method Summary

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

Job ID: 180-100175-2

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
EPA 6020A	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058



# Lab Chronicle

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

Job ID: 180-100175-2

## Client Sample ID: SFL MW-3

## Lab Sample ID: 180-100175-1

Date Collected: 12/17/19 09:35

Matrix: Water

Date Received: 12/18/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			302389	12/24/19 07:45	MJH	TAL PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	302449	12/24/19 10:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303043	12/31/19 00:17	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302437	12/24/19 10:10	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302485	12/24/19 15:20	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: SFL MW-7

## Lab Sample ID: 180-100175-2

Date Collected: 12/17/19 10:45

Matrix: Water

Date Received: 12/18/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			302389	12/24/19 08:16	MJH	TAL PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	302449	12/24/19 10:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303043	12/31/19 00:22	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302437	12/24/19 10:10	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302485	12/24/19 15:24	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: SFL MW-6

## Lab Sample ID: 180-100175-3

Date Collected: 12/17/19 12:00

Matrix: Water

Date Received: 12/18/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			302390	12/24/19 09:58	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302449	12/24/19 10:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303043	12/31/19 00:27	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302437	12/24/19 10:10	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302485	12/24/19 15:25	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: SFL MW-5

## Lab Sample ID: 180-100175-4

Date Collected: 12/17/19 13:00

Matrix: Water

Date Received: 12/18/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			302390	12/24/19 10:29	MJH	TAL PIT
Instrument ID: CHIC2100A										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-100175-2

## Client Sample ID: SFL MW-5

## Lab Sample ID: 180-100175-4

Date Collected: 12/17/19 13:00

Matrix: Water

Date Received: 12/18/19 10:30

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	302449	12/24/19 10:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303043	12/31/19 00:32	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302437	12/24/19 10:10	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302485	12/24/19 15:26	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: SFL MW-2

## Lab Sample ID: 180-100175-5

Date Collected: 12/17/19 14:00

Matrix: Water

Date Received: 12/18/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			302390	12/24/19 11:00	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302449	12/24/19 10:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303043	12/31/19 00:37	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302437	12/24/19 10:10	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302485	12/24/19 15:27	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: SFL MW-4

## Lab Sample ID: 180-100175-6

Date Collected: 12/17/19 10:05

Matrix: Water

Date Received: 12/18/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			302389	12/24/19 11:10	MJH	TAL PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	302449	12/24/19 10:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303043	12/31/19 00:52	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302437	12/24/19 10:10	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302485	12/24/19 15:28	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: MNW-15

## Lab Sample ID: 180-100175-7

Date Collected: 12/17/19 11:55

Matrix: Water

Date Received: 12/18/19 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5			302513	12/26/19 07:11	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302449	12/24/19 10:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303043	12/30/19 23:52	WTR	TAL PIT
Instrument ID: M										

Eurofins TestAmerica, Pittsburgh



# Lab Chronicle

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

Job ID: 180-100175-2

## Client Sample ID: MNW-15

Date Collected: 12/17/19 11:55

Date Received: 12/18/19 10:30

## Lab Sample ID: 180-100175-7

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	7470A			50 mL	50 mL	302437	12/24/19 10:10	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302485	12/24/19 15:29	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: MNW-18

Date Collected: 12/17/19 13:45

Date Received: 12/18/19 10:30

## Lab Sample ID: 180-100175-8

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	EPA 9056A		1			302513	12/26/19 08:12	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302449	12/24/19 10:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303043	12/31/19 00:57	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302437	12/24/19 10:10	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302485	12/24/19 15:32	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: AP MW-3

Date Collected: 12/17/19 15:25

Date Received: 12/18/19 10:30

## Lab Sample ID: 180-100175-9

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	EPA 9056A		1			302513	12/26/19 08:43	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302449	12/24/19 10:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303043	12/31/19 01:02	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302437	12/24/19 10:10	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302485	12/24/19 15:33	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: Dup 1

Date Collected: 12/17/19 15:00

Date Received: 12/18/19 10:30

## Lab Sample ID: 180-100175-10

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	EPA 9056A		5			302513	12/26/19 09:44	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302449	12/24/19 10:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303043	12/31/19 01:07	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302437	12/24/19 10:10	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302485	12/24/19 15:37	NAM	TAL PIT
Instrument ID: HGZ										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-100175-2

**Client Sample ID: EQBK-SCM-121719**

**Lab Sample ID: 180-100175-11**

**Date Collected: 12/17/19 15:00**

**Matrix: Water**

**Date Received: 12/18/19 10:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHIC2100A		1			302513	12/26/19 12:07	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	302449	12/24/19 10:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: M		1			303043	12/31/19 01:12	WTR	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	302437	12/24/19 10:10	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			302485	12/24/19 15:07	NAM	TAL PIT

**Client Sample ID: EQBK-GG-121719**

**Lab Sample ID: 180-100175-12**

**Date Collected: 12/17/19 15:40**

**Matrix: Water**

**Date Received: 12/18/19 10:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHIC2100A		1			302513	12/26/19 15:16	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	302449	12/24/19 10:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: M		1			303043	12/31/19 01:17	WTR	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	302437	12/24/19 10:10	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			302485	12/24/19 15:11	NAM	TAL PIT

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

**Analyst References:**

Lab: TAL PIT

Batch Type: Prep

JL = James Lyu

NAM = Nicole Marfisi

Batch Type: Analysis

MJH = Matthew Hartman

NAM = Nicole Marfisi

WTR = Bill Reinheimer

# Client Sample Results

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

Job ID: 180-100175-2

**Client Sample ID: SFL MW-3**

**Lab Sample ID: 180-100175-1**

Date Collected: 12/17/19 09:35

Matrix: Water

Date Received: 12/18/19 10:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.577		0.500		mg/L			12/24/19 07:45	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 00:17	1
Arsenic	0.00564		0.00100		mg/L		12/24/19 10:57	12/31/19 00:17	1
Barium	0.0136		0.0100		mg/L		12/24/19 10:57	12/31/19 00:17	1
Beryllium	0.0357		0.00100		mg/L		12/24/19 10:57	12/31/19 00:17	1
Cadmium	0.00690		0.00100		mg/L		12/24/19 10:57	12/31/19 00:17	1
Chromium	0.00240		0.00200		mg/L		12/24/19 10:57	12/31/19 00:17	1
Cobalt	0.0556		0.000500		mg/L		12/24/19 10:57	12/31/19 00:17	1
Lead	0.0192		0.00100		mg/L		12/24/19 10:57	12/31/19 00:17	1
Lithium	0.325		0.00500		mg/L		12/24/19 10:57	12/31/19 00:17	1
Molybdenum	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 00:17	1
Selenium	0.0188		0.00500		mg/L		12/24/19 10:57	12/31/19 00:17	1
Thallium	0.00634		0.00100		mg/L		12/24/19 10:57	12/31/19 00:17	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	2.73		0.200		ug/L		12/24/19 10:10	12/24/19 15:20	1



# Client Sample Results

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

Job ID: 180-100175-2

**Client Sample ID: SFL MW-7**

**Lab Sample ID: 180-100175-2**

**Date Collected: 12/17/19 10:45**

**Matrix: Water**

**Date Received: 12/18/19 10:30**

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.500		mg/L			12/24/19 08:16	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 00:22	1
Arsenic	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:22	1
<b>Barium</b>	<b>0.0370</b>		0.0100		mg/L		12/24/19 10:57	12/31/19 00:22	1
Beryllium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:22	1
Cadmium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:22	1
Chromium	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 00:22	1
Cobalt	ND		0.000500		mg/L		12/24/19 10:57	12/31/19 00:22	1
Lead	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:22	1
<b>Lithium</b>	<b>0.450</b>		0.00500		mg/L		12/24/19 10:57	12/31/19 00:22	1
Molybdenum	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 00:22	1
Selenium	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 00:22	1
Thallium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:22	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/24/19 10:10	12/24/19 15:24	1

# Client Sample Results

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

Job ID: 180-100175-2

**Client Sample ID: SFL MW-6**

**Lab Sample ID: 180-100175-3**

Date Collected: 12/17/19 12:00

Matrix: Water

Date Received: 12/18/19 10:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			12/24/19 09:58	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 00:27	1
<b>Arsenic</b>	<b>0.0165</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 00:27	1
<b>Barium</b>	<b>0.0247</b>		0.0100		mg/L		12/24/19 10:57	12/31/19 00:27	1
<b>Beryllium</b>	<b>0.0520</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 00:27	1
<b>Cadmium</b>	<b>0.0118</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 00:27	1
<b>Chromium</b>	<b>0.00797</b>		0.00200		mg/L		12/24/19 10:57	12/31/19 00:27	1
<b>Cobalt</b>	<b>0.104</b>		0.000500		mg/L		12/24/19 10:57	12/31/19 00:27	1
<b>Lead</b>	<b>0.0171</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 00:27	1
<b>Lithium</b>	<b>0.640</b>		0.00500		mg/L		12/24/19 10:57	12/31/19 00:27	1
Molybdenum	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 00:27	1
<b>Selenium</b>	<b>0.0525</b>		0.00500		mg/L		12/24/19 10:57	12/31/19 00:27	1
<b>Thallium</b>	<b>0.00410</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 00:27	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/24/19 10:10	12/24/19 15:25	1

# Client Sample Results

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

Job ID: 180-100175-2

**Client Sample ID: SFL MW-5**

**Lab Sample ID: 180-100175-4**

**Date Collected: 12/17/19 13:00**

**Matrix: Water**

**Date Received: 12/18/19 10:30**

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			12/24/19 10:29	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 00:32	1
<b>Arsenic</b>	<b>0.00234</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 00:32	1
<b>Barium</b>	<b>0.0209</b>		0.0100		mg/L		12/24/19 10:57	12/31/19 00:32	1
<b>Beryllium</b>	<b>0.0101</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 00:32	1
<b>Cadmium</b>	<b>0.00509</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 00:32	1
Chromium	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 00:32	1
<b>Cobalt</b>	<b>0.0453</b>		0.000500		mg/L		12/24/19 10:57	12/31/19 00:32	1
<b>Lead</b>	<b>0.00102</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 00:32	1
<b>Lithium</b>	<b>0.670</b>		0.00500		mg/L		12/24/19 10:57	12/31/19 00:32	1
Molybdenum	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 00:32	1
<b>Selenium</b>	<b>0.00989</b>		0.00500		mg/L		12/24/19 10:57	12/31/19 00:32	1
<b>Thallium</b>	<b>0.00136</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 00:32	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/24/19 10:10	12/24/19 15:26	1



# Client Sample Results

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

Job ID: 180-100175-2

**Client Sample ID: SFL MW-2**

**Lab Sample ID: 180-100175-5**

**Date Collected: 12/17/19 14:00**

**Matrix: Water**

**Date Received: 12/18/19 10:30**

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00		mg/L			12/24/19 11:00	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 00:37	1
<b>Arsenic</b>	<b>0.00151</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 00:37	1
<b>Barium</b>	<b>0.0235</b>		0.0100		mg/L		12/24/19 10:57	12/31/19 00:37	1
<b>Beryllium</b>	<b>0.00247</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 00:37	1
<b>Cadmium</b>	<b>0.00185</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 00:37	1
Chromium	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 00:37	1
<b>Cobalt</b>	<b>0.0136</b>		0.000500		mg/L		12/24/19 10:57	12/31/19 00:37	1
Lead	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:37	1
<b>Lithium</b>	<b>0.449</b>		0.00500		mg/L		12/24/19 10:57	12/31/19 00:37	1
Molybdenum	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 00:37	1
Selenium	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 00:37	1
Thallium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:37	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/24/19 10:10	12/24/19 15:27	1

# Client Sample Results

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

Job ID: 180-100175-2

**Client Sample ID: SFL MW-4**

**Lab Sample ID: 180-100175-6**

**Date Collected: 12/17/19 10:05**

**Matrix: Water**

**Date Received: 12/18/19 10:30**

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.500		mg/L			12/24/19 11:10	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 00:52	1
Arsenic	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:52	1
<b>Barium</b>	<b>0.0230</b>		0.0100		mg/L		12/24/19 10:57	12/31/19 00:52	1
Beryllium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:52	1
Cadmium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:52	1
Chromium	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 00:52	1
Cobalt	ND		0.000500		mg/L		12/24/19 10:57	12/31/19 00:52	1
Lead	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:52	1
<b>Lithium</b>	<b>0.418</b>		0.00500		mg/L		12/24/19 10:57	12/31/19 00:52	1
Molybdenum	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 00:52	1
Selenium	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 00:52	1
Thallium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:52	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/24/19 10:10	12/24/19 15:28	1

# Client Sample Results

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

Job ID: 180-100175-2

**Client Sample ID: MNW-15**

**Lab Sample ID: 180-100175-7**

Date Collected: 12/17/19 11:55

Matrix: Water

Date Received: 12/18/19 10:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.03		0.250		mg/L			12/26/19 07:11	2.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/24/19 10:57	12/30/19 23:52	1
Arsenic	0.0114		0.00100		mg/L		12/24/19 10:57	12/30/19 23:52	1
Barium	0.0160		0.0100		mg/L		12/24/19 10:57	12/30/19 23:52	1
Beryllium	0.0910		0.00100		mg/L		12/24/19 10:57	12/30/19 23:52	1
Cadmium	0.0313		0.00100		mg/L		12/24/19 10:57	12/30/19 23:52	1
Chromium	ND		0.00200		mg/L		12/24/19 10:57	12/30/19 23:52	1
Cobalt	0.300		0.000500		mg/L		12/24/19 10:57	12/30/19 23:52	1
Lead	ND		0.00100		mg/L		12/24/19 10:57	12/30/19 23:52	1
Lithium	0.108		0.00500		mg/L		12/24/19 10:57	12/30/19 23:52	1
Molybdenum	ND		0.00500		mg/L		12/24/19 10:57	12/30/19 23:52	1
Selenium	0.0345		0.00500		mg/L		12/24/19 10:57	12/30/19 23:52	1
Thallium	ND		0.00100		mg/L		12/24/19 10:57	12/30/19 23:52	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	F1	0.200		ug/L		12/24/19 10:10	12/24/19 15:29	1



# Client Sample Results

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

Job ID: 180-100175-2

**Client Sample ID: MNW-18**

**Lab Sample ID: 180-100175-8**

Date Collected: 12/17/19 13:45

Matrix: Water

Date Received: 12/18/19 10:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.138		0.100		mg/L			12/26/19 08:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 00:57	1
Arsenic	0.00161		0.00100		mg/L		12/24/19 10:57	12/31/19 00:57	1
Barium	0.0142		0.0100		mg/L		12/24/19 10:57	12/31/19 00:57	1
Beryllium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:57	1
Cadmium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:57	1
Chromium	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 00:57	1
Cobalt	ND		0.000500		mg/L		12/24/19 10:57	12/31/19 00:57	1
Lead	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:57	1
Lithium	0.197		0.00500		mg/L		12/24/19 10:57	12/31/19 00:57	1
Molybdenum	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 00:57	1
Selenium	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 00:57	1
Thallium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 00:57	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/24/19 10:10	12/24/19 15:32	1

# Client Sample Results

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

Job ID: 180-100175-2

**Client Sample ID: AP MW-3**

**Lab Sample ID: 180-100175-9**

Date Collected: 12/17/19 15:25

Matrix: Water

Date Received: 12/18/19 10:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.100		mg/L			12/26/19 08:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 01:02	1
Arsenic	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 01:02	1
<b>Barium</b>	<b>0.0243</b>		0.0100		mg/L		12/24/19 10:57	12/31/19 01:02	1
<b>Beryllium</b>	<b>0.00301</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 01:02	1
<b>Cadmium</b>	<b>0.00424</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 01:02	1
Chromium	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 01:02	1
<b>Cobalt</b>	<b>0.0306</b>		0.000500		mg/L		12/24/19 10:57	12/31/19 01:02	1
Lead	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 01:02	1
<b>Lithium</b>	<b>0.0546</b>		0.00500		mg/L		12/24/19 10:57	12/31/19 01:02	1
Molybdenum	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 01:02	1
Selenium	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 01:02	1
Thallium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 01:02	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/24/19 10:10	12/24/19 15:33	1

# Client Sample Results

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

Job ID: 180-100175-2

**Client Sample ID: Dup 1**

**Lab Sample ID: 180-100175-10**

**Date Collected: 12/17/19 15:00**

**Matrix: Water**

**Date Received: 12/18/19 10:30**

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.644		0.500		mg/L			12/26/19 09:44	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 01:07	1
Arsenic	0.00500		0.00100		mg/L		12/24/19 10:57	12/31/19 01:07	1
Barium	0.0127		0.0100		mg/L		12/24/19 10:57	12/31/19 01:07	1
Beryllium	0.0331		0.00100		mg/L		12/24/19 10:57	12/31/19 01:07	1
Cadmium	0.00692		0.00100		mg/L		12/24/19 10:57	12/31/19 01:07	1
Chromium	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 01:07	1
Cobalt	0.0542		0.000500		mg/L		12/24/19 10:57	12/31/19 01:07	1
Lead	0.0185		0.00100		mg/L		12/24/19 10:57	12/31/19 01:07	1
Lithium	0.317		0.00500		mg/L		12/24/19 10:57	12/31/19 01:07	1
Molybdenum	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 01:07	1
Selenium	0.0161		0.00500		mg/L		12/24/19 10:57	12/31/19 01:07	1
Thallium	0.00531		0.00100		mg/L		12/24/19 10:57	12/31/19 01:07	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	2.62		0.200		ug/L		12/24/19 10:10	12/24/19 15:37	1



# Client Sample Results

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

Job ID: 180-100175-2

**Client Sample ID: EQBK-SCM-121719**

**Lab Sample ID: 180-100175-11**

**Date Collected: 12/17/19 15:00**

**Matrix: Water**

**Date Received: 12/18/19 10:30**

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.100		mg/L			12/26/19 12:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 01:12	1
Arsenic	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 01:12	1
Barium	ND		0.0100		mg/L		12/24/19 10:57	12/31/19 01:12	1
Beryllium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 01:12	1
Cadmium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 01:12	1
Chromium	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 01:12	1
Cobalt	ND		0.000500		mg/L		12/24/19 10:57	12/31/19 01:12	1
Lead	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 01:12	1
Lithium	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 01:12	1
Molybdenum	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 01:12	1
Selenium	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 01:12	1
Thallium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 01:12	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/24/19 10:10	12/24/19 15:07	1

# Client Sample Results

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

Job ID: 180-100175-2

**Client Sample ID: EQBK-GG-121719**

**Lab Sample ID: 180-100175-12**

Date Collected: 12/17/19 15:40

Matrix: Water

Date Received: 12/18/19 10:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.100		mg/L			12/26/19 15:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/24/19 10:57	12/31/19 01:17	1
Arsenic	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 01:17	1
Barium	ND		0.0100		mg/L		12/24/19 10:57	12/31/19 01:17	1
Beryllium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 01:17	1
Cadmium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 01:17	1
<b>Chromium</b>	<b>0.00297</b>		0.00200		mg/L		12/24/19 10:57	12/31/19 01:17	1
Cobalt	ND		0.000500		mg/L		12/24/19 10:57	12/31/19 01:17	1
<b>Lead</b>	<b>0.00168</b>		0.00100		mg/L		12/24/19 10:57	12/31/19 01:17	1
Lithium	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 01:17	1
Molybdenum	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 01:17	1
Selenium	ND		0.00500		mg/L		12/24/19 10:57	12/31/19 01:17	1
Thallium	ND		0.00100		mg/L		12/24/19 10:57	12/31/19 01:17	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/24/19 10:10	12/24/19 15:11	1

# QC Sample Results

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

Job ID: 180-100175-2

## Method: EPA 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 180-302389/6**  
**Matrix: Water**  
**Analysis Batch: 302389**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.100		mg/L			12/24/19 05:37	1

**Lab Sample ID: LCS 180-302389/5**  
**Matrix: Water**  
**Analysis Batch: 302389**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.499		mg/L		100	80 - 120

**Lab Sample ID: MB 180-302390/6**  
**Matrix: Water**  
**Analysis Batch: 302390**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.100		mg/L			12/24/19 06:19	1

**Lab Sample ID: LCS 180-302390/5**  
**Matrix: Water**  
**Analysis Batch: 302390**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.25	1.305		mg/L		104	80 - 120

**Lab Sample ID: MB 180-302513/6**  
**Matrix: Water**  
**Analysis Batch: 302513**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.100		mg/L			12/26/19 06:40	1

**Lab Sample ID: LCS 180-302513/5**  
**Matrix: Water**  
**Analysis Batch: 302513**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.25	1.244		mg/L		99	80 - 120

**Lab Sample ID: 180-100175-7 MS**  
**Matrix: Water**  
**Analysis Batch: 302513**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND		31.3	31.00		mg/L		96	80 - 120

**Lab Sample ID: 180-100175-7 MSD**  
**Matrix: Water**  
**Analysis Batch: 302513**

**Client Sample ID: MNW-15**  
**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		31.3	30.65		mg/L		95	80 - 120	1	15

Eurofins TestAmerica, Pittsburgh



# QC Sample Results

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

Job ID: 180-100175-2

## Method: EPA 6020A - Metals (ICP/MS)

**Lab Sample ID: MB 180-302449/1-A**  
**Matrix: Water**  
**Analysis Batch: 303043**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 302449**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/24/19 10:57	12/30/19 20:58	1
Arsenic	ND		0.00100		mg/L		12/24/19 10:57	12/30/19 20:58	1
Barium	ND		0.0100		mg/L		12/24/19 10:57	12/30/19 20:58	1
Beryllium	ND		0.00100		mg/L		12/24/19 10:57	12/30/19 20:58	1
Cadmium	ND		0.00100		mg/L		12/24/19 10:57	12/30/19 20:58	1
Chromium	ND		0.00200		mg/L		12/24/19 10:57	12/30/19 20:58	1
Cobalt	ND		0.000500		mg/L		12/24/19 10:57	12/30/19 20:58	1
Lead	ND		0.00100		mg/L		12/24/19 10:57	12/30/19 20:58	1
Lithium	ND		0.00500		mg/L		12/24/19 10:57	12/30/19 20:58	1
Molybdenum	ND		0.00500		mg/L		12/24/19 10:57	12/30/19 20:58	1
Selenium	ND		0.00500		mg/L		12/24/19 10:57	12/30/19 20:58	1
Thallium	ND		0.00100		mg/L		12/24/19 10:57	12/30/19 20:58	1

**Lab Sample ID: LCS 180-302449/2-A**  
**Matrix: Water**  
**Analysis Batch: 303043**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 302449**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	0.250	0.2563		mg/L		103	80 - 120
Arsenic	1.00	1.033		mg/L		103	80 - 120
Barium	1.00	1.096		mg/L		110	80 - 120
Beryllium	0.500	0.4969		mg/L		99	80 - 120
Cadmium	0.500	0.5379		mg/L		108	80 - 120
Chromium	0.500	0.4986		mg/L		100	80 - 120
Cobalt	0.500	0.4966		mg/L		99	80 - 120
Lead	0.500	0.5120		mg/L		102	80 - 120
Lithium	0.500	0.5264		mg/L		105	80 - 120
Molybdenum	0.500	0.5393		mg/L		108	80 - 120
Selenium	1.00	1.006		mg/L		101	80 - 120
Thallium	1.00	1.022		mg/L		102	80 - 120

**Lab Sample ID: 180-100175-7 MS**  
**Matrix: Water**  
**Analysis Batch: 303043**

**Client Sample ID: MNW-15**  
**Prep Type: Total Recoverable**  
**Prep Batch: 302449**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	ND		0.250	0.2526		mg/L		101	75 - 125
Arsenic	0.0114		1.00	1.029		mg/L		102	75 - 125
Barium	0.0160		1.00	0.9867		mg/L		97	75 - 125
Beryllium	0.0910		0.500	0.5539		mg/L		93	75 - 125
Cadmium	0.0313		0.500	0.5750		mg/L		109	75 - 125
Chromium	ND		0.500	0.4637		mg/L		93	75 - 125
Cobalt	0.300		0.500	0.7731		mg/L		95	75 - 125
Lead	ND		0.500	0.5062		mg/L		101	75 - 125
Lithium	0.108		0.500	0.5582		mg/L		90	75 - 125
Molybdenum	ND		0.500	0.5402		mg/L		108	75 - 125
Selenium	0.0345		1.00	1.017		mg/L		98	75 - 125
Thallium	ND		1.00	1.008		mg/L		101	75 - 125

Eurofins TestAmerica, Pittsburgh

# QC Sample Results

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

Job ID: 180-100175-2

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

**Lab Sample ID: 180-100175-7 MSD**  
**Matrix: Water**  
**Analysis Batch: 303043**

**Client Sample ID: MNW-15**  
**Prep Type: Total Recoverable**  
**Prep Batch: 302449**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Antimony	ND		0.250	0.2569		mg/L		103	75 - 125	2	20	
Arsenic	0.0114		1.00	1.024		mg/L		101	75 - 125	0	20	
Barium	0.0160		1.00	0.9877		mg/L		97	75 - 125	0	20	
Beryllium	0.0910		0.500	0.5548		mg/L		93	75 - 125	0	20	
Cadmium	0.0313		0.500	0.5831		mg/L		110	75 - 125	1	20	
Chromium	ND		0.500	0.4600		mg/L		92	75 - 125	1	20	
Cobalt	0.300		0.500	0.7789		mg/L		96	75 - 125	1	20	
Lead	ND		0.500	0.5080		mg/L		101	75 - 125	0	20	
Lithium	0.108		0.500	0.5594		mg/L		90	75 - 125	0	20	
Molybdenum	ND		0.500	0.5427		mg/L		109	75 - 125	0	20	
Selenium	0.0345		1.00	1.017		mg/L		98	75 - 125	0	20	
Thallium	ND		1.00	1.012		mg/L		101	75 - 125	0	20	

## Method: EPA 7470A - Mercury (CVAA)

**Lab Sample ID: MB 180-302437/1-A**  
**Matrix: Water**  
**Analysis Batch: 302485**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 302437**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.200		ug/L		12/24/19 10:10	12/24/19 15:05	1

**Lab Sample ID: LCS 180-302437/2-A**  
**Matrix: Water**  
**Analysis Batch: 302485**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 302437**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
Mercury	2.50	2.480		ug/L		99	80 - 120

**Lab Sample ID: 180-100175-7 MS**  
**Matrix: Water**  
**Analysis Batch: 302485**

**Client Sample ID: MNW-15**  
**Prep Type: Total/NA**  
**Prep Batch: 302437**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Mercury	ND	F1	1.00	ND	F1	ug/L		13	75 - 125

**Lab Sample ID: 180-100175-7 MSD**  
**Matrix: Water**  
**Analysis Batch: 302485**

**Client Sample ID: MNW-15**  
**Prep Type: Total/NA**  
**Prep Batch: 302437**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Mercury	ND	F1	1.00	ND	F1	ug/L		0	75 - 125	NC	20

# QC Association Summary

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

Job ID: 180-100175-2

## HPLC/IC

### Analysis Batch: 302389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100175-1	SFL MW-3	Total/NA	Water	EPA 9056A	
180-100175-2	SFL MW-7	Total/NA	Water	EPA 9056A	
180-100175-6	SFL MW-4	Total/NA	Water	EPA 9056A	
MB 180-302389/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-302389/5	Lab Control Sample	Total/NA	Water	EPA 9056A	

### Analysis Batch: 302390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100175-3	SFL MW-6	Total/NA	Water	EPA 9056A	
180-100175-4	SFL MW-5	Total/NA	Water	EPA 9056A	
180-100175-5	SFL MW-2	Total/NA	Water	EPA 9056A	
MB 180-302390/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-302390/5	Lab Control Sample	Total/NA	Water	EPA 9056A	

### Analysis Batch: 302513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100175-7	MNW-15	Total/NA	Water	EPA 9056A	
180-100175-8	MNW-18	Total/NA	Water	EPA 9056A	
180-100175-9	AP MW-3	Total/NA	Water	EPA 9056A	
180-100175-10	Dup 1	Total/NA	Water	EPA 9056A	
180-100175-11	EQBK-SCM-121719	Total/NA	Water	EPA 9056A	
180-100175-12	EQBK-GG-121719	Total/NA	Water	EPA 9056A	
MB 180-302513/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-302513/5	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-100175-7 MS	MNW-15	Total/NA	Water	EPA 9056A	
180-100175-7 MSD	MNW-15	Total/NA	Water	EPA 9056A	

## Metals

### Prep Batch: 302437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100175-1	SFL MW-3	Total/NA	Water	7470A	
180-100175-2	SFL MW-7	Total/NA	Water	7470A	
180-100175-3	SFL MW-6	Total/NA	Water	7470A	
180-100175-4	SFL MW-5	Total/NA	Water	7470A	
180-100175-5	SFL MW-2	Total/NA	Water	7470A	
180-100175-6	SFL MW-4	Total/NA	Water	7470A	
180-100175-7	MNW-15	Total/NA	Water	7470A	
180-100175-8	MNW-18	Total/NA	Water	7470A	
180-100175-9	AP MW-3	Total/NA	Water	7470A	
180-100175-10	Dup 1	Total/NA	Water	7470A	
180-100175-11	EQBK-SCM-121719	Total/NA	Water	7470A	
180-100175-12	EQBK-GG-121719	Total/NA	Water	7470A	
MB 180-302437/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-302437/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-100175-7 MS	MNW-15	Total/NA	Water	7470A	
180-100175-7 MSD	MNW-15	Total/NA	Water	7470A	

### Prep Batch: 302449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100175-1	SFL MW-3	Total Recoverable	Water	3005A	

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# QC Association Summary

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

Job ID: 180-100175-2

## Metals (Continued)

### Prep Batch: 302449 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100175-2	SFL MW-7	Total Recoverable	Water	3005A	
180-100175-3	SFL MW-6	Total Recoverable	Water	3005A	
180-100175-4	SFL MW-5	Total Recoverable	Water	3005A	
180-100175-5	SFL MW-2	Total Recoverable	Water	3005A	
180-100175-6	SFL MW-4	Total Recoverable	Water	3005A	
180-100175-7	MNW-15	Total Recoverable	Water	3005A	
180-100175-8	MNW-18	Total Recoverable	Water	3005A	
180-100175-9	AP MW-3	Total Recoverable	Water	3005A	
180-100175-10	Dup 1	Total Recoverable	Water	3005A	
180-100175-11	EQBK-SCM-121719	Total Recoverable	Water	3005A	
180-100175-12	EQBK-GG-121719	Total Recoverable	Water	3005A	
MB 180-302449/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-302449/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-100175-7 MS	MNW-15	Total Recoverable	Water	3005A	
180-100175-7 MSD	MNW-15	Total Recoverable	Water	3005A	

### Analysis Batch: 302485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100175-1	SFL MW-3	Total/NA	Water	EPA 7470A	302437
180-100175-2	SFL MW-7	Total/NA	Water	EPA 7470A	302437
180-100175-3	SFL MW-6	Total/NA	Water	EPA 7470A	302437
180-100175-4	SFL MW-5	Total/NA	Water	EPA 7470A	302437
180-100175-5	SFL MW-2	Total/NA	Water	EPA 7470A	302437
180-100175-6	SFL MW-4	Total/NA	Water	EPA 7470A	302437
180-100175-7	MNW-15	Total/NA	Water	EPA 7470A	302437
180-100175-8	MNW-18	Total/NA	Water	EPA 7470A	302437
180-100175-9	AP MW-3	Total/NA	Water	EPA 7470A	302437
180-100175-10	Dup 1	Total/NA	Water	EPA 7470A	302437
180-100175-11	EQBK-SCM-121719	Total/NA	Water	EPA 7470A	302437
180-100175-12	EQBK-GG-121719	Total/NA	Water	EPA 7470A	302437
MB 180-302437/1-A	Method Blank	Total/NA	Water	EPA 7470A	302437
LCS 180-302437/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	302437
180-100175-7 MS	MNW-15	Total/NA	Water	EPA 7470A	302437
180-100175-7 MSD	MNW-15	Total/NA	Water	EPA 7470A	302437

### Analysis Batch: 303043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100175-1	SFL MW-3	Total Recoverable	Water	EPA 6020A	302449
180-100175-2	SFL MW-7	Total Recoverable	Water	EPA 6020A	302449
180-100175-3	SFL MW-6	Total Recoverable	Water	EPA 6020A	302449
180-100175-4	SFL MW-5	Total Recoverable	Water	EPA 6020A	302449
180-100175-5	SFL MW-2	Total Recoverable	Water	EPA 6020A	302449
180-100175-6	SFL MW-4	Total Recoverable	Water	EPA 6020A	302449
180-100175-7	MNW-15	Total Recoverable	Water	EPA 6020A	302449
180-100175-8	MNW-18	Total Recoverable	Water	EPA 6020A	302449
180-100175-9	AP MW-3	Total Recoverable	Water	EPA 6020A	302449
180-100175-10	Dup 1	Total Recoverable	Water	EPA 6020A	302449
180-100175-11	EQBK-SCM-121719	Total Recoverable	Water	EPA 6020A	302449
180-100175-12	EQBK-GG-121719	Total Recoverable	Water	EPA 6020A	302449
MB 180-302449/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	302449
LCS 180-302449/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	302449

Eurofins TestAmerica, Pittsburgh

# QC Association Summary

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

Job ID: 180-100175-2

## Metals (Continued)

### Analysis Batch: 303043 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100175-7 MS	MNW-15	Total Recoverable	Water	EPA 6020A	302449
180-100175-7 MSD	MNW-15	Total Recoverable	Water	EPA 6020A	302449

- 1
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**Eurofins TestAmerica, Pittsburgh**

301 Alpha Drive RIDC Park  
 Pittsburgh, PA 15238  
 Phone: 412-963-7058 Fax: 412-963-2468

**Chain of Custody Record**

<b>Client Information</b>		Sampler: <i>Samuel Macan / Grace Grapes</i>		Lab PM: Lage, Gail		Carrier Tracking No(s):		COC No: 490-104350-24093.1	
Client Contact: Greg Seifert		Phone: 512-413-3876		E-Mail: gail.lage@testamericainc.com				Page: Page 1 of 2	
Company: Wood E&I Solutions Inc		Due Date Requested:		Analysis Requested 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		Job #: 54	
Address: 3755 South Capital of Texas Highway Suite 375		TAT Requested (days):						Preservation Codes:	
City: Austin		PO #: Purchase Order Requested						A - HCL M - Hexane	
State, Zip: TX, 78704		WO #:						B - NaOH N - None	
Project Name: CCR TMPA Gibbons Creek/ Event Desc: CCR		Project #: 49013510						C - Zn Acetate O - AsNaO2	
Site: Texas		SSOW#:						D - Nitric Acid P - Na2O4S	
Email: greg.seifert@woodplc.com		Project #: 49013510		E - NaHSO4 Q - Na2SO3					
Project Name: CCR TMPA Gibbons Creek/ Event Desc: CCR		Project #: 49013510		F - MeOH R - Na2S2O3					
Site: Texas		SSOW#:		G - Amchlor S - H2SO4					
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Special Instructions/Note:			
						Preservation Code:			
SFL MW-3		12-17-19	0935	G	Water	N	X	X	X
SFL MW-7			1045		Water				
SFL MW-6			1200		Water				
SFL MW-5			1300		Water				
SFL MW-2			1400		Water				
SFL MW-4			1005		Water				
MNW-15			1155		Water	X			
MNW-18			1345		Water				
AP MW-3			1525		Water				
EQBK-SCM-121719			1500		Water				
EQBK-GG-121719			1540		Water				
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> 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: <i>Samuel C. Macan / Samuel C. Macan</i>		Date/Time: 12-17-19 1700	Company: Wood	Received by: <i>Debbie Winters</i>		Date/Time: 12-18-19	Company: <i>TAPI</i>		
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time: 10:30	Company:		
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:		
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:					



Page 30 of 32

1/7/2020







## Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-100175-2

**Login Number: 100175**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

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



## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

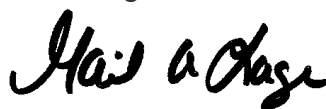
Laboratory Job ID: 180-100262-1

Client Project/Site: AMEC CCR TMPA Gibbons Creek  
Sampling Event: CCR

**For:**

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

Attn: Greg Seifert



Authorized for release by:  
1/23/2020 10:07:44 PM

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

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

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

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

PA Lab ID: 02-00416





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions/Glossary . . . . .	4
Certification Summary . . . . .	5
Sample Summary . . . . .	6
Method Summary . . . . .	7
Lab Chronicle . . . . .	8
Client Sample Results . . . . .	12
QC Sample Results . . . . .	23
QC Association Summary . . . . .	25
Chain of Custody . . . . .	26
Receipt Checklists . . . . .	29

# Case Narrative

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

Job ID: 180-100262-1

## Job ID: 180-100262-1

### Laboratory: Eurofins TestAmerica, Pittsburgh

#### Narrative

#### Job Narrative 180-100262-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/20/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.3° C and 3.1° C.

#### RAD

Method 903.0: Radium-226 Prep Batch 160-455307

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

SSP/AP MW-1 (180-100262-1), SSP MW-3 (180-100262-2), SSP MW-4 (180-100262-3), SSP MW-2 (180-100262-4), AP MW-1D (180-100262-5), AP MW-5 (180-100262-6), AP MW-4 (180-100262-7), AP MW-6 (180-100262-8), Dup 2 (180-100262-9), EQBK-SCM-121819 (180-100262-10), EQBK-GG-121819 (180-100262-11), (LCS 160-455307/1-A), (LCSD 160-455307/2-A) and (MB 160-455307/15-A)

Method 904.0: Radium-228 Prep Batch 160-455633

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

SSP/AP MW-1 (180-100262-1), SSP MW-3 (180-100262-2), SSP MW-4 (180-100262-3), SSP MW-2 (180-100262-4), AP MW-1D (180-100262-5), AP MW-5 (180-100262-6), AP MW-4 (180-100262-7), AP MW-6 (180-100262-8), Dup 2 (180-100262-9), EQBK-SCM-121819 (180-100262-10), EQBK-GG-121819 (180-100262-11), (LCS 160-455633/1-A), (LCSD 160-455633/2-A) and (MB 160-455633/15-A)

Method PrecSep\_0: Radium 228 Prep Batch 160-455633:

Sample 180-100262-2 was reduced due to yellow discoloration. Samples 180-100262-3 and 4 were reduced due to gray discoloration and a cloudy appearance: SSP MW-3 (180-100262-2), SSP MW-4 (180-100262-3) and SSP MW-2 (180-100262-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium 226 Prep Batch 160-455307:

Sample 180-100262-2 was reduced due to yellow discoloration. Samples 180-100262-3 and 4 were reduced due to gray discoloration and a cloudy appearance: SSP MW-3 (180-100262-2), SSP MW-4 (180-100262-3) and SSP MW-2 (180-100262-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

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

# Definitions/Glossary

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

Job ID: 180-100262-1

## Qualifiers

### Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

## Glossary

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



# Accreditation/Certification Summary

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

Job ID: 180-100262-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

## Laboratory: Eurofins TestAmerica, Nashville

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0473	05-05-14 *

## Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-20
California	Los Angeles County Sanitation Districts	10259	06-30-20
California	State	2886	06-30-20
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-20
HI - RadChem Recognition	State	n/a	06-30-20
Illinois	NELAP	004553	11-30-19 *
Iowa	State	373	09-17-20
Kansas	NELAP	E-10236	10-31-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	06-30-20
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-20
MI - RadChem Recognition	State	9005	06-30-20
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-20
New Jersey	NELAP	MO002	06-30-20
New York	NELAP	11616	04-01-20
North Dakota	State	R-207	06-30-20
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-20
Pennsylvania	NELAP	68-00540	02-28-20
South Carolina	State	85002001	06-30-20
Texas	NELAP	T104704193-19-13	07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00028	02-02-20
Utah	NELAP	MO000542019-11	07-31-20
Virginia	NELAP	10310	06-14-20
Washington	State	C592	08-30-20
West Virginia DEP	State	381	10-31-20

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

# Sample Summary

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

Job ID: 180-100262-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-100262-1	SSP/AP MW-1	Water	12/18/19 09:40	12/19/19 10:00	
180-100262-2	SSP MW-3	Water	12/18/19 11:10	12/19/19 10:00	
180-100262-3	SSP MW-4	Water	12/18/19 12:30	12/19/19 10:00	
180-100262-4	SSP MW-2	Water	12/18/19 14:05	12/19/19 10:00	
180-100262-5	AP MW-1D	Water	12/18/19 09:00	12/20/19 10:00	
180-100262-6	AP MW-5	Water	12/18/19 10:05	12/20/19 10:00	
180-100262-7	AP MW-4	Water	12/18/19 11:30	12/20/19 10:00	
180-100262-8	AP MW-6	Water	12/18/19 12:50	12/20/19 10:00	
180-100262-9	Dup 2	Water	12/18/19 00:00	12/19/19 10:00	
180-100262-10	EQBK-SCM-121819	Water	12/18/19 14:40	12/20/19 10:00	
180-100262-11	EQBK-GG-121819	Water	12/18/19 14:30	12/20/19 10:00	

# Method Summary

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

Job ID: 180-100262-1

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 = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



# Lab Chronicle

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

Job ID: 180-100262-1

## Client Sample ID: SSP/AP MW-1

Lab Sample ID: 180-100262-1

Date Collected: 12/18/19 09:40

Matrix: Water

Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.9 mL	1.0 g	455307	12/26/19 12:43	MNH	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	457426	01/21/20 09:48	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.9 mL	1.0 g	455633	12/30/19 11:40	RBR	TAL SL
Total/NA	Analysis	904.0		1			456631	01/13/20 16:44	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			457945	01/23/20 16:41	MLK	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SSP MW-3

Lab Sample ID: 180-100262-2

Date Collected: 12/18/19 11:10

Matrix: Water

Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.8 mL	1.0 g	455307	12/26/19 12:43	MNH	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	457426	01/21/20 09:48	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			749.8 mL	1.0 g	455633	12/30/19 11:40	RBR	TAL SL
Total/NA	Analysis	904.0		1			456631	01/13/20 16:44	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			457945	01/23/20 16:41	MLK	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SSP MW-4

Lab Sample ID: 180-100262-3

Date Collected: 12/18/19 12:30

Matrix: Water

Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.4 mL	1.0 g	455307	12/26/19 12:43	MNH	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	457426	01/21/20 11:36	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			750.4 mL	1.0 g	455633	12/30/19 11:40	RBR	TAL SL
Total/NA	Analysis	904.0		1			456631	01/13/20 16:44	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			457945	01/23/20 16:41	MLK	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SSP MW-2

Lab Sample ID: 180-100262-4

Date Collected: 12/18/19 14:05

Matrix: Water

Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.0 mL	1.0 g	455307	12/26/19 12:43	MNH	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	457426	01/21/20 11:36	KLS	TAL SL
Instrument ID: GFPCBLUE										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-100262-1

## Client Sample ID: SSP MW-2

## Lab Sample ID: 180-100262-4

Date Collected: 12/18/19 14:05

Matrix: Water

Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			749.0 mL	1.0 g	455633	12/30/19 11:40	RBR	TAL SL
Total/NA	Analysis	904.0		1			456631	01/13/20 16:44	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			457945	01/23/20 16:41	MLK	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP MW-1D

## Lab Sample ID: 180-100262-5

Date Collected: 12/18/19 09:00

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.5 mL	1.0 g	455307	12/26/19 12:43	MNH	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	457426	01/21/20 11:36	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.5 mL	1.0 g	455633	12/30/19 11:40	RBR	TAL SL
Total/NA	Analysis	904.0		1			456631	01/13/20 16:44	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			457945	01/23/20 16:41	MLK	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP MW-5

## Lab Sample ID: 180-100262-6

Date Collected: 12/18/19 10:05

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.1 mL	1.0 g	455307	12/26/19 12:43	MNH	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	457426	01/21/20 11:36	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.1 mL	1.0 g	455633	12/30/19 11:40	RBR	TAL SL
Total/NA	Analysis	904.0		1			456631	01/13/20 16:44	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			457945	01/23/20 16:41	MLK	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP MW-4

## Lab Sample ID: 180-100262-7

Date Collected: 12/18/19 11:30

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.8 mL	1.0 g	455307	12/26/19 12:43	MNH	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	457426	01/21/20 11:36	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.8 mL	1.0 g	455633	12/30/19 11:40	RBR	TAL SL
Total/NA	Analysis	904.0		1			456631	01/13/20 16:44	KLS	TAL SL
Instrument ID: GFPCBLUE										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-100262-1

## Client Sample ID: AP MW-4

Lab Sample ID: 180-100262-7

Date Collected: 12/18/19 11:30

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			457945	01/23/20 16:41	MLK	TAL SL

## Client Sample ID: AP MW-6

Lab Sample ID: 180-100262-8

Date Collected: 12/18/19 12:50

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.8 mL	1.0 g	455307	12/26/19 12:43	MNH	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	457426	01/21/20 11:36	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.8 mL	1.0 g	455633	12/30/19 11:40	RBR	TAL SL
Total/NA	Analysis	904.0		1			456653	01/13/20 16:29	CJQ	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			457945	01/23/20 16:41	MLK	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: Dup 2

Lab Sample ID: 180-100262-9

Date Collected: 12/18/19 00:00

Matrix: Water

Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.1 mL	1.0 g	455307	12/26/19 12:43	MNH	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	457426	01/21/20 11:36	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.1 mL	1.0 g	455633	12/30/19 11:40	RBR	TAL SL
Total/NA	Analysis	904.0		1			456653	01/13/20 16:29	CJQ	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			457945	01/23/20 16:41	MLK	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: EQBK-SCM-121819

Lab Sample ID: 180-100262-10

Date Collected: 12/18/19 14:40

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.5 mL	1.0 g	455307	12/26/19 12:43	MNH	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	457426	01/21/20 11:36	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.5 mL	1.0 g	455633	12/30/19 11:40	RBR	TAL SL
Total/NA	Analysis	904.0		1			456653	01/13/20 16:29	CJQ	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			457945	01/23/20 16:41	MLK	TAL SL
Instrument ID: NOEQUIP										



# Lab Chronicle

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

Job ID: 180-100262-1

**Client Sample ID: EQBK-GG-121819**

**Lab Sample ID: 180-100262-11**

**Date Collected: 12/18/19 14:30**

**Matrix: Water**

**Date Received: 12/20/19 10:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.0 mL	1.0 g	455307	12/26/19 12:43	MNH	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	457426	01/21/20 11:37	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.0 mL	1.0 g	455633	12/30/19 11:40	RBR	TAL SL
Total/NA	Analysis	904.0		1			456653	01/13/20 16:30	CJQ	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			457945	01/23/20 16:41	MLK	TAL SL
Instrument ID: NOEQUIP										

**Laboratory References:**

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

**Analyst References:**

Lab: TAL SL

Batch Type: Prep

MNH = Molly Howard

RBR = Rachael Ratcliff

Batch Type: Analysis

CJQ = Caleb Quinn

KLS = Kody Saulters

MLK = Micha Korrinhizer

# Client Sample Results

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

Job ID: 180-100262-1

**Client Sample ID: SSP/AP MW-1**

**Lab Sample ID: 180-100262-1**

Date Collected: 12/18/19 09:40

Matrix: Water

Date Received: 12/19/19 10:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.273</b>		0.106	0.109	1.00	0.119	pCi/L	12/26/19 12:43	01/21/20 09:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					12/26/19 12:43	01/21/20 09:48	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>1.20</b>		0.294	0.314	1.00	0.350	pCi/L	12/30/19 11:40	01/13/20 16:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					12/30/19 11:40	01/13/20 16:44	1
Y Carrier	91.1		40 - 110					12/30/19 11:40	01/13/20 16:44	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
<b>Combined Radium 226 + 228</b>	<b>1.47</b>		0.313	0.332	3.50	0.350	pCi/L		01/23/20 16:41	1

# Client Sample Results

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

Job ID: 180-100262-1

**Client Sample ID: SSP MW-3**

**Lab Sample ID: 180-100262-2**

Date Collected: 12/18/19 11:10

Matrix: Water

Date Received: 12/19/19 10:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.19		0.464	0.658	1.00	0.172	pCi/L	12/26/19 12:43	01/21/20 09:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					12/26/19 12:43	01/21/20 09:48	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	29.1		1.36	3.01	1.00	0.577	pCi/L	12/30/19 11:40	01/13/20 16:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					12/30/19 11:40	01/13/20 16:44	1
Y Carrier	86.0		40 - 110					12/30/19 11:40	01/13/20 16:44	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	34.3		1.44	3.08	3.50	0.577	pCi/L		01/23/20 16:41	1



# Client Sample Results

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

Job ID: 180-100262-1

**Client Sample ID: SSP MW-4**

**Lab Sample ID: 180-100262-3**

Date Collected: 12/18/19 12:30

Matrix: Water

Date Received: 12/19/19 10:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.838		0.190	0.204	1.00	0.143	pCi/L	12/26/19 12:43	01/21/20 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					12/26/19 12:43	01/21/20 11:36	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	2.23		0.450	0.494	1.00	0.483	pCi/L	12/30/19 11:40	01/13/20 16:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					12/30/19 11:40	01/13/20 16:44	1
Y Carrier	88.7		40 - 110					12/30/19 11:40	01/13/20 16:44	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	3.07		0.488	0.534	3.50	0.483	pCi/L		01/23/20 16:41	1

# Client Sample Results

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

Job ID: 180-100262-1

**Client Sample ID: SSP MW-2**

**Lab Sample ID: 180-100262-4**

Date Collected: 12/18/19 14:05

Matrix: Water

Date Received: 12/19/19 10:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.464		0.157	0.163	1.00	0.161	pCi/L	12/26/19 12:43	01/21/20 11:36	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	96.1		40 - 110					12/26/19 12:43	01/21/20 11:36	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	1.84		0.499	0.527	1.00	0.657	pCi/L	12/30/19 11:40	01/13/20 16:44	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	96.1		40 - 110					12/30/19 11:40	01/13/20 16:44	1
Y Carrier	90.2		40 - 110					12/30/19 11:40	01/13/20 16:44	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	2.30		0.523	0.552	3.50	0.657	pCi/L		01/23/20 16:41	1

# Client Sample Results

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

Job ID: 180-100262-1

**Client Sample ID: AP MW-1D**

**Lab Sample ID: 180-100262-5**

Date Collected: 12/18/19 09:00

Matrix: Water

Date Received: 12/20/19 10:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.358		0.119	0.123	1.00	0.123	pCi/L	12/26/19 12:43	01/21/20 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.0		40 - 110					12/26/19 12:43	01/21/20 11:36	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	2.14		0.379	0.427	1.00	0.397	pCi/L	12/30/19 11:40	01/13/20 16:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.0		40 - 110					12/30/19 11:40	01/13/20 16:44	1
Y Carrier	90.2		40 - 110					12/30/19 11:40	01/13/20 16:44	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	2.50		0.397	0.444	3.50	0.397	pCi/L		01/23/20 16:41	1



# Client Sample Results

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

Job ID: 180-100262-1

**Client Sample ID: AP MW-5**

**Lab Sample ID: 180-100262-6**

Date Collected: 12/18/19 10:05

Matrix: Water

Date Received: 12/20/19 10:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.453</b>		0.117	0.124	1.00	0.0803	pCi/L	12/26/19 12:43	01/21/20 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	106		40 - 110					12/26/19 12:43	01/21/20 11:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>1.15</b>		0.286	0.305	1.00	0.337	pCi/L	12/30/19 11:40	01/13/20 16:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	106		40 - 110					12/30/19 11:40	01/13/20 16:44	1
Y Carrier	89.9		40 - 110					12/30/19 11:40	01/13/20 16:44	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
<b>Combined Radium 226 + 228</b>	<b>1.60</b>		0.309	0.329	3.50	0.337	pCi/L		01/23/20 16:41	1

# Client Sample Results

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

Job ID: 180-100262-1

**Client Sample ID: AP MW-4**

**Lab Sample ID: 180-100262-7**

Date Collected: 12/18/19 11:30

Matrix: Water

Date Received: 12/20/19 10:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.290</b>		0.0992	0.103	1.00	0.0852	pCi/L	12/26/19 12:43	01/21/20 11:36	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	97.9		40 - 110					12/26/19 12:43	01/21/20 11:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>0.978</b>		0.307	0.320	1.00	0.404	pCi/L	12/30/19 11:40	01/13/20 16:44	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	97.9		40 - 110					12/30/19 11:40	01/13/20 16:44	1
Y Carrier	87.5		40 - 110					12/30/19 11:40	01/13/20 16:44	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
<b>Combined Radium 226 + 228</b>	<b>1.27</b>		0.323	0.336	3.50	0.404	pCi/L		01/23/20 16:41	1

# Client Sample Results

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

Job ID: 180-100262-1

**Client Sample ID: AP MW-6**

**Lab Sample ID: 180-100262-8**

Date Collected: 12/18/19 12:50

Matrix: Water

Date Received: 12/20/19 10:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.301</b>		0.108	0.111	1.00	0.109	pCi/L	12/26/19 12:43	01/21/20 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.2		40 - 110					12/26/19 12:43	01/21/20 11:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>1.32</b>		0.381	0.400	1.00	0.514	pCi/L	12/30/19 11:40	01/13/20 16:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.2		40 - 110					12/30/19 11:40	01/13/20 16:29	1
Y Carrier	87.8		40 - 110					12/30/19 11:40	01/13/20 16:29	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
<b>Combined Radium 226 + 228</b>	<b>1.62</b>		0.396	0.415	3.50	0.514	pCi/L		01/23/20 16:41	1

# Client Sample Results

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

Job ID: 180-100262-1

**Client Sample ID: Dup 2**

**Lab Sample ID: 180-100262-9**

Date Collected: 12/18/19 00:00

Matrix: Water

Date Received: 12/19/19 10:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.147		0.0911	0.0920	1.00	0.128	pCi/L	12/26/19 12:43	01/21/20 11:36	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	102		40 - 110					12/26/19 12:43	01/21/20 11:36	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	1.27		0.326	0.346	1.00	0.412	pCi/L	12/30/19 11:40	01/13/20 16:29	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	102		40 - 110					12/30/19 11:40	01/13/20 16:29	1
Y Carrier	88.7		40 - 110					12/30/19 11:40	01/13/20 16:29	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	1.41		0.338	0.358	3.50	0.412	pCi/L		01/23/20 16:41	1



# Client Sample Results

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

Job ID: 180-100262-1

**Client Sample ID: EQBK-SCM-121819**

**Lab Sample ID: 180-100262-10**

Date Collected: 12/18/19 14:40

Matrix: Water

Date Received: 12/20/19 10:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0838	U	0.0671	0.0675	1.00	0.0968	pCi/L	12/26/19 12:43	01/21/20 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	108		40 - 110					12/26/19 12:43	01/21/20 11:36	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	-0.169	U	0.228	0.228	1.00	0.426	pCi/L	12/30/19 11:40	01/13/20 16:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	108		40 - 110					12/30/19 11:40	01/13/20 16:29	1
Y Carrier	90.8		40 - 110					12/30/19 11:40	01/13/20 16:29	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	-0.0848	U	0.238	0.238	3.50	0.426	pCi/L		01/23/20 16:41	1

# Client Sample Results

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

Job ID: 180-100262-1

**Client Sample ID: EQBK-GG-121819**

**Lab Sample ID: 180-100262-11**

Date Collected: 12/18/19 14:30

Matrix: Water

Date Received: 12/20/19 10:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0199	U	0.0645	0.0645	1.00	0.120	pCi/L	12/26/19 12:43	01/21/20 11:37	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	105		40 - 110					12/26/19 12:43	01/21/20 11:37	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	0.452		0.275	0.278	1.00	0.426	pCi/L	12/30/19 11:40	01/13/20 16:30	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	105		40 - 110					12/30/19 11:40	01/13/20 16:30	1
Y Carrier	92.6		40 - 110					12/30/19 11:40	01/13/20 16:30	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	0.472		0.282	0.285	3.50	0.426	pCi/L		01/23/20 16:41	1

# QC Sample Results

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

Job ID: 180-100262-1

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

**Lab Sample ID: MB 160-455307/15-A**  
**Matrix: Water**  
**Analysis Batch: 457426**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 455307**

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.02188	U	0.0533	0.0534	1.00	0.0982	pCi/L	12/26/19 12:43	01/21/20 13:47	1
Carrier	MB	MB	Limits		Prepared	Analyzed	Dil Fac			
	%Yield	Qualifier								
Ba Carrier	108		40 - 110		12/26/19 12:43	01/21/20 13:47	1			

**Lab Sample ID: LCS 160-455307/1-A**  
**Matrix: Water**  
**Analysis Batch: 457616**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 455307**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	9.420		0.981	1.00	0.0949	pCi/L	83	75 - 125
Carrier	LCS	LCS	Limits		Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier							
Ba Carrier	107		40 - 110		12/26/19 12:43	01/21/20 13:47	1		

**Lab Sample ID: LCSD 160-455307/2-A**  
**Matrix: Water**  
**Analysis Batch: 457426**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 455307**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	Limit
				Uncert. (2σ+/-)							
Radium-226	11.3	9.907		1.04	1.00	0.0982	pCi/L	87	75 - 125	0.24	1
Carrier	LCSD	LCSD	Limits		Prepared	Analyzed	Dil Fac				
	%Yield	Qualifier									
Ba Carrier	107		40 - 110		12/30/19 11:40	01/13/20 16:30	1				

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

**Lab Sample ID: MB 160-455633/15-A**  
**Matrix: Water**  
**Analysis Batch: 456653**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 455633**

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.07642	U	0.208	0.208	1.00	0.359	pCi/L	12/30/19 11:40	01/13/20 16:30	1
Carrier	MB	MB	Limits		Prepared	Analyzed	Dil Fac			
	%Yield	Qualifier								
Ba Carrier	108		40 - 110		12/30/19 11:40	01/13/20 16:30	1			
Y Carrier	91.4		40 - 110		12/30/19 11:40	01/13/20 16:30	1			

# QC Sample Results

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

Job ID: 180-100262-1

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

**Lab Sample ID: LCS 160-455633/1-A**  
**Matrix: Water**  
**Analysis Batch: 456631**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 455633**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	9.21	8.975		1.09	1.00	0.460	pCi/L	97	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	107		40 - 110
Y Carrier	74.4		40 - 110

**Lab Sample ID: LCSD 160-455633/2-A**  
**Matrix: Water**  
**Analysis Batch: 456631**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 455633**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	9.21	7.890		0.939	1.00	0.336	pCi/L	86	75 - 125	0.54	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	107		40 - 110
Y Carrier	88.1		40 - 110



# QC Association Summary

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

Job ID: 180-100262-1

## Rad

### Prep Batch: 455307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100262-1	SSP/AP MW-1	Total/NA	Water	PrecSep-21	
180-100262-2	SSP MW-3	Total/NA	Water	PrecSep-21	
180-100262-3	SSP MW-4	Total/NA	Water	PrecSep-21	
180-100262-4	SSP MW-2	Total/NA	Water	PrecSep-21	
180-100262-5	AP MW-1D	Total/NA	Water	PrecSep-21	
180-100262-6	AP MW-5	Total/NA	Water	PrecSep-21	
180-100262-7	AP MW-4	Total/NA	Water	PrecSep-21	
180-100262-8	AP MW-6	Total/NA	Water	PrecSep-21	
180-100262-9	Dup 2	Total/NA	Water	PrecSep-21	
180-100262-10	EQBK-SCM-121819	Total/NA	Water	PrecSep-21	
180-100262-11	EQBK-GG-121819	Total/NA	Water	PrecSep-21	
MB 160-455307/15-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-455307/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-455307/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 455633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100262-1	SSP/AP MW-1	Total/NA	Water	PrecSep_0	
180-100262-2	SSP MW-3	Total/NA	Water	PrecSep_0	
180-100262-3	SSP MW-4	Total/NA	Water	PrecSep_0	
180-100262-4	SSP MW-2	Total/NA	Water	PrecSep_0	
180-100262-5	AP MW-1D	Total/NA	Water	PrecSep_0	
180-100262-6	AP MW-5	Total/NA	Water	PrecSep_0	
180-100262-7	AP MW-4	Total/NA	Water	PrecSep_0	
180-100262-8	AP MW-6	Total/NA	Water	PrecSep_0	
180-100262-9	Dup 2	Total/NA	Water	PrecSep_0	
180-100262-10	EQBK-SCM-121819	Total/NA	Water	PrecSep_0	
180-100262-11	EQBK-GG-121819	Total/NA	Water	PrecSep_0	
MB 160-455633/15-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-455633/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-455633/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

**Eurofins TestAmerica, Pittsburgh**

301 Alpha Drive RIDC Park  
 Pittsburgh, PA 15238  
 Phone: 412-963-7058 Fax: 412-963-2468

**Chain of Custody Record**

<b>Client Information</b>		Sampler: <i>Samuel Macay/Grace Ginner</i>		Lab PM: Lage, Gail		Carrier Tracking No(s):		COC No: 490-104350-24093.2	
Client Contact: Greg Seifert		Phone: <i>512-413-3876</i>		E-Mail: gail.lage@testamericainc.com				Page: <i>2 of 1 of 1</i>	
Company: Wood E&I Solutions Inc		Due Date Requested:		Analysis Requested				Job #: <i>501</i>	
Address: 3755 South Capital of Texas Highway Suite 375		TAT Requested (days):		Field Filtered Sample (Yes or No)				Preservation Codes:	
City: Austin		PO #: Purchase Order Requested		Perform MS/MSD (Yes or No)				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)	
State, Zip: TX, 78704		WO #:		903.0, 904.0				Other:	
Phone:		Project #: 49013510		9056A_ORGFWM_280 - (MOD) Fluoride					
Email: greg.seifert@woodplc.com		SSOW#:		6020A, 7470A					
Project Name: CCR TMPA Gibbons Creek/ Event Desc: CCR									
Site: Texas									
<b>Sample Identification</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (C=comp, G=grab)</b>		<b>Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)</b>	
								Field Filtered Sample (Yes or No)	
								Perform MS/MSD (Yes or No)	
								903.0, 904.0	
								9056A_ORGFWM_280 - (MOD) Fluoride	
								6020A, 7470A	
								Total Number of containers	
								Spe	
								D N D	
<i>SSP/AP MW-1</i>		<i>12-18-19</i>		<i>0940</i>		<i>G</i>		<i>Water</i>	
<i>SSP MW-3</i>				<i>1110</i>				<i>Water</i>	
<i>SSP MW-4</i>				<i>1230</i>				<i>Water</i>	
<i>SSP MW-2</i>				<i>1405</i>				<i>Water</i>	
<i>AP MW-1D</i>				<i>0900</i>				<i>Water</i>	
<i>AP MW-5</i>				<i>1005</i>				<i>Water</i>	
<i>AP MW-4</i>		<i>1130</i>		<i>1230</i>				<i>Water</i>	
<i>AP MW-6</i>				<i>1250</i>				<i>Water</i>	
<i>DVP-2</i>				<i>-</i>				<i>Water</i>	
<i>EQBK-SCM-121819</i>				<i>1440</i>				<i>Water</i>	
<i>EQBK-GG-121819</i>				<i>1430</i>				<i>Water</i>	
<b>Possible Hazard Identification</b>					<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>				
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> 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: <i>Samuel C. Macay/Sarah C. Macay</i>		Date/Time: <i>12-18-19 @ 1545</i>		Company: <i>Wood</i>		Received by: <i>Dellie Watson</i>		Date/Time: <i>12-20-19 10:00</i>	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:					



Page 26 of 31

1/23/2020

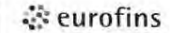




**Eurofins TestAmerica, Pittsburgh**

301 Alpha Drive RIDC Park  
 Pittsburgh, PA 15238  
 Phone: 412-963-7058 Fax: 412-963-2468

**Chain of Custody Record**



Environment Testing  
 TestAmerica

<b>Client Information (Sub Contract Lab)</b>		Sampler: Lage, Gail		Lab PM: Lage, Gail		Carrier Tracking No(s):		COC No: 180-381361.1																																																																																																																																																																							
Client Contact: Shipping/Receiving		Phone:		E-Mail: gail.lage@testamericainc.com		State of Origin: Texas		Page: Page 1 of 2																																																																																																																																																																							
Company: TestAmerica Laboratories, Inc.				Accreditations Required (See note): NELAP - Texas				Job #: 180-100262-1																																																																																																																																																																							
Address: 13715 Rider Trail North, City: Earth City State, Zip: MO, 63045		Due Date Requested: 1/23/2020		<table border="1"> <thead> <tr> <th colspan="10">Analysis Requested</th> </tr> <tr> <th>Field Filtered Sample (Yes or No)</th> <th>Perform MS/MSD (Yes or No)</th> <th>904.0/PrecSep_0 Standard Target List</th> <th>903.0/PrecSep_21 Standard Target List</th> <th>Raz26Ra228_GFPC</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Total Number of containers</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> </tbody> </table>						Analysis Requested										Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	904.0/PrecSep_0 Standard Target List	903.0/PrecSep_21 Standard Target List	Raz26Ra228_GFPC						Total Number of containers	X	X	X	X							2	X	X	X	X							2	X	X	X	X							2	X	X	X	X							2	X	X	X	X							2	X	X	X	X							2	X	X	X	X							2	X	X	X	X							2	X	X	X	X							2	X	X	X	X							2	X	X	X	X							2	X	X	X	X							2	X	X	X	X							2	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:	
Analysis Requested																																																																																																																																																																															
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Project Name: AMEC CCR TMPA Gibbons Creek		Project #: 49013510																																																																																																																																																																													
Site: AMEC Gibbons Creek Stream		SSOW#:																																																																																																																																																																													
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (C=comp, G=grab)</b>		<b>Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)</b>		<b>Preservation Code:</b>		<b>Special Instructions/Note:</b>																																																																																																																																																																			
SSP/AP MW-1 (180-100262-1)		12/18/19		09:40 Central		Water		Water		X X X																																																																																																																																																																					
SSP MW-3 (180-100262-2)		12/18/19		11:10 Central		Water		Water		X X X																																																																																																																																																																					
SSP MW-4 (180-100262-3)		12/18/19		12:30 Central		Water		Water		X X X																																																																																																																																																																					
SSP MW-2 (180-100262-4)		12/18/19		14:05 Central		Water		Water		X X X																																																																																																																																																																					
AP MW-1D (180-100262-5)		12/18/19		09:00 Central		Water		Water		X X X																																																																																																																																																																					
AP MW-5 (180-100262-6)		12/18/19		10:05 Central		Water		Water		X X X																																																																																																																																																																					
AP MW-4 (180-100262-7)		12/18/19		11:30 Central		Water		Water		X X X																																																																																																																																																																					
AP MW-6 (180-100262-8)		12/18/19		12:50 Central		Water		Water		X X X																																																																																																																																																																					
Dup 2 (180-100262-9)		12/18/19		Central		Water		Water		X X X																																																																																																																																																																					
Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our 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 Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.																																																																																																																																																																															
<b>Possible Hazard Identification</b>						<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b>																																																																																																																																																																									
Unconfirmed						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																																																																																																																																																																									
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Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:																																																																																																																																																																									
Relinquished by: <i>[Signature]</i>		Date/Time: 1/23/19 12:00		Company: <i>[Signature]</i>		Received by: <i>[Signature]</i>		Date/Time: 1/24/19 10:10		Company: <i>[Signature]</i>																																																																																																																																																																					
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Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:				Cooler Temperature(s) °C and Other Remarks:																																																																																																																																																																									

Page 27 of 31

1/23/2020







## Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-100262-1

**Login Number: 100262**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

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

## Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-100262-1

**Login Number: 100262**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 2**

**Creator: Watson, Debbie**

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



# Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-100262-1

**Login Number: 100262**

**List Number: 3**

**Creator: Hellm, Michael**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 12/24/19 11:16 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	22.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

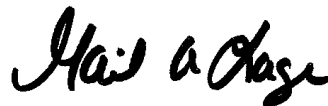
Laboratory Job ID: 180-100262-2

Client Project/Site: AMEC CCR TMPA Gibbons Creek  
Sampling Event: CCR

**For:**

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

Attn: Greg Seifert



Authorized for release by:  
1/7/2020 1:27:26 PM

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

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

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

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

PA Lab ID: 02-00416





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions/Glossary . . . . .	4
Certification Summary . . . . .	5
Sample Summary . . . . .	6
Method Summary . . . . .	7
Lab Chronicle . . . . .	8
Client Sample Results . . . . .	12
QC Sample Results . . . . .	23
QC Association Summary . . . . .	26
Chain of Custody . . . . .	28
Receipt Checklists . . . . .	29

# Case Narrative

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

Job ID: 180-100262-2

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## Job ID: 180-100262-2

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Laboratory: Eurofins TestAmerica, Pittsburgh

### Narrative

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#### Job Narrative 180-100262-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/20/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.3° C and 3.1° C.

#### Receipt Exceptions

A Chain-of-Custody (COC) was not received with these samples: SSP/AP MW-1 (180-100262-1), SSP MW-3 (180-100262-2), SSP MW-4 (180-100262-3), SSP MW-2 (180-100262-4), AP MW-1D (180-100262-5), AP MW-5 (180-100262-6), AP MW-4 (180-100262-7), AP MW-6 (180-100262-8), Dup 2 (180-100262-9), EQBK-SCM-121819 (180-100262-10) and EQBK-GG-121819 (180-100262-11). Chain was emailed at receipt.

#### GC Semi VOA

Method 9056A: The following samples were diluted due to the abundance of non-target analytes: SSP/AP MW-1 (180-100262-1), SSP MW-3 (180-100262-2), SSP MW-4 (180-100262-3), SSP MW-2 (180-100262-4), AP MW-5 (180-100262-6), AP MW-4 (180-100262-7), AP MW-6 (180-100262-8) and Dup 2 (180-100262-9). 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.

#### Metals

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

# Definitions/Glossary

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

Job ID: 180-100262-2

## Glossary

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

# Accreditation/Certification Summary

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

Job ID: 180-100262-2

## Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

## Laboratory: Eurofins TestAmerica, Nashville

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

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0473	05-05-14 *

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





# Sample Summary

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

Job ID: 180-100262-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-100262-1	SSP/AP MW-1	Water	12/18/19 09:40	12/19/19 10:00	
180-100262-2	SSP MW-3	Water	12/18/19 11:10	12/19/19 10:00	
180-100262-3	SSP MW-4	Water	12/18/19 12:30	12/19/19 10:00	
180-100262-4	SSP MW-2	Water	12/18/19 14:05	12/19/19 10:00	
180-100262-5	AP MW-1D	Water	12/18/19 09:00	12/20/19 10:00	
180-100262-6	AP MW-5	Water	12/18/19 10:05	12/20/19 10:00	
180-100262-7	AP MW-4	Water	12/18/19 11:30	12/20/19 10:00	
180-100262-8	AP MW-6	Water	12/18/19 12:50	12/20/19 10:00	
180-100262-9	Dup 2	Water	12/18/19 00:00	12/19/19 10:00	
180-100262-10	EQBK-SCM-121819	Water	12/18/19 14:40	12/20/19 10:00	
180-100262-11	EQBK-GG-121819	Water	12/18/19 14:30	12/20/19 10:00	

# Method Summary

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

Job ID: 180-100262-2

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
EPA 6020A	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058



# Lab Chronicle

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

Job ID: 180-100262-2

## Client Sample ID: SSP/AP MW-1

## Lab Sample ID: 180-100262-1

Date Collected: 12/18/19 09:40

Matrix: Water

Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			302513	12/26/19 19:36	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302674	12/27/19 11:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303115	01/04/20 22:57	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302576	12/26/19 12:49	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302934	12/30/19 16:26	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: SSP MW-3

## Lab Sample ID: 180-100262-2

Date Collected: 12/18/19 11:10

Matrix: Water

Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			302513	12/26/19 20:07	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302674	12/27/19 11:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303115	01/04/20 22:37	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302576	12/26/19 12:49	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302934	12/30/19 16:27	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: SSP MW-4

## Lab Sample ID: 180-100262-3

Date Collected: 12/18/19 12:30

Matrix: Water

Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			302513	12/26/19 21:24	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302674	12/27/19 11:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303115	01/04/20 22:42	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302576	12/26/19 12:49	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302934	12/30/19 16:28	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: SSP MW-2

## Lab Sample ID: 180-100262-4

Date Collected: 12/18/19 14:05

Matrix: Water

Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			302513	12/26/19 21:54	MJH	TAL PIT
Instrument ID: CHIC2100A										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-100262-2

## Client Sample ID: SSP MW-2

Lab Sample ID: 180-100262-4

Date Collected: 12/18/19 14:05

Matrix: Water

Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	302674	12/27/19 11:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303115	01/04/20 23:22	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302576	12/26/19 12:49	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302934	12/30/19 16:29	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: AP MW-1D

Lab Sample ID: 180-100262-5

Date Collected: 12/18/19 09:00

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			302513	12/26/19 22:25	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302674	12/27/19 11:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303115	01/04/20 23:27	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302576	12/26/19 12:49	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302934	12/30/19 16:30	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: AP MW-5

Lab Sample ID: 180-100262-6

Date Collected: 12/18/19 10:05

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			302513	12/26/19 22:56	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302674	12/27/19 11:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303115	01/04/20 23:32	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302576	12/26/19 12:49	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302934	12/30/19 16:31	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: AP MW-4

Lab Sample ID: 180-100262-7

Date Collected: 12/18/19 11:30

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5			302513	12/27/19 00:27	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302674	12/27/19 11:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303115	01/04/20 23:37	WTR	TAL PIT
Instrument ID: M										

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# Lab Chronicle

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

Job ID: 180-100262-2

## Client Sample ID: AP MW-4

## Lab Sample ID: 180-100262-7

Date Collected: 12/18/19 11:30

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	302576	12/26/19 12:49	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302934	12/30/19 16:32	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: AP MW-6

## Lab Sample ID: 180-100262-8

Date Collected: 12/18/19 12:50

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			302513	12/27/19 00:58	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302674	12/27/19 11:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303115	01/04/20 23:42	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302576	12/26/19 12:49	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302934	12/30/19 16:32	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: Dup 2

## Lab Sample ID: 180-100262-9

Date Collected: 12/18/19 00:00

Matrix: Water

Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			302513	12/27/19 01:29	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302674	12/27/19 11:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303115	01/04/20 23:57	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302576	12/26/19 12:49	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302934	12/30/19 16:33	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: EQBK-SCM-121819

## Lab Sample ID: 180-100262-10

Date Collected: 12/18/19 14:40

Matrix: Water

Date Received: 12/20/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			302513	12/27/19 02:30	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	302674	12/27/19 11:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			303115	01/05/20 02:25	WTR	TAL PIT
Instrument ID: M										
Total/NA	Prep	7470A			50 mL	50 mL	302576	12/26/19 12:49	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			302934	12/30/19 16:34	NAM	TAL PIT
Instrument ID: HGZ										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-100262-2

**Client Sample ID: EQBK-GG-121819**

**Lab Sample ID: 180-100262-11**

**Date Collected: 12/18/19 14:30**

**Matrix: Water**

**Date Received: 12/20/19 10:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHIC2100A		1			302513	12/27/19 02:45	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	302674	12/27/19 11:57	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: M		1			303115	01/05/20 02:30	WTR	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	302576	12/26/19 12:49	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			302934	12/30/19 16:39	NAM	TAL PIT

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

**Analyst References:**

Lab: TAL PIT

Batch Type: Prep

JL = James Lyu

NAM = Nicole Marfisi

Batch Type: Analysis

MJH = Matthew Hartman

NAM = Nicole Marfisi

WTR = Bill Reinheimer

# Client Sample Results

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

Job ID: 180-100262-2

**Client Sample ID: SSP/AP MW-1**

**Lab Sample ID: 180-100262-1**

Date Collected: 12/18/19 09:40

Matrix: Water

Date Received: 12/19/19 10:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.500		mg/L			12/26/19 19:36	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 22:57	1
<b>Arsenic</b>	<b>0.00194</b>		0.00100		mg/L		12/27/19 11:57	01/04/20 22:57	1
<b>Barium</b>	<b>0.0252</b>		0.0100		mg/L		12/27/19 11:57	01/04/20 22:57	1
Beryllium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 22:57	1
Cadmium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 22:57	1
Chromium	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 22:57	1
Cobalt	ND		0.000500		mg/L		12/27/19 11:57	01/04/20 22:57	1
Lead	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 22:57	1
<b>Lithium</b>	<b>1.05</b>		0.00500		mg/L		12/27/19 11:57	01/04/20 22:57	1
Molybdenum	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 22:57	1
Selenium	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 22:57	1
Thallium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 22:57	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/26/19 12:49	12/30/19 16:26	1

# Client Sample Results

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

Job ID: 180-100262-2

**Client Sample ID: SSP MW-3**

**Lab Sample ID: 180-100262-2**

Date Collected: 12/18/19 11:10

Matrix: Water

Date Received: 12/19/19 10:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.551		0.500		mg/L			12/26/19 20:07	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 22:37	1
Arsenic	0.00314		0.00100		mg/L		12/27/19 11:57	01/04/20 22:37	1
Barium	0.0192		0.0100		mg/L		12/27/19 11:57	01/04/20 22:37	1
Beryllium	0.0992		0.00100		mg/L		12/27/19 11:57	01/04/20 22:37	1
Cadmium	0.0788		0.00100		mg/L		12/27/19 11:57	01/04/20 22:37	1
Chromium	0.00427		0.00200		mg/L		12/27/19 11:57	01/04/20 22:37	1
Cobalt	0.350		0.000500		mg/L		12/27/19 11:57	01/04/20 22:37	1
Lead	0.00519		0.00100		mg/L		12/27/19 11:57	01/04/20 22:37	1
Lithium	0.549		0.00500		mg/L		12/27/19 11:57	01/04/20 22:37	1
Molybdenum	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 22:37	1
Selenium	0.00676		0.00500		mg/L		12/27/19 11:57	01/04/20 22:37	1
Thallium	0.00961		0.00100		mg/L		12/27/19 11:57	01/04/20 22:37	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/26/19 12:49	12/30/19 16:27	1



# Client Sample Results

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

Job ID: 180-100262-2

**Client Sample ID: SSP MW-4**

**Lab Sample ID: 180-100262-3**

Date Collected: 12/18/19 12:30

Matrix: Water

Date Received: 12/19/19 10:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.500		mg/L			12/26/19 21:24	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 22:42	1
Arsenic	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 22:42	1
<b>Barium</b>	<b>0.0203</b>		0.0100		mg/L		12/27/19 11:57	01/04/20 22:42	1
Beryllium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 22:42	1
Cadmium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 22:42	1
Chromium	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 22:42	1
Cobalt	ND		0.000500		mg/L		12/27/19 11:57	01/04/20 22:42	1
Lead	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 22:42	1
<b>Lithium</b>	<b>0.706</b>		0.00500		mg/L		12/27/19 11:57	01/04/20 22:42	1
Molybdenum	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 22:42	1
Selenium	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 22:42	1
Thallium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 22:42	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/26/19 12:49	12/30/19 16:28	1

# Client Sample Results

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

Job ID: 180-100262-2

**Client Sample ID: SSP MW-2**

**Lab Sample ID: 180-100262-4**

Date Collected: 12/18/19 14:05

Matrix: Water

Date Received: 12/19/19 10:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.622		0.500		mg/L			12/26/19 21:54	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 23:22	1
Arsenic	0.00918		0.00100		mg/L		12/27/19 11:57	01/04/20 23:22	1
Barium	0.0280		0.0100		mg/L		12/27/19 11:57	01/04/20 23:22	1
Beryllium	0.0587		0.00100		mg/L		12/27/19 11:57	01/04/20 23:22	1
Cadmium	0.00460		0.00100		mg/L		12/27/19 11:57	01/04/20 23:22	1
Chromium	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 23:22	1
Cobalt	0.0922		0.000500		mg/L		12/27/19 11:57	01/04/20 23:22	1
Lead	0.00304		0.00100		mg/L		12/27/19 11:57	01/04/20 23:22	1
Lithium	0.579		0.00500		mg/L		12/27/19 11:57	01/04/20 23:22	1
Molybdenum	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 23:22	1
Selenium	0.0250		0.00500		mg/L		12/27/19 11:57	01/04/20 23:22	1
Thallium	0.00130		0.00100		mg/L		12/27/19 11:57	01/04/20 23:22	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/26/19 12:49	12/30/19 16:29	1

# Client Sample Results

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

Job ID: 180-100262-2

**Client Sample ID: AP MW-1D**

**Lab Sample ID: 180-100262-5**

Date Collected: 12/18/19 09:00

Matrix: Water

Date Received: 12/20/19 10:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.529		0.100		mg/L			12/26/19 22:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 23:27	1
Arsenic	0.00756		0.00100		mg/L		12/27/19 11:57	01/04/20 23:27	1
Barium	0.0169		0.0100		mg/L		12/27/19 11:57	01/04/20 23:27	1
Beryllium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:27	1
Cadmium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:27	1
Chromium	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 23:27	1
Cobalt	0.0146		0.000500		mg/L		12/27/19 11:57	01/04/20 23:27	1
Lead	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:27	1
Lithium	0.0346		0.00500		mg/L		12/27/19 11:57	01/04/20 23:27	1
Molybdenum	0.0157		0.00500		mg/L		12/27/19 11:57	01/04/20 23:27	1
Selenium	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 23:27	1
Thallium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:27	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/26/19 12:49	12/30/19 16:30	1

# Client Sample Results

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

Job ID: 180-100262-2

**Client Sample ID: AP MW-5**

**Lab Sample ID: 180-100262-6**

Date Collected: 12/18/19 10:05

Matrix: Water

Date Received: 12/20/19 10:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.32		0.500		mg/L			12/26/19 22:56	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 23:32	1
Arsenic	0.0168		0.00100		mg/L		12/27/19 11:57	01/04/20 23:32	1
Barium	ND		0.0100		mg/L		12/27/19 11:57	01/04/20 23:32	1
Beryllium	0.0743		0.00100		mg/L		12/27/19 11:57	01/04/20 23:32	1
Cadmium	0.00879		0.00100		mg/L		12/27/19 11:57	01/04/20 23:32	1
Chromium	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 23:32	1
Cobalt	0.149		0.000500		mg/L		12/27/19 11:57	01/04/20 23:32	1
Lead	0.00149		0.00100		mg/L		12/27/19 11:57	01/04/20 23:32	1
Lithium	0.416		0.00500		mg/L		12/27/19 11:57	01/04/20 23:32	1
Molybdenum	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 23:32	1
Selenium	0.0533		0.00500		mg/L		12/27/19 11:57	01/04/20 23:32	1
Thallium	0.00238		0.00100		mg/L		12/27/19 11:57	01/04/20 23:32	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.736		0.200		ug/L		12/26/19 12:49	12/30/19 16:31	1



# Client Sample Results

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

Job ID: 180-100262-2

**Client Sample ID: AP MW-4**

**Lab Sample ID: 180-100262-7**

**Date Collected: 12/18/19 11:30**

**Matrix: Water**

**Date Received: 12/20/19 10:00**

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.250		mg/L			12/27/19 00:27	2.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 23:37	1
Arsenic	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:37	1
<b>Barium</b>	<b>0.0137</b>		0.0100		mg/L		12/27/19 11:57	01/04/20 23:37	1
Beryllium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:37	1
Cadmium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:37	1
Chromium	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 23:37	1
Cobalt	ND		0.000500		mg/L		12/27/19 11:57	01/04/20 23:37	1
Lead	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:37	1
<b>Lithium</b>	<b>0.720</b>		0.00500		mg/L		12/27/19 11:57	01/04/20 23:37	1
Molybdenum	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 23:37	1
Selenium	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 23:37	1
Thallium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:37	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/26/19 12:49	12/30/19 16:32	1

# Client Sample Results

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

Job ID: 180-100262-2

**Client Sample ID: AP MW-6**

**Lab Sample ID: 180-100262-8**

Date Collected: 12/18/19 12:50

Matrix: Water

Date Received: 12/20/19 10:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.500		mg/L			12/27/19 00:58	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 23:42	1
Arsenic	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:42	1
<b>Barium</b>	<b>0.0398</b>		0.0100		mg/L		12/27/19 11:57	01/04/20 23:42	1
Beryllium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:42	1
Cadmium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:42	1
Chromium	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 23:42	1
Cobalt	ND		0.000500		mg/L		12/27/19 11:57	01/04/20 23:42	1
Lead	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:42	1
<b>Lithium</b>	<b>0.507</b>		0.00500		mg/L		12/27/19 11:57	01/04/20 23:42	1
Molybdenum	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 23:42	1
Selenium	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 23:42	1
Thallium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:42	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/26/19 12:49	12/30/19 16:32	1

# Client Sample Results

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

Job ID: 180-100262-2

**Client Sample ID: Dup 2**

**Lab Sample ID: 180-100262-9**

**Date Collected: 12/18/19 00:00**

**Matrix: Water**

**Date Received: 12/19/19 10:00**

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.500		mg/L			12/27/19 01:29	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 23:57	1
<b>Arsenic</b>	<b>0.00183</b>		0.00100		mg/L		12/27/19 11:57	01/04/20 23:57	1
<b>Barium</b>	<b>0.0244</b>		0.0100		mg/L		12/27/19 11:57	01/04/20 23:57	1
Beryllium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:57	1
Cadmium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:57	1
Chromium	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 23:57	1
Cobalt	ND		0.000500		mg/L		12/27/19 11:57	01/04/20 23:57	1
Lead	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:57	1
<b>Lithium</b>	<b>1.04</b>		0.00500		mg/L		12/27/19 11:57	01/04/20 23:57	1
Molybdenum	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 23:57	1
Selenium	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 23:57	1
Thallium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 23:57	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/26/19 12:49	12/30/19 16:33	1

# Client Sample Results

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

Job ID: 180-100262-2

**Client Sample ID: EQBK-SCM-121819**

**Lab Sample ID: 180-100262-10**

Date Collected: 12/18/19 14:40

Matrix: Water

Date Received: 12/20/19 10:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.100		mg/L			12/27/19 02:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/27/19 11:57	01/05/20 02:25	1
Arsenic	ND		0.00100		mg/L		12/27/19 11:57	01/05/20 02:25	1
Barium	ND		0.0100		mg/L		12/27/19 11:57	01/05/20 02:25	1
Beryllium	ND		0.00100		mg/L		12/27/19 11:57	01/05/20 02:25	1
Cadmium	ND		0.00100		mg/L		12/27/19 11:57	01/05/20 02:25	1
Chromium	ND		0.00200		mg/L		12/27/19 11:57	01/05/20 02:25	1
Cobalt	ND		0.000500		mg/L		12/27/19 11:57	01/05/20 02:25	1
Lead	ND		0.00100		mg/L		12/27/19 11:57	01/05/20 02:25	1
Lithium	ND		0.00500		mg/L		12/27/19 11:57	01/05/20 02:25	1
Molybdenum	ND		0.00500		mg/L		12/27/19 11:57	01/05/20 02:25	1
Selenium	ND		0.00500		mg/L		12/27/19 11:57	01/05/20 02:25	1
Thallium	ND		0.00100		mg/L		12/27/19 11:57	01/05/20 02:25	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/26/19 12:49	12/30/19 16:34	1



# Client Sample Results

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

Job ID: 180-100262-2

**Client Sample ID: EQBK-GG-121819**

**Lab Sample ID: 180-100262-11**

Date Collected: 12/18/19 14:30

Matrix: Water

Date Received: 12/20/19 10:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.100		mg/L			12/27/19 02:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/27/19 11:57	01/05/20 02:30	1
Arsenic	ND		0.00100		mg/L		12/27/19 11:57	01/05/20 02:30	1
Barium	ND		0.0100		mg/L		12/27/19 11:57	01/05/20 02:30	1
Beryllium	ND		0.00100		mg/L		12/27/19 11:57	01/05/20 02:30	1
Cadmium	ND		0.00100		mg/L		12/27/19 11:57	01/05/20 02:30	1
Chromium	ND		0.00200		mg/L		12/27/19 11:57	01/05/20 02:30	1
Cobalt	ND		0.000500		mg/L		12/27/19 11:57	01/05/20 02:30	1
Lead	ND		0.00100		mg/L		12/27/19 11:57	01/05/20 02:30	1
Lithium	ND		0.00500		mg/L		12/27/19 11:57	01/05/20 02:30	1
Molybdenum	ND		0.00500		mg/L		12/27/19 11:57	01/05/20 02:30	1
Selenium	ND		0.00500		mg/L		12/27/19 11:57	01/05/20 02:30	1
Thallium	ND		0.00100		mg/L		12/27/19 11:57	01/05/20 02:30	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/26/19 12:49	12/30/19 16:39	1

# QC Sample Results

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

Job ID: 180-100262-2

## Method: EPA 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 180-302513/52**  
**Matrix: Water**  
**Analysis Batch: 302513**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.100		mg/L			12/26/19 18:35	1

**Lab Sample ID: MB 180-302513/6**  
**Matrix: Water**  
**Analysis Batch: 302513**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.100		mg/L			12/26/19 06:40	1

**Lab Sample ID: LCS 180-302513/5**  
**Matrix: Water**  
**Analysis Batch: 302513**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.25	1.244		mg/L		99	80 - 120

**Lab Sample ID: LCS 180-302513/51**  
**Matrix: Water**  
**Analysis Batch: 302513**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.25	1.219		mg/L		97	80 - 120

## Method: EPA 6020A - Metals (ICP/MS)

**Lab Sample ID: MB 180-302674/1-A**  
**Matrix: Water**  
**Analysis Batch: 303115**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 302674**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 22:22	1
Arsenic	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 22:22	1
Barium	ND		0.0100		mg/L		12/27/19 11:57	01/04/20 22:22	1
Beryllium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 22:22	1
Cadmium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 22:22	1
Chromium	ND		0.00200		mg/L		12/27/19 11:57	01/04/20 22:22	1
Cobalt	ND		0.000500		mg/L		12/27/19 11:57	01/04/20 22:22	1
Lead	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 22:22	1
Lithium	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 22:22	1
Molybdenum	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 22:22	1
Selenium	ND		0.00500		mg/L		12/27/19 11:57	01/04/20 22:22	1
Thallium	ND		0.00100		mg/L		12/27/19 11:57	01/04/20 22:22	1

**Lab Sample ID: LCS 180-302674/2-A**  
**Matrix: Water**  
**Analysis Batch: 303115**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 302674**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.2413		mg/L		97	80 - 120
Arsenic	1.00	0.9690		mg/L		97	80 - 120

Eurofins TestAmerica, Pittsburgh

# QC Sample Results

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

Job ID: 180-100262-2

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

**Lab Sample ID: LCS 180-302674/2-A**  
**Matrix: Water**  
**Analysis Batch: 303115**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 302674**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	1.00	1.031		mg/L		103	80 - 120
Beryllium	0.500	0.5375		mg/L		108	80 - 120
Cadmium	0.500	0.4962		mg/L		99	80 - 120
Chromium	0.500	0.4550		mg/L		91	80 - 120
Cobalt	0.500	0.4661		mg/L		93	80 - 120
Lead	0.500	0.4688		mg/L		94	80 - 120
Lithium	0.500	0.5566		mg/L		111	80 - 120
Molybdenum	0.500	0.4996		mg/L		100	80 - 120
Selenium	1.00	0.9687		mg/L		97	80 - 120
Thallium	1.00	0.9464		mg/L		95	80 - 120

**Lab Sample ID: 180-100262-1 MS**  
**Matrix: Water**  
**Analysis Batch: 303115**

**Client Sample ID: SSP/AP MW-1**  
**Prep Type: Total Recoverable**  
**Prep Batch: 302674**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.250	0.2438		mg/L		98	75 - 125
Arsenic	0.00194		1.00	0.9801		mg/L		98	75 - 125
Barium	0.0252		1.00	1.063		mg/L		104	75 - 125
Beryllium	ND		0.500	0.4020		mg/L		80	75 - 125
Cadmium	ND		0.500	0.5163		mg/L		103	75 - 125
Chromium	ND		0.500	0.4064		mg/L		81	75 - 125
Cobalt	ND		0.500	0.4176		mg/L		84	75 - 125
Lead	ND		0.500	0.4784		mg/L		96	75 - 125
Lithium	1.05		0.500	1.550		mg/L		100	75 - 125
Molybdenum	ND		0.500	0.5109		mg/L		102	75 - 125
Selenium	ND		1.00	0.9633		mg/L		96	75 - 125
Thallium	ND		1.00	0.9713		mg/L		97	75 - 125

**Lab Sample ID: 180-100262-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 303115**

**Client Sample ID: SSP/AP MW-1**  
**Prep Type: Total Recoverable**  
**Prep Batch: 302674**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Antimony	ND		0.250	0.2431		mg/L		97	75 - 125	0	20
Arsenic	0.00194		1.00	0.9493		mg/L		95	75 - 125	3	20
Barium	0.0252		1.00	1.045		mg/L		102	75 - 125	2	20
Beryllium	ND		0.500	0.4074		mg/L		81	75 - 125	1	20
Cadmium	ND		0.500	0.4963		mg/L		99	75 - 125	4	20
Chromium	ND		0.500	0.3981		mg/L		80	75 - 125	2	20
Cobalt	ND		0.500	0.4076		mg/L		82	75 - 125	2	20
Lead	ND		0.500	0.4702		mg/L		94	75 - 125	2	20
Lithium	1.05		0.500	1.558		mg/L		101	75 - 125	1	20
Molybdenum	ND		0.500	0.4958		mg/L		99	75 - 125	3	20
Selenium	ND		1.00	0.9393		mg/L		94	75 - 125	3	20
Thallium	ND		1.00	0.9514		mg/L		95	75 - 125	2	20

Eurofins TestAmerica, Pittsburgh

# QC Sample Results

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

Job ID: 180-100262-2

## Method: EPA 7470A - Mercury (CVAA)

**Lab Sample ID: MB 180-302576/1-A**  
**Matrix: Water**  
**Analysis Batch: 302934**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 302576**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200		ug/L		12/26/19 12:49	12/30/19 16:08	1

**Lab Sample ID: LCS 180-302576/2-A**  
**Matrix: Water**  
**Analysis Batch: 302934**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 302576**  
**%Rec.**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	2.50	2.190		ug/L		88	80 - 120





# QC Association Summary

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

Job ID: 180-100262-2

## HPLC/IC

### Analysis Batch: 302513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100262-1	SSP/AP MW-1	Total/NA	Water	EPA 9056A	
180-100262-2	SSP MW-3	Total/NA	Water	EPA 9056A	
180-100262-3	SSP MW-4	Total/NA	Water	EPA 9056A	
180-100262-4	SSP MW-2	Total/NA	Water	EPA 9056A	
180-100262-5	AP MW-1D	Total/NA	Water	EPA 9056A	
180-100262-6	AP MW-5	Total/NA	Water	EPA 9056A	
180-100262-7	AP MW-4	Total/NA	Water	EPA 9056A	
180-100262-8	AP MW-6	Total/NA	Water	EPA 9056A	
180-100262-9	Dup 2	Total/NA	Water	EPA 9056A	
180-100262-10	EQBK-SCM-121819	Total/NA	Water	EPA 9056A	
180-100262-11	EQBK-GG-121819	Total/NA	Water	EPA 9056A	
MB 180-302513/52	Method Blank	Total/NA	Water	EPA 9056A	
MB 180-302513/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-302513/5	Lab Control Sample	Total/NA	Water	EPA 9056A	
LCS 180-302513/51	Lab Control Sample	Total/NA	Water	EPA 9056A	

## Metals

### Prep Batch: 302576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100262-1	SSP/AP MW-1	Total/NA	Water	7470A	
180-100262-2	SSP MW-3	Total/NA	Water	7470A	
180-100262-3	SSP MW-4	Total/NA	Water	7470A	
180-100262-4	SSP MW-2	Total/NA	Water	7470A	
180-100262-5	AP MW-1D	Total/NA	Water	7470A	
180-100262-6	AP MW-5	Total/NA	Water	7470A	
180-100262-7	AP MW-4	Total/NA	Water	7470A	
180-100262-8	AP MW-6	Total/NA	Water	7470A	
180-100262-9	Dup 2	Total/NA	Water	7470A	
180-100262-10	EQBK-SCM-121819	Total/NA	Water	7470A	
180-100262-11	EQBK-GG-121819	Total/NA	Water	7470A	
MB 180-302576/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-302576/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Prep Batch: 302674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100262-1	SSP/AP MW-1	Total Recoverable	Water	3005A	
180-100262-2	SSP MW-3	Total Recoverable	Water	3005A	
180-100262-3	SSP MW-4	Total Recoverable	Water	3005A	
180-100262-4	SSP MW-2	Total Recoverable	Water	3005A	
180-100262-5	AP MW-1D	Total Recoverable	Water	3005A	
180-100262-6	AP MW-5	Total Recoverable	Water	3005A	
180-100262-7	AP MW-4	Total Recoverable	Water	3005A	
180-100262-8	AP MW-6	Total Recoverable	Water	3005A	
180-100262-9	Dup 2	Total Recoverable	Water	3005A	
180-100262-10	EQBK-SCM-121819	Total Recoverable	Water	3005A	
180-100262-11	EQBK-GG-121819	Total Recoverable	Water	3005A	
MB 180-302674/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-302674/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-100262-1 MS	SSP/AP MW-1	Total Recoverable	Water	3005A	
180-100262-1 MSD	SSP/AP MW-1	Total Recoverable	Water	3005A	

Eurofins TestAmerica, Pittsburgh

# QC Association Summary

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

Job ID: 180-100262-2

## Metals

### Analysis Batch: 302934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100262-1	SSP/AP MW-1	Total/NA	Water	EPA 7470A	302576
180-100262-2	SSP MW-3	Total/NA	Water	EPA 7470A	302576
180-100262-3	SSP MW-4	Total/NA	Water	EPA 7470A	302576
180-100262-4	SSP MW-2	Total/NA	Water	EPA 7470A	302576
180-100262-5	AP MW-1D	Total/NA	Water	EPA 7470A	302576
180-100262-6	AP MW-5	Total/NA	Water	EPA 7470A	302576
180-100262-7	AP MW-4	Total/NA	Water	EPA 7470A	302576
180-100262-8	AP MW-6	Total/NA	Water	EPA 7470A	302576
180-100262-9	Dup 2	Total/NA	Water	EPA 7470A	302576
180-100262-10	EQBK-SCM-121819	Total/NA	Water	EPA 7470A	302576
180-100262-11	EQBK-GG-121819	Total/NA	Water	EPA 7470A	302576
MB 180-302576/1-A	Method Blank	Total/NA	Water	EPA 7470A	302576
LCS 180-302576/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	302576

### Analysis Batch: 303115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100262-1	SSP/AP MW-1	Total Recoverable	Water	EPA 6020A	302674
180-100262-2	SSP MW-3	Total Recoverable	Water	EPA 6020A	302674
180-100262-3	SSP MW-4	Total Recoverable	Water	EPA 6020A	302674
180-100262-4	SSP MW-2	Total Recoverable	Water	EPA 6020A	302674
180-100262-5	AP MW-1D	Total Recoverable	Water	EPA 6020A	302674
180-100262-6	AP MW-5	Total Recoverable	Water	EPA 6020A	302674
180-100262-7	AP MW-4	Total Recoverable	Water	EPA 6020A	302674
180-100262-8	AP MW-6	Total Recoverable	Water	EPA 6020A	302674
180-100262-9	Dup 2	Total Recoverable	Water	EPA 6020A	302674
180-100262-10	EQBK-SCM-121819	Total Recoverable	Water	EPA 6020A	302674
180-100262-11	EQBK-GG-121819	Total Recoverable	Water	EPA 6020A	302674
MB 180-302674/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	302674
LCS 180-302674/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	302674
180-100262-1 MS	SSP/AP MW-1	Total Recoverable	Water	EPA 6020A	302674
180-100262-1 MSD	SSP/AP MW-1	Total Recoverable	Water	EPA 6020A	302674

<b>Client Information</b> Client Contact: Greg Seifert Company: Wood E&I Solutions Inc Address: 3755 South Capital of Texas Highway Suite 375 City: Austin, TX, 78704 Phone: greg.seifert@woodpic.com Project Name: CCR TMPA Gibbons Creek/ Event Desc: CCR Site: Texas		Lab PM: Lage, Gail E-Mail: gail.lage@testamericainc.com Phone: 512-413-3876 Carrier Tracking No(s): COC No: 490-104350-24093.2 Page: 1 of 1 Job #: 181	
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #: Project #: 49013510 SSO#:		<b>Analysis Requested</b> Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 9030, 9040 9056A, ORGFM, 28D - (MOD) Fluoride 6020A, 7470A Total Number of Containers	
<b>Sample Identification</b> SSP/AP MW-1 SSP MW-3 SSP MW-4 SSP MW-2 AP MW-1D AP MW-5 AP MW-4 AP MW-6 DUP-2 EQBK-SCM-121819 EQBK-GG-121819		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 Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Sample Date 12-18-19 Sample Time 0940 1110 1230 1405 0900 1005 1130 1250 1250 1440 1430		Sample Type (C=Comp, G=grab) Matrix (W=water, S=solid, O=organic, A=air) Preservation Code: Water Water Water Water Water Water Water Water Water Water Water Water	
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Relinquished by: <i>Samuel C. MacFarland C. Moran</i> Relinquished by: <i>Samuel C. MacFarland C. Moran</i> Relinquished by:		Received by: <i>Dellic Watson</i> Received by: <i>Dellic Watson</i> Received by:	
Date: 12-18-19 @ 1545 Date/Time: 12-18-19 @ 1545 Date/Time:		Date/Time: 12-20-19 Date/Time: 10:00 Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	



## Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-100262-2

**Login Number: 100262**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

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





## Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-100262-2

**Login Number: 100262**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 2**

**Creator: Watson, Debbie**

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



## List of Abbreviations



## List of Abbreviations

AP - Ash Pond  
C-O-C – chain-of-custody  
COC – Chemical of Concern  
Dup - Duplicate Sample  
DUS – Data Usability Summary  
EQBK - Equipment Blank  
ER – Exception Report  
GCSES – Gibbons Creek Steam Electric Station  
LCS - Laboratory Control Sample  
LCSD - Laboratory Control Sample Duplicate  
LRC – Laboratory Review Checklist  
MDC - Minimum Detectable Concentration  
MDL - Method Detection Limit  
mg/L - milligrams per liter  
MNW/MW - Monitoring Well  
MS - Matrix Spike  
MSD - Matrix Spike Duplicate  
NELAP - National Environmental Laboratory Accreditation Program  
pCi/L - picoCuries per Liter  
QA/QC - quality assurance/quality control  
QC - Quality Control  
RL - Reporting Limit  
RPD - Relative Percent Difference  
S.U. - Standard Units  
SDL - Sample Detection Limit  
SFL - Site F Landfill  
SSP - Scrubber Sludge Pond  
TA – Test America  
TCEQ – Texas Commission on Environmental Quality  
TDS - Total Dissolved Solids  
TMPA – Texas Municipal Power Agency  
TRRP – Texas Risk Reduction Program

## Data Usability Summary Report

June 16-17, 2020 Groundwater Monitoring Event

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

### Introduction

Wood reviewed four (4) data packages from Eurofins TestAmerica (TA) in Pittsburgh, Pennsylvania for the analyses of groundwater samples collected during the June 16 – 17, 2020 groundwater monitoring event conducted at the Texas Municipal Power Agency (TMPA) - Gibbons Creek Steam Electric Station (GCSES) located in Anderson, Texas (the Site). This Data Usability Summary (DUS) documents the review of the following laboratory data packages:

- 180-107147-1 – CCR, dated July 26, 2020
- 180-107147-2 – CCR, dated July 17, 2020
- 180-107191-1 – CCR, dated July 26, 2020
- 180-107191-2 – CCR, dated July 17, 2020

These data were reviewed for adherence to project objectives that conform to the requirements of the Texas Commission on Environmental Quality's (TCEQ) Texas Risk Reduction Program (TRRP) guidance document, Review and Reporting of COC Concentration Data (RG-366/TRRP-13). At the time the laboratory data were generated for the project, TA was National Environmental Laboratory Accreditation Program (NELAP)-accredited (NELAP Certification No. T104704528-20-9) for the matrices, methods, and analyses associated with this project except as qualified in the laboratory's exception report and/or this DUS summary.

### Intended Use of Data

Analytical results were collected to provide current concentrations of Chemicals of Concern (COCs) in groundwater samples within the Site to meet project requirements. The requested chemical analyses and methods for both data packages were comprised of the following:

- Chloride, Fluoride, and Sulfate by Method 9056A,
- Metals (Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Molybdenum, Selenium, Thallium) by Method 6020A,
- Mercury by Method 7470A,
- Total Dissolved Solids (TDS) by Method SM 2540C, and
- Radium 226 and 228 by Methods 903.0, 904.0, and Ra226\_Ra228.

Data were reviewed and validated as described in RG-366/TRRP-13 and **Table 1**, and the results of the review/validation are discussed in this DUS. The following laboratory submittals and field data were examined:

- the reportable data; and
- the laboratory quality assurance/quality control (QA/QC) Report Summaries.

The laboratory data packages and a list of the abbreviations used in this review are attached.



**Table 1: RG-366/TRRP-13 Objectives**

Data Usability Summary Report  
June 16-17, 2019 Groundwater Monitoring Event

COC	Recovery %	RPD
Metals	75-125%	<30%
Inorganic Compounds	70-130%	<40%

Abbreviation:

RPD – Relative Percent Difference

## Data Review / Validation Results

One (1) set of groundwater samples, totaling sixteen (16) field samples, was collected and analyzed. Samples were collected from monitoring wells located within and adjacent to the Scrubber Sludge Pond (SSP), Ash Pond (AP), and Site F Landfill (SFL) areas within the Site. The SSP contained a total of four (4) field samples, AP contained a total of five (5) field samples, and the SFL contained a total of eight (8) field samples, sample SSP/AP MW-1 is included in the SSP and AP field sample counts. In addition to field groundwater samples, QA/QC samples were also submitted and analyzed. These QC/QA samples included four (4) equipment blank (EQBK) samples and two (2) field duplicate (Dup) samples. The sample identifications cross-referenced to laboratory identifications are listed in **Table 2**.

All field groundwater samples and QA/QC samples were analyzed for a site-specific list of Chloride, Fluoride, Sulfate, TDS, Metals, Mercury, and Radionuclides.

## Analytical Results

Detected results with matrix spike (MS) and/or matrix spike duplicate (MSD) recovery exceeding the control limits are qualified as "F1". Sample results where instrument related QC is outside acceptable limits are qualified as "^". MS/MSD results in which the analyte present in the original sample is greater than four times the MS concentration causing control limits to not be applicable are qualified as "4". Qualified data are summarized in **Table 3**.

## Preservation and Holding Times

Samples were evaluated for agreement with the chain-of-custody (C-O-C). All samples were received in the appropriate containers and in good condition with the paperwork filled out properly. Sample receipt temperatures were recorded between 1.1 degrees Celsius (°C) and 4.6°C.

Samples were preserved in the field as specified in SW-846 *Table 2-40B*. All additional analyses were completed within the holding times specified in SW-846 *Table 2-40B*.

## Blanks

Target analytes were not detected in any of the laboratory method blanks or field equipment blanks associated with the groundwater samples, except for the EQBK samples: EQBK-SCM-061620 and EQBK-GG-061620. Chromium concentration for sample EQBK-SCM-061620 was reported as 0.00684 mg/L. Sample EQBK-GG-061620 result for chloride was reported as 1.16 mg/L.

## Laboratory Control Samples (LCS)

The LCS recoveries and RPDs, where provided, were within laboratory control limits and met the project review criteria.

## MS/MSD

The assumption has been made that only site-specific MS/MSD affects the samples in the respective batch from the same matrix. All MS/MSD analyses were within the project review criteria with the exception of the following:

- Batch 320632 – The MS/MSD sample results for Chloride, Fluoride and Sulfate were flagged with a “F1,” recovery exceeding the control limits.
- Batch 319205 – The MS/MSD sample result for Calcium was flagged with a “4”, detected at a value greater than four times the spike level.

## Field Precision

Concentrations of chloride, sulfate, TDS, some metals, and radionuclides were detected in duplicate samples Dup 1 and Dup 2 (**Table 4**). Duplicate sample results were compared to field sample results and the RPD was determined utilizing the following equation:

$$\text{RPD} = \frac{((\text{Sample Result} - \text{Duplicate Result}) * 200)}{(\text{Sample Result} + \text{Duplicate Result})}$$

All RPD values were within the project review criteria.

## Summary

The overall quality of the analytical data was found to be within the QC limits established by the analytical methods and project review criteria presented in *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13). Some analytical results were qualified due to QC issues as described above and listed in **Table 3**. Target analytes were not detected in any of the laboratory method blanks or equipment blanks associated with the groundwater samples, except for the samples EQBK-SCM-061620 and EQBK-GG-061620 for the analytes described above. All RPD values were within the project review criteria. The LCS recoveries and RPDs, where provided, and MS/MSD analyses were within the project review criteria, except where mentioned above.

Groundwater analytical data collected on June 16-17, 2020 are usable to support project decisions on determining COC concentrations for the groundwater samples collected at the Site.

### Prepared By:



Jessica L. Hinojosa, P.G.  
Geoscientist

### Reviewed By:



Carl Teinert, P.G.  
Senior Geoscientist

## **Attachments**

Table 2 – Cross Reference Field Sample Identification and Laboratory Identification

Table 3 – Qualified Chemical Data

Table 4 – Field Duplicate Sample Comparison Table

Laboratory Data Packages

List of Abbreviations



**Table 2**  
**Cross Reference Field Sample Identification and Laboratory  
Identification**





**Table 2: Cross Reference Field Sample Identification and Laboratory Identification**

Data Usability Summary Report

June 16-17, 2020 Groundwater Monitoring Event

Laboratory Job Number	Lab Sample ID	Sample ID	Collection Date	Matrix	Comments
180-107147-1	180-107147-1	SFL MW-2	6/16/2020	Water	
180-107147-1	180-107147-2	SFL MW-3	6/16/2020	Water	
180-107147-1	180-107147-3	SFL MW-4	6/16/2020	Water	
180-107147-1	180-107147-4	SFL MW-5	6/16/2020	Water	
180-107147-1	180-107147-5	SFL MW-6	6/16/2020	Water	
180-107147-1	180-107147-6	SFL MW-7	6/16/2020	Water	
180-107147-1	180-107147-7	MNW-15	6/16/2020	Water	
180-107147-1	180-107147-8	MNW-18	6/16/2020	Water	
180-107147-1	180-107147-9	Dup 1	6/16/2020	Water	Field duplicate sample of SFL MW-7
180-107147-1	180-107147-10	EQBK-SCM-061620	6/16/2020	Water	Equipment blank collected on 6/16/20
180-107147-1	180-107147-11	EQBK-GG-061620	6/16/2020	Water	Equipment blank collected on 6/16/20
180-107147-2	180-107147-1	SFL MW-2	6/16/2020	Water	
180-107147-2	180-107147-2	SFL MW-3	6/16/2020	Water	
180-107147-2	180-107147-3	SFL MW-4	6/16/2020	Water	
180-107147-2	180-107147-4	SFL MW-5	6/16/2020	Water	
180-107147-2	180-107147-5	SFL MW-6	6/16/2020	Water	
180-107147-2	180-107147-6	SFL MW-7	6/16/2020	Water	
180-107147-2	180-107147-7	MNW-15	6/16/2020	Water	
180-107147-2	180-107147-8	MNW-18	6/16/2020	Water	
180-107147-2	180-107147-9	Dup 1	6/16/2020	Water	Field duplicate sample of SFL MW-7
180-107147-2	180-107147-10	EQBK-SCM-061620	6/16/2020	Water	Equipment blank collected on 6/16/20
180-107147-2	180-107147-11	EQBK-GG-061620	6/16/2020	Water	Equipment blank collected on 6/16/20
180-107191-1	180-107191-1	AP MW-1D	6/17/2020	Water	
180-107191-1	180-107191-2	AP MW-5	6/17/2020	Water	
180-107191-1	180-107191-3	AP MW-4	6/17/2020	Water	
180-107191-1	180-107191-4	SSP/AP MW-1	6/17/2020	Water	
180-107191-1	180-107191-5	SSP MW-2	6/17/2020	Water	
180-107191-1	180-107191-6	SSP MW-3	6/17/2020	Water	
180-107191-1	180-107191-7	SSP MW-4	6/17/2020	Water	
180-107191-1	180-107191-8	AP MW-3	6/17/2020	Water	
180-107191-1	180-107191-9	Dup 2	6/17/2020	Water	Field duplicate of sample SSP MW-4
180-107191-1	180-107191-10	Equip Blank-1SCM-061720	6/17/2020	Water	Equipment blank collected on 6/17/20
180-107191-1	180-107191-11	Equip Blank-2GG-061720	6/17/2020	Water	Equipment blank collected on 6/17/20
180-107191-2	180-107191-1	AP MW-1D	6/17/2020	Water	
180-107191-2	180-107191-2	AP MW-5	6/17/2020	Water	
180-107191-2	180-107191-3	AP MW-4	6/17/2020	Water	
180-107191-2	180-107191-4	SSP/AP MW-1	6/17/2020	Water	
180-107191-2	180-107191-5	SSP MW-2	6/17/2020	Water	
180-107191-2	180-107191-6	SSP MW-3	6/17/2020	Water	
180-107191-2	180-107191-7	SSP MW-4	6/17/2020	Water	
180-107191-2	180-107191-8	AP MW-3	6/17/2020	Water	
180-107191-2	180-107191-9	Dup 2	6/17/2020	Water	Field duplicate of sample SSP MW-4
180-107191-2	180-107191-10	Equip Blank-1SCM-061720	6/17/2020	Water	Equipment blank collected on 6/17/20
180-107191-2	180-107191-11	Equip Blank-2GG-061720	6/17/2020	Water	Equipment blank collected on 6/17/20

## **Table 3**

### **Qualified Chemical Data**



**Table 3: Qualified Chemical Data**  
 Data Usability Summary Report  
 June 16-17, 2020 Groundwater Monitoring Event

Lab Sample ID	Sample ID	Analyte	Qualifier	Reason for Qualification
180-107147-1	SFL MW-2	Chloride	F1	MS and/or MSD Recovery exceeds control limits.
180-107147-1 MS	SFL MW-2	Chloride	F1	MS and/or MSD Recovery exceeds control limits.
180-107147-1 MSD	SFL MW-2	Chloride	F1	MS and/or MSD Recovery exceeds control limits.
180-107141-1	SFL MW-2	Fluoride	F1	MS and/or MSD Recovery exceeds control limits.
180-107141-1 MS	SFL MW-2	Fluoride	F1	MS and/or MSD Recovery exceeds control limits.
180-107141-1 MSD	SFL MW-2	Fluoride	F1	MS and/or MSD Recovery exceeds control limits.
180-107141-1	SFL MW-2	Sulfate	F1	MS and/or MSD Recovery exceeds control limits.
180-107141-1 MS	SFL MW-2	Sulfate	F1	MS and/or MSD Recovery exceeds control limits.
180-107141-1 MSD	SFL MW-2	Sulfate	F1	MS and/or MSD Recovery exceeds control limits.
180-107147-8	MNW-18	Beryllium	^	Instrument related QC is outside acceptance limits.
180-107147-9	Dup-1	Beryllium	^	Instrument related QC is outside acceptance limits.
180-107147-10	EQBK-SCM-061620	Beryllium	^	Instrument related QC is outside acceptance limits.
180-107147-11	EQBK-GG-061620	Beryllium	^	Instrument related QC is outside acceptance limits.
180-107147-1 MS	SFL MW-2	Calcium	4	MS/MSD analyte present in the original sample is greater than 4 times the MS
180-107147-1 MSD	SFL MW-2	Calcium	4	MS/MSD analyte present in the original sample is greater than 4 times the MS

**Table 4**  
**Field Duplicate Sample Comparison Table**





**Table 4: Field Duplicate Sample Comparison Table**

Data Usability Summary Report

June 16-17, 2020 Groundwater Monitoring Event

Lab Sample ID	Sample ID	Duplicate ID	Analyte	Matrix	Units	Sample Result	Duplicate Result	RPD%	Qualifier
180-107147-6	SFL MW-7	Dup 1	Radium-226	Water	pCi/L	0.560	0.711	23.76	Pass
180-107147-6	SFL MW-7	Dup 1	Radium-228	Water	pCi/L	1.43	1.89	27.71	Pass
180-107147-6	SFL MW-7	Dup 1	Combined Radium 226+228	Water	pCi/L	1.99	2.60	26.58	Pass
180-107147-6	SFL MW-7	Dup 1	Chloride	Water	mg/L	2880	2890	0.35	Pass
180-107147-6	SFL MW-7	Dup 1	Fluoride	Water	mg/L	<0.500	<0.500	---	Pass
180-107147-6	SFL MW-7	Dup 1	Sulfate	Water	mg/L	816	859	5.13	Pass
180-107147-6	SFL MW-7	Dup 1	Antimony	Water	mg/L	<0.00200	<0.00200	---	Pass
180-107147-6	SFL MW-7	Dup 1	Arsenic	Water	mg/L	<0.00100	<0.00100	---	Pass
180-107147-6	SFL MW-7	Dup 1	Barium	Water	mg/L	0.0342	0.0372	8.40	Pass
180-107147-6	SFL MW-7	Dup 1	Beryllium	Water	mg/L	<0.00100	<0.00100	---	Pass
180-107147-6	SFL MW-7	Dup 1	Boron	Water	mg/L	0.832	0.769	7.87	Pass
180-107147-6	SFL MW-7	Dup 1	Cadmium	Water	mg/L	<0.00100	<0.00100	---	Pass
180-107147-6	SFL MW-7	Dup 1	Calcium	Water	mg/L	643	694	7.63	Pass
180-107147-6	SFL MW-7	Dup 1	Chromium	Water	mg/L	<0.00200	<0.00200	---	Pass
180-107147-6	SFL MW-7	Dup 1	Cobalt	Water	mg/L	<0.000500	<0.000500	---	Pass
180-107147-6	SFL MW-7	Dup 1	Lead	Water	mg/L	<0.00100	<0.00100	---	Pass
180-107147-6	SFL MW-7	Dup 1	Lithium	Water	mg/L	0.447	0.467	4.38	Pass
180-107147-6	SFL MW-7	Dup 1	Molybdenum	Water	mg/L	<0.00500	<0.00500	---	Pass
180-107147-6	SFL MW-7	Dup 1	Selenium	Water	mg/L	<0.00500	<0.00500	---	Pass
180-107147-6	SFL MW-7	Dup 1	Thallium	Water	mg/L	<0.00100	<0.00100	---	Pass
180-107147-6	SFL MW-7	Dup 1	Mercury	Water	mg/L	<0.000200	<0.000200	---	Pass
180-107147-6	SFL MW-7	Dup 1	TDS	Water	mg/L	5830	6040	3.54	Pass
180-107191-7	SSP MW-4	Dup 2	Radium-226	Water	pCi/L	0.731	0.725	0.82	Pass
180-107191-7	SSP MW-4	Dup 2	Radium-228	Water	pCi/L	1.87	1.27	38.22	Pass
180-107191-7	SSP MW-4	Dup 2	Combined Radium 226+228	Water	pCi/L	2.60	1.99	26.58	Pass
180-107191-7	SSP MW-4	Dup 2	Chloride	Water	mg/L	1350	1310	3.01	Pass
180-107191-7	SSP MW-4	Dup 2	Fluoride	Water	mg/L	<0.500	<0.500	---	Pass
180-107191-7	SSP MW-4	Dup 2	Sulfate	Water	mg/L	1340	1450	7.89	Pass
180-107191-7	SSP MW-4	Dup 2	Antimony	Water	mg/L	<0.00200	<0.00200	---	Pass
180-107191-7	SSP MW-4	Dup 2	Arsenic	Water	mg/L	0.00103	0.001200	15.25	Pass
180-107191-7	SSP MW-4	Dup 2	Barium	Water	mg/L	0.0273	0.0267	2.22	Pass
180-107191-7	SSP MW-4	Dup 2	Beryllium	Water	mg/L	<0.00100	<0.00100	---	Pass
180-107191-7	SSP MW-4	Dup 2	Boron	Water	mg/L	1.17	1.16	0.86	Pass
180-107191-7	SSP MW-4	Dup 2	Cadmium	Water	mg/L	<0.00100	<0.00100	---	Pass
180-107191-7	SSP MW-4	Dup 2	Calcium	Water	mg/L	403	411	1.97	Pass
180-107191-7	SSP MW-4	Dup 2	Chromium	Water	mg/L	0.00762	0.00748	1.85	Pass
180-107191-7	SSP MW-4	Dup 2	Cobalt	Water	mg/L	<0.000500	<0.000500	---	Pass
180-107191-7	SSP MW-4	Dup 2	Lead	Water	mg/L	<0.00100	<0.00100	---	Pass
180-107191-7	SSP MW-4	Dup 2	Lithium	Water	mg/L	0.911	0.927	1.74	Pass
180-107191-7	SSP MW-4	Dup 2	Molybdenum	Water	mg/L	<0.00500	<0.00500	---	Pass
180-107191-7	SSP MW-4	Dup 2	Selenium	Water	mg/L	<0.00500	<0.00500	---	Pass
180-107191-7	SSP MW-4	Dup 2	Thallium	Water	mg/L	<0.00100	<0.00100	---	Pass
180-107191-7	SSP MW-4	Dup 2	Mercury	Water	mg/L	<0.000200	<0.000200	---	Pass
180-107191-7	SSP MW-4	Dup 2	TDS	Water	mg/L	3880	3620	6.93	Pass

## Laboratory Data Packages



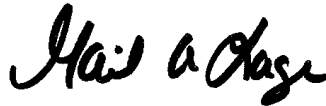
## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-107147-1  
Client Project/Site: TMPA Gibbons Creek

For:  
Wood E&I Solutions Inc  
3520 Executive Center Drive Suite 220  
Austin, Texas 78731

Attn: Charlie Macon



Authorized for release by:  
7/26/2020 9:38:12 PM

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### LINKS

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

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

PA Lab ID: 02-00416

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions/Glossary . . . . .	4
Certification Summary . . . . .	5
Sample Summary . . . . .	6
Method Summary . . . . .	7
Lab Chronicle . . . . .	8
Client Sample Results . . . . .	12
QC Sample Results . . . . .	23
QC Association Summary . . . . .	25
Chain of Custody . . . . .	26
Receipt Checklists . . . . .	32



# Case Narrative

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

Job ID: 180-107147-1

**Job ID: 180-107147-1**

**Laboratory: Eurofins TestAmerica, Pittsburgh**

## Narrative

**Job Narrative  
180-107147-1**

## Comments

No additional comments.

## Receipt

The samples were received on 6/17/2020 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.1° C, 3.2° C and 4.4° C.

## RAD

Method 903.0: Radium-226 Prep Batch 160-474299:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

SFL MW-2 (180-107147-1), SFL MW-2 (180-107147-1[DU]), SFL MW-3 (180-107147-2), SFL MW-4 (180-107147-3), SFL MW-5 (180-107147-4), SFL MW-6 (180-107147-5), SFL MW-7 (180-107147-6), MNW-15 (180-107147-7), MNW-18 (180-107147-8), Dup-1 (180-107147-9), EqBK-SCM-061620 (180-107147-10), EqBK-GG-061620 (180-107147-11), (LCS 160-474299/1-A) and (MB 160-474299/14-A)

Method 904.0: Radium 228 Prep Batch 160-474302:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

SFL MW-2 (180-107147-1), SFL MW-2 (180-107147-1[DU]), SFL MW-3 (180-107147-2), SFL MW-4 (180-107147-3), SFL MW-5 (180-107147-4), SFL MW-6 (180-107147-5), SFL MW-7 (180-107147-6), MNW-15 (180-107147-7), MNW-18 (180-107147-8), Dup-1 (180-107147-9), EqBK-SCM-061620 (180-107147-10), EqBK-GG-061620 (180-107147-11), (LCS 160-474302/1-A) and (MB 160-474302/14-A)

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

# Definitions/Glossary

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

Job ID: 180-107147-1

## Qualifiers

### Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Accreditation/Certification Summary

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

Job ID: 180-107147-1

## Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-20
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-21
Illinois	NELAP	004553	11-30-20
Iowa	State	373	09-17-20
Kansas	NELAP	E-10236	10-31-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	07-01-21
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-20
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-20
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-20
Pennsylvania	NELAP	68-00540	02-28-21
Texas	NELAP	T104704193-19-13	07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-20
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-20
West Virginia DEP	State	381	10-31-20

# Sample Summary

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

Job ID: 180-107147-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-107147-1	SFL MW-2	Water	06/16/20 13:35	06/17/20 09:00	
180-107147-2	SFL MW-3	Water	06/16/20 11:15	06/17/20 09:00	
180-107147-3	SFL MW-4	Water	06/16/20 12:20	06/17/20 09:00	
180-107147-4	SFL MW-5	Water	06/16/20 11:05	06/17/20 09:00	
180-107147-5	SFL MW-6	Water	06/16/20 12:35	06/17/20 09:00	
180-107147-6	SFL MW-7	Water	06/16/20 10:10	06/17/20 09:00	
180-107147-7	MNW-15	Water	06/16/20 09:05	06/17/20 09:00	
180-107147-8	MNW-18	Water	06/16/20 09:50	06/17/20 09:00	
180-107147-9	Dup-1	Water	06/16/20 00:00	06/17/20 09:00	
180-107147-10	EqBK-SCM-061620	Water	06/16/20 14:55	06/17/20 09:00	
180-107147-11	EqBK-GG-061620	Water	06/16/20 14:50	06/17/20 09:00	





# Method Summary

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

Job ID: 180-107147-1

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 = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Lab Chronicle

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

Job ID: 180-107147-1

## Client Sample ID: SFL MW-2

Lab Sample ID: 180-107147-1

Date Collected: 06/16/20 13:35

Matrix: Water

Date Received: 06/17/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.98 mL	1.0 g	474299	06/23/20 12:33	RJD	TAL SL
Total/NA	Analysis	903.0		1			476776	07/20/20 07:41	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			999.98 mL	1.0 g	474302	06/23/20 12:49	RJD	TAL SL
Total/NA	Analysis	904.0		1			476644	07/17/20 14:26	JLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			477176	07/22/20 10:46	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SFL MW-3

Lab Sample ID: 180-107147-2

Date Collected: 06/16/20 11:15

Matrix: Water

Date Received: 06/17/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.36 mL	1.0 g	474299	06/23/20 12:33	RJD	TAL SL
Total/NA	Analysis	903.0		1			476776	07/20/20 09:23	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.36 mL	1.0 g	474302	06/23/20 12:49	RJD	TAL SL
Total/NA	Analysis	904.0		1			476644	07/17/20 14:26	JLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			477176	07/22/20 10:46	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SFL MW-4

Lab Sample ID: 180-107147-3

Date Collected: 06/16/20 12:20

Matrix: Water

Date Received: 06/17/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.29 mL	1.0 g	474299	06/23/20 12:33	RJD	TAL SL
Total/NA	Analysis	903.0		1			476658	07/20/20 10:58	JLC	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.29 mL	1.0 g	474302	06/23/20 12:49	RJD	TAL SL
Total/NA	Analysis	904.0		1			476644	07/17/20 14:26	JLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			477176	07/22/20 10:46	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SFL MW-5

Lab Sample ID: 180-107147-4

Date Collected: 06/16/20 11:05

Matrix: Water

Date Received: 06/17/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.48 mL	1.0 g	474299	06/23/20 12:33	RJD	TAL SL
Total/NA	Analysis	903.0		1			476658	07/20/20 10:58	JLC	TAL SL
Instrument ID: GFPCRED										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-107147-1

## Client Sample ID: SFL MW-5

Lab Sample ID: 180-107147-4

Date Collected: 06/16/20 11:05

Matrix: Water

Date Received: 06/17/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.48 mL	1.0 g	474302	06/23/20 12:49	RJD	TAL SL
Total/NA	Analysis	904.0		1			476644	07/17/20 14:26	JLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			477176	07/22/20 10:46	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SFL MW-6

Lab Sample ID: 180-107147-5

Date Collected: 06/16/20 12:35

Matrix: Water

Date Received: 06/17/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.03 mL	1.0 g	474299	06/23/20 12:33	RJD	TAL SL
Total/NA	Analysis	903.0		1			476658	07/20/20 10:58	JLC	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.03 mL	1.0 g	474302	06/23/20 12:49	RJD	TAL SL
Total/NA	Analysis	904.0		1			476644	07/17/20 14:26	JLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			477176	07/22/20 10:46	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SFL MW-7

Lab Sample ID: 180-107147-6

Date Collected: 06/16/20 10:10

Matrix: Water

Date Received: 06/17/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.37 mL	1.0 g	474299	06/23/20 12:33	RJD	TAL SL
Total/NA	Analysis	903.0		1			476658	07/20/20 10:58	JLC	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.37 mL	1.0 g	474302	06/23/20 12:49	RJD	TAL SL
Total/NA	Analysis	904.0		1			476644	07/17/20 14:27	JLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			477176	07/22/20 10:46	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MNW-15

Lab Sample ID: 180-107147-7

Date Collected: 06/16/20 09:05

Matrix: Water

Date Received: 06/17/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.40 mL	1.0 g	474299	06/23/20 12:33	RJD	TAL SL
Total/NA	Analysis	903.0		1			476658	07/20/20 10:59	JLC	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.40 mL	1.0 g	474302	06/23/20 12:49	RJD	TAL SL
Total/NA	Analysis	904.0		1			476644	07/17/20 14:27	JLC	TAL SL
Instrument ID: GFPCPURPLE										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-107147-1

## Client Sample ID: MNW-15

Date Collected: 06/16/20 09:05

Date Received: 06/17/20 09:00

## Lab Sample ID: 180-107147-7

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	Ra226_Ra228		1			477176	07/22/20 10:46	SMP	TAL SL

## Client Sample ID: MNW-18

Date Collected: 06/16/20 09:50

Date Received: 06/17/20 09:00

## Lab Sample ID: 180-107147-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.34 mL	1.0 g	474299	06/23/20 12:33	RJD	TAL SL
Total/NA	Analysis	903.0		1			476658	07/20/20 10:59	JLC	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.34 mL	1.0 g	474302	06/23/20 12:49	RJD	TAL SL
Total/NA	Analysis	904.0		1			476644	07/17/20 14:27	JLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			477176	07/22/20 10:46	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: Dup-1

Date Collected: 06/16/20 00:00

Date Received: 06/17/20 09:00

## Lab Sample ID: 180-107147-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.48 mL	1.0 g	474299	06/23/20 12:33	RJD	TAL SL
Total/NA	Analysis	903.0		1			476658	07/20/20 10:59	JLC	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.48 mL	1.0 g	474302	06/23/20 12:49	RJD	TAL SL
Total/NA	Analysis	904.0		1			476644	07/17/20 14:27	JLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			477176	07/22/20 10:46	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: EqBK-SCM-061620

Date Collected: 06/16/20 14:55

Date Received: 06/17/20 09:00

## Lab Sample ID: 180-107147-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.07 mL	1.0 g	474299	06/23/20 12:33	RJD	TAL SL
Total/NA	Analysis	903.0		1			476776	07/20/20 11:07	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.07 mL	1.0 g	474302	06/23/20 12:49	RJD	TAL SL
Total/NA	Analysis	904.0		1			476644	07/17/20 14:27	JLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			477176	07/22/20 10:46	SMP	TAL SL
Instrument ID: NOEQUIP										

Eurofins TestAmerica, Pittsburgh



# Lab Chronicle

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

Job ID: 180-107147-1

**Client Sample ID: EqBK-GG-061620**

**Lab Sample ID: 180-107147-11**

**Date Collected: 06/16/20 14:50**

**Matrix: Water**

**Date Received: 06/17/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.21 mL	1.0 g	474299	06/23/20 12:33	RJD	TAL SL
Total/NA	Analysis	903.0		1			476776	07/20/20 11:07	CMM	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.21 mL	1.0 g	474302	06/23/20 12:49	RJD	TAL SL
Total/NA	Analysis	904.0		1			476644	07/17/20 14:27	JLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			477176	07/22/20 10:46	SMP	TAL SL
Instrument ID: NOEQUIP										

**Laboratory References:**

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

**Analyst References:**

Lab: TAL SL

Batch Type: Prep

RJD = Ryan Domalewski

Batch Type: Analysis

CMM = Chelsea Mazariegos

JLC = Jessica Chapman

SMP = Siobhan Perry

# Client Sample Results

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

Job ID: 180-107147-1

**Client Sample ID: SFL MW-2**

**Lab Sample ID: 180-107147-1**

Date Collected: 06/16/20 13:35

Matrix: Water

Date Received: 06/17/20 09:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>1.81</b>		0.296	0.338	1.00	0.162	pCi/L	06/23/20 12:33	07/20/20 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.3		40 - 110					06/23/20 12:33	07/20/20 07:41	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>6.46</b>		0.587	0.836	1.00	0.417	pCi/L	06/23/20 12:49	07/17/20 14:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.3		40 - 110					06/23/20 12:49	07/17/20 14:26	1
Y Carrier	81.5		40 - 110					06/23/20 12:49	07/17/20 14:26	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
<b>Combined Radium 226 + 228</b>	<b>8.27</b>		0.657	0.902	5.00	0.417	pCi/L		07/22/20 10:46	1

# Client Sample Results

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

Job ID: 180-107147-1

**Client Sample ID: SFL MW-3**

**Lab Sample ID: 180-107147-2**

Date Collected: 06/16/20 11:15

Matrix: Water

Date Received: 06/17/20 09:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.910		0.208	0.224	1.00	0.151	pCi/L	06/23/20 12:33	07/20/20 09:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.1		40 - 110					06/23/20 12:33	07/20/20 09:23	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	2.74		0.390	0.465	1.00	0.368	pCi/L	06/23/20 12:49	07/17/20 14:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.1		40 - 110					06/23/20 12:49	07/17/20 14:26	1
Y Carrier	84.9		40 - 110					06/23/20 12:49	07/17/20 14:26	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	3.65		0.442	0.516	5.00	0.368	pCi/L		07/22/20 10:46	1

# Client Sample Results

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

Job ID: 180-107147-1

**Client Sample ID: SFL MW-4**

**Lab Sample ID: 180-107147-3**

Date Collected: 06/16/20 12:20

Matrix: Water

Date Received: 06/17/20 09:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.329</b>		0.131	0.135	1.00	0.122	pCi/L	06/23/20 12:33	07/20/20 10:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					06/23/20 12:33	07/20/20 10:58	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>0.933</b>		0.297	0.309	1.00	0.394	pCi/L	06/23/20 12:49	07/17/20 14:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					06/23/20 12:49	07/17/20 14:26	1
Y Carrier	82.6		40 - 110					06/23/20 12:49	07/17/20 14:26	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
<b>Combined Radium 226 + 228</b>	<b>1.26</b>		0.325	0.337	5.00	0.394	pCi/L		07/22/20 10:46	1



# Client Sample Results

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

Job ID: 180-107147-1

**Client Sample ID: SFL MW-5**

**Lab Sample ID: 180-107147-4**

Date Collected: 06/16/20 11:05

Matrix: Water

Date Received: 06/17/20 09:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.46		0.325	0.394	1.00	0.109	pCi/L	06/23/20 12:33	07/20/20 10:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.1		40 - 110					06/23/20 12:33	07/20/20 10:58	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	9.01		0.627	1.04	1.00	0.350	pCi/L	06/23/20 12:49	07/17/20 14:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.1		40 - 110					06/23/20 12:49	07/17/20 14:26	1
Y Carrier	86.4		40 - 110					06/23/20 12:49	07/17/20 14:26	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	11.5		0.706	1.11	5.00	0.350	pCi/L		07/22/20 10:46	1

# Client Sample Results

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

Job ID: 180-107147-1

**Client Sample ID: SFL MW-6**

**Lab Sample ID: 180-107147-5**

Date Collected: 06/16/20 12:35

Matrix: Water

Date Received: 06/17/20 09:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.84		0.356	0.438	1.00	0.117	pCi/L	06/23/20 12:33	07/20/20 10:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					06/23/20 12:33	07/20/20 10:58	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	15.0		0.824	1.60	1.00	0.386	pCi/L	06/23/20 12:49	07/17/20 14:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					06/23/20 12:49	07/17/20 14:26	1
Y Carrier	85.6		40 - 110					06/23/20 12:49	07/17/20 14:26	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	17.8		0.898	1.66	5.00	0.386	pCi/L		07/22/20 10:46	1

# Client Sample Results

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

Job ID: 180-107147-1

**Client Sample ID: SFL MW-7**

**Lab Sample ID: 180-107147-6**

Date Collected: 06/16/20 10:10

Matrix: Water

Date Received: 06/17/20 09:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.560		0.166	0.174	1.00	0.125	pCi/L	06/23/20 12:33	07/20/20 10:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					06/23/20 12:33	07/20/20 10:58	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.43		0.322	0.348	1.00	0.378	pCi/L	06/23/20 12:49	07/17/20 14:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					06/23/20 12:49	07/17/20 14:27	1
Y Carrier	85.2		40 - 110					06/23/20 12:49	07/17/20 14:27	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	1.99		0.362	0.389	5.00	0.378	pCi/L		07/22/20 10:46	1

# Client Sample Results

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

Job ID: 180-107147-1

**Client Sample ID: MNW-15**

**Lab Sample ID: 180-107147-7**

Date Collected: 06/16/20 09:05

Matrix: Water

Date Received: 06/17/20 09:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.117	U	0.102	0.102	1.00	0.151	pCi/L	06/23/20 12:33	07/20/20 10:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.6		40 - 110					06/23/20 12:33	07/20/20 10:59	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	0.0509	U	0.208	0.208	1.00	0.366	pCi/L	06/23/20 12:49	07/17/20 14:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.6		40 - 110					06/23/20 12:49	07/17/20 14:27	1
Y Carrier	85.6		40 - 110					06/23/20 12:49	07/17/20 14:27	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	0.167	U	0.232	0.232	5.00	0.366	pCi/L		07/22/20 10:46	1



# Client Sample Results

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

Job ID: 180-107147-1

**Client Sample ID: MNW-18**

**Lab Sample ID: 180-107147-8**

Date Collected: 06/16/20 09:50

Matrix: Water

Date Received: 06/17/20 09:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.48		0.264	0.296	1.00	0.146	pCi/L	06/23/20 12:33	07/20/20 10:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					06/23/20 12:33	07/20/20 10:59	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	2.77		0.392	0.468	1.00	0.363	pCi/L	06/23/20 12:49	07/17/20 14:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					06/23/20 12:49	07/17/20 14:27	1
Y Carrier	86.4		40 - 110					06/23/20 12:49	07/17/20 14:27	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	4.25		0.473	0.554	5.00	0.363	pCi/L		07/22/20 10:46	1

# Client Sample Results

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

Job ID: 180-107147-1

**Client Sample ID: Dup-1**

**Lab Sample ID: 180-107147-9**

Date Collected: 06/16/20 00:00

Matrix: Water

Date Received: 06/17/20 09:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.711		0.191	0.201	1.00	0.142	pCi/L	06/23/20 12:33	07/20/20 10:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					06/23/20 12:33	07/20/20 10:59	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	1.89		0.356	0.396	1.00	0.386	pCi/L	06/23/20 12:49	07/17/20 14:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					06/23/20 12:49	07/17/20 14:27	1
Y Carrier	84.9		40 - 110					06/23/20 12:49	07/17/20 14:27	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	2.60		0.404	0.444	5.00	0.386	pCi/L		07/22/20 10:46	1

# Client Sample Results

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

Job ID: 180-107147-1

**Client Sample ID: EqBK-SCM-061620**

**Lab Sample ID: 180-107147-10**

Date Collected: 06/16/20 14:55

Matrix: Water

Date Received: 06/17/20 09:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0216	U	0.101	0.101	1.00	0.192	pCi/L	06/23/20 12:33	07/20/20 11:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.2		40 - 110					06/23/20 12:33	07/20/20 11:07	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	0.206	U	0.202	0.203	1.00	0.326	pCi/L	06/23/20 12:49	07/17/20 14:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.2		40 - 110					06/23/20 12:49	07/17/20 14:27	1
Y Carrier	87.5		40 - 110					06/23/20 12:49	07/17/20 14:27	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	0.228	U	0.226	0.227	5.00	0.326	pCi/L		07/22/20 10:46	1

# Client Sample Results

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

Job ID: 180-107147-1

**Client Sample ID: EqBK-GG-061620**

**Lab Sample ID: 180-107147-11**

Date Collected: 06/16/20 14:50

Matrix: Water

Date Received: 06/17/20 09:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0106	U	0.0708	0.0708	1.00	0.153	pCi/L	06/23/20 12:33	07/20/20 11:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					06/23/20 12:33	07/20/20 11:07	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	0.240	U	0.213	0.214	1.00	0.341	pCi/L	06/23/20 12:49	07/17/20 14:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					06/23/20 12:49	07/17/20 14:27	1
Y Carrier	86.7		40 - 110					06/23/20 12:49	07/17/20 14:27	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	0.229	U	0.224	0.225	5.00	0.341	pCi/L		07/22/20 10:46	1



# QC Sample Results

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

Job ID: 180-107147-1

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

**Lab Sample ID: MB 160-474299/14-A**  
**Matrix: Water**  
**Analysis Batch: 476776**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 474299**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.03588	U	0.112	0.112	1.00	0.208	pCi/L	06/23/20 12:34	07/20/20 12:54	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	80.7		40 - 110			06/23/20 12:34	07/20/20 12:54	1		

**Lab Sample ID: LCS 160-474299/1-A**  
**Matrix: Water**  
**Analysis Batch: 476776**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 474299**

Analyte	LCS LCS		Spike	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qual	Uncert. (2σ+/-)					
Radium-226			11.3	10.54		1.18	1.00	0.190	pCi/L	93	75 - 125
Carrier	LCS LCS		Limits					Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier									
Ba Carrier	93.5		40 - 110								

**Lab Sample ID: 180-107147-1 DU**  
**Matrix: Water**  
**Analysis Batch: 476776**

**Client Sample ID: SFL MW-2**  
**Prep Type: Total/NA**  
**Prep Batch: 474299**

Analyte	Sample Sample		DU	DU	Total	RL	MDC	Unit	RER	RER Limit
	Result	Qual	Result	Qual	Uncert. (2σ+/-)					
Radium-226	1.81		1.186		0.270	1.00	0.187	pCi/L	1.03	1
Carrier	DU DU		Limits					Prepared	Analyzed	Dil Fac
	%Yield	Qualifier								
Ba Carrier	94.4		40 - 110							

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

**Lab Sample ID: MB 160-474302/14-A**  
**Matrix: Water**  
**Analysis Batch: 476644**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 474302**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.2398	U	0.276	0.277	1.00	0.454	pCi/L	06/23/20 12:49	07/17/20 14:27	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	80.7		40 - 110			06/23/20 12:49	07/17/20 14:27	1		
Y Carrier	86.7		40 - 110			06/23/20 12:49	07/17/20 14:27	1		

Eurofins TestAmerica, Pittsburgh

# QC Sample Results

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

Job ID: 180-107147-1

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

**Lab Sample ID: LCS 160-474302/1-A**  
**Matrix: Water**  
**Analysis Batch: 476644**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 474302**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	10.3	9.145		1.07	1.00	0.469	pCi/L	89	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	93.5		40 - 110
Y Carrier	85.6		40 - 110

**Lab Sample ID: 180-107147-1 DU**  
**Matrix: Water**  
**Analysis Batch: 476644**

**Client Sample ID: SFL MW-2**  
**Prep Type: Total/NA**  
**Prep Batch: 474302**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	6.46		6.531		0.826	1.00	0.412	pCi/L	0.04	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	94.4		40 - 110
Y Carrier	83.4		40 - 110

## Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

**Lab Sample ID: 180-107147-1 DU**  
**Matrix: Water**  
**Analysis Batch: 477176**

**Client Sample ID: SFL MW-2**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Combined Radium 226 + 228	8.27		7.717		0.869	5.00	0.412	pCi/L	0.31	

# QC Association Summary

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

Job ID: 180-107147-1

## Rad

### Prep Batch: 474299


Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-1	SFL MW-2	Total/NA	Water	PrecSep-21	
180-107147-2	SFL MW-3	Total/NA	Water	PrecSep-21	
180-107147-3	SFL MW-4	Total/NA	Water	PrecSep-21	
180-107147-4	SFL MW-5	Total/NA	Water	PrecSep-21	
180-107147-5	SFL MW-6	Total/NA	Water	PrecSep-21	
180-107147-6	SFL MW-7	Total/NA	Water	PrecSep-21	
180-107147-7	MNW-15	Total/NA	Water	PrecSep-21	
180-107147-8	MNW-18	Total/NA	Water	PrecSep-21	
180-107147-9	Dup-1	Total/NA	Water	PrecSep-21	
180-107147-10	EqBK-SCM-061620	Total/NA	Water	PrecSep-21	
180-107147-11	EqBK-GG-061620	Total/NA	Water	PrecSep-21	
MB 160-474299/14-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-474299/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
180-107147-1 DU	SFL MW-2	Total/NA	Water	PrecSep-21	

### Prep Batch: 474302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-1	SFL MW-2	Total/NA	Water	PrecSep_0	
180-107147-2	SFL MW-3	Total/NA	Water	PrecSep_0	
180-107147-3	SFL MW-4	Total/NA	Water	PrecSep_0	
180-107147-4	SFL MW-5	Total/NA	Water	PrecSep_0	
180-107147-5	SFL MW-6	Total/NA	Water	PrecSep_0	
180-107147-6	SFL MW-7	Total/NA	Water	PrecSep_0	
180-107147-7	MNW-15	Total/NA	Water	PrecSep_0	
180-107147-8	MNW-18	Total/NA	Water	PrecSep_0	
180-107147-9	Dup-1	Total/NA	Water	PrecSep_0	
180-107147-10	EqBK-SCM-061620	Total/NA	Water	PrecSep_0	
180-107147-11	EqBK-GG-061620	Total/NA	Water	PrecSep_0	
MB 160-474302/14-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-474302/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
180-107147-1 DU	SFL MW-2	Total/NA	Water	PrecSep_0	

# Chain of Custody Record

<b>Client Information</b>		Lab PM: <u>Lage, Gail</u>		Carrier Tracking No(s):		COC No: <u>490-105950-24956.2</u>	
Client Contact: <u>Charlie Macon</u>		E-Mail: <u>gail.lage@testamericainc.com</u>		Page: <u>1 of 1</u>		Job #: <u>24956.2</u>	
Company: <u>Wood E&amp;I Solutions Inc</u>		Phone: <u>512-413-3876</u>		Analysis Requested			
Address: <u>3755 South Capital of Texas Highway Suite 375</u>		Due Date Requested:		Total Number of Containers			
City: <u>Austin</u>		TAT Requested (days): <u>Standard</u>		Perform MS/MSD (Yes or No)			
State, Zip: <u>TX, 78704</u>		PO #: <u>Purchase Order Requested</u>		Field Filtered Sample (Yes or No)			
Phone: <u>512-241-4382(Tel)</u>		WO #:		903.0, 904.0			
Email: <u>charlie.macon@woodpic.com</u>		Project #:		956A_ORGFM_28D - Chloride, Fluoride, Sulfate			
Project Name: <u>AMEC CCR TMPA Gibbons Creek</u>		SSOW#:		6020A_7470A			
Site: <u>Texas</u>				2540C_Calcd - Total Dissolved Solids			
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=other)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested
SFL MW-3	06-16-20	1:35	G	W	N	X	
SFL MW-3		11:15			N	X	
SFL MW-4		12:20			N	X	
SFL MW-5		11:05			N	X	
SFL MW-6		12:35			N	X	
SFL MW-7		10:10			N	X	
MNW-15		09:05			N	X	
MNW-18		09:50			N	X	
DUP-1		-			N	X	
EQBK-SCM-061620		14:55			N	X	
EQBK-66-061620		2:50			N	X	



180-107147 Chain of Custody

Other: \_\_\_\_\_

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)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: Samuel C. Macon Date: 6-16-20 @ 1600  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_

Custody Seals Intact: \_\_\_\_\_  
 Δ Yes Δ No

Custody Seal No.:





180-107147 Waybill

afins  
Environment Testing  
TestAmerica

Part # 154400-434 RITZ EXP 03/20

N ID 2) 43-3876  
MACON

ORI  
SAM  
WOOD  
3755

TX HWY SUITE 375

SHIP DATE: 09JUN20  
ACTWGT: 10.00 LB MAN  
CAD: 592545/CAFE3313

ALC  
UN ED JIN

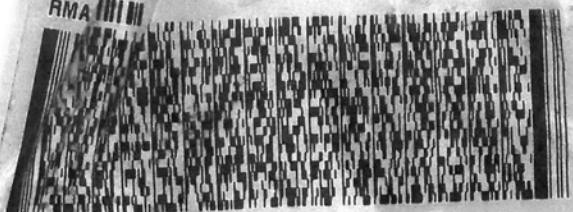
STAMERICA PITTSBURGH  
VE

565C1/C7DD/0542

EURING  
301 PA  
RIG PA  
PITSB PA 152382907  
REF: 8490-105950

(412) 7060  
DEPT TLES

RMA IIII



FedEx  
Express



J191219029007

FedEx  
TRK# 1685 4442 3390  
027

WED - 17 JUN 10:30A  
PRIORITY OVERNIGHT

NA AGCA

15238  
PA-US PIT

uncorrected temp  
thermometer ID

3.2 °C  
19

Initials

JS

VI-SR-001 effective 7/26/13

06/16 56DJ1/C7DD/FE4A

- 1
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Ref: S490-105950  
Dep: BOTTLES

Date: 09Jun20  
Wgt: 10.00 LB  
DV:

TNG: 0.00  
HL: 0.00  
COLING: 0.00

Svcs: PRIORITY OVERNIGHT Master 1685 4442 3357  
TRCK: 1685 4442 3405

3405  
1685  
10301



Environment Testing  
TestAmerica

97  
FZ

Part # 158403-404 R112 EXP 02/20

ORIGIN ID: MIFA (512) 413-3876  
SAM MACON  
WDD  
3755 S. CAPITAL OF TX HWY SUITE 375  
AUSTIN, TX 78704  
UNITED STATES US

SHIP DATE: 09JUN20  
ACTWGT: 10.00 LB MAN  
CAD: 592545/CAFE3313

TO

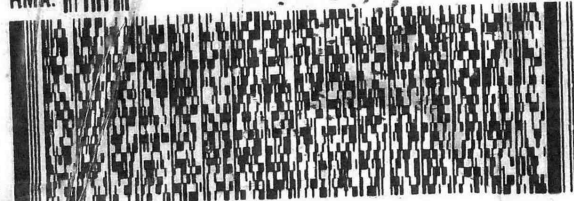
EUROFINS TESTAMERICA PITTSBURGH  
301 ALPHA DRIVE  
RIDC PARK  
PITTSBURGH PA 152382907

(412) 963-7068  
DEPT: BOTTLES

REF: S490-105950

2850/C7DD/0582  
555C1/C7DD/0582

RMA: ||| ||| |||



FedEx  
Express



FedEx  
TRK# 1685 4442 3405  
0221

WED - 17 JUN 10:30A  
PRIORITY OVERNIGHT

NA AGCA

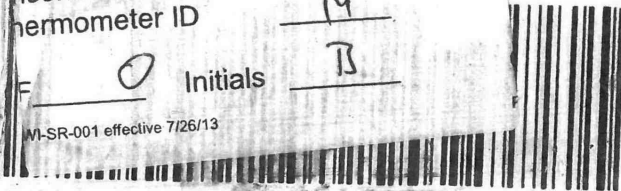
15238  
PA-US PIT

Uncorrected temp  
thermometer ID

4.4 °C  
14  
B

Initials

WI-SR-001 effective 7/26/13



#3713351 06/16 56BJ1/C7DD/FE4A

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Ref: S490-105950	Date: 09Jun20	SHIPPING:	0.00
Dep: BOTTLES	Wgt: 10.00 LBS	SPECIAL:	0.00
		HANDLING:	0.00
	DV: 0.00	TOTAL:	0.00

Svc: PRIORITY OVERNIGHT Master 1685 4442 3357  
 TRK: 1685 4442 3416



ORIGIN ID:MIFA (512) 413-3876  
 SAM MACON  
 WOOD  
 3755 S. CAPITAL OF TX HWY SUITE 375  
 AUSTIN, TX 78704  
 UNITED STATES US

SHIP DATE: 09JUN20  
 ACTWGT: 10.00 LB MAN  
 CAD: 592545/CAFE3313

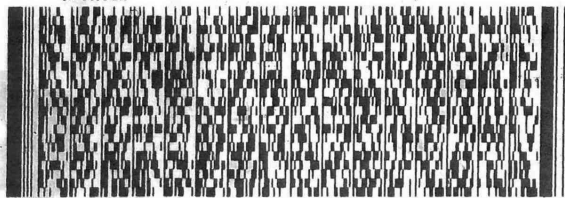
TO

**EUROFINS TESTAMERICA PITTSBURGH**  
**301 ALPHA DRIVE**  
**RIDC PARK**  
**PITTSBURGH PA 152382907**

(412) 963-7068  
 DEPT: BOTTLES

REF: S490-105950

RMA: ||| ||| |||



**FedEx**  
Express



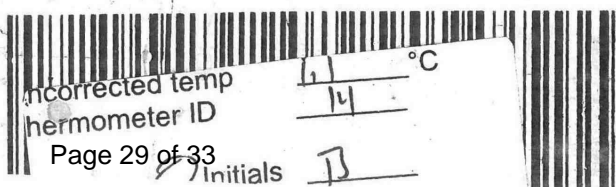
AN100200612161F

**FedEx**  
 TRK# 1685 4442 3416  
 0221

**WED - 17 JUN 10:30A**  
**PRIORITY OVERNIGHT**

**NA AGCA**

**15238**  
**PA-US PIT**



Uncorrected temp \_\_\_\_\_ °C  
 Thermometer ID \_\_\_\_\_  
 Page 29 of 33

Initials JB

7/26/2020

- 1
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- 13



# Chain of Custody Record



Environment Testing  
 America



<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No.:					
Client Contact: Shipping/Receiving		Phone:	Lage, Gail	State of Origin:	180-398632.1					
Company: TestAmerica Laboratories, Inc.		E-Mail:	gail.lage@testamericainc.com	Page 1 of 2						
Address: 13715 Rider Trail North,		Accreditations Required (See note): NELAP - Texas		Job #:	180-107147-1					
City: Earth City	TAT Requested (days):	Due Date Requested:	<b>Analysis Requested</b>							
State, Zip: MO, 63045	PO #:	7/16/2020	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 Other:							
Phone: 314-298-9566(Tel) 314-298-8757(Fax)	WO #:		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)							
Email:	Project #:		Total Number of Containers							
Project Name: TMPA Gibbons Creek	SSOW#:		Special Instructions/Note:							
Site: AMEC Gibbons Creek Stream										
<b>Sample Identification - Client ID (Lab ID)</b>	<b>Sample Date</b>	<b>Sample Time</b>	<b>Sample Type (C=Comp, G=grab)</b>	<b>Matrix (W=water, S=solid, O=wastewat, BT=Toxic, A=Air)</b>	<b>Field Filtered Sample (Yes or No)</b>	<b>Form MS/MSD (Yes or No)</b>	<b>904.0/PreSep_0 Standard Target List</b>	<b>903.0/PreSep_21 Standard Target List</b>	<b>904.0/PreSep_21 Standard Target List</b>	<b>903.0/PreSep_21 Standard Target List</b>
SFL MW-2 (180-107147-1)	6/16/20	13:35 Central	Water	Water	X	X	X	X	X	2
SFL MW-2 (180-107147-1DU)	6/16/20	13:35 Central	DU	Water	X	X	X	X	X	5
SFL MW-3 (180-107147-2)	6/16/20	11:15 Central	Water	Water	X	X	X	X	X	2
SFL MW-4 (180-107147-3)	6/16/20	12:20 Central	Water	Water	X	X	X	X	X	2
SFL MW-5 (180-107147-4)	6/16/20	11:05 Central	Water	Water	X	X	X	X	X	2
SFL MW-6 (180-107147-5)	6/16/20	12:35 Central	Water	Water	X	X	X	X	X	2
SFL MW-7 (180-107147-6)	6/16/20	10:10 Central	Water	Water	X	X	X	X	X	2
MNW-15 (180-107147-7)	6/16/20	09:05 Central	Water	Water	X	X	X	X	X	2
MNW-18 (180-107147-8)	6/16/20	09:50 Central	Water	Water	X	X	X	X	X	2
<p>Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte &amp; accreditation compliance upon our 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/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.</p>										
<b>Possible Hazard Identification</b>										
Unconfirmed										
Deliverable Requested: I, II, III, IV, Other (specify)										
Primary Deliverable Rank: 2										
Empty Kit Relinquished by:										
Date: 6/18/20 17:00										
Relinquished by: [Signature]										
Date/Time: 6/18/20 17:00										
Relinquished by: [Signature]										
Date/Time: 6/18/20 17:00										
Relinquished by: [Signature]										
Date/Time: 6/18/20 17:00										
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No										
Custody Seal No.:										
Cooler Temperature(s) °C and Other Remarks:										
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:										
Received by: [Signature] Date/Time: 6/18/20 17:00 Receiver: [Signature] Date/Time: 6/18/20 17:00 Received by: [Signature] Date/Time: 6/18/20 17:00 Receiver: [Signature] Date/Time: 6/18/20 17:00 Company: FED EX Company: FED EX Company: FED EX										







## Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-107147-1

**Login Number: 107147**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

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



## Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-107147-1

**Login Number: 107147**

**List Number: 2**

**Creator: Korrinhizer, Micha L**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 06/19/20 02:44 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.	True	
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	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-107147-2  
Client Project/Site: TMPA Gibbons Creek

For:  
Wood E&I Solutions Inc  
3520 Executive Center Drive Suite 220  
Austin, Texas 78731

Attn: Charlie Macon



Authorized for release by:  
7/17/2020 9:10:36 AM

Gail Lage, Senior Project Manager  
(615)301-5741  
[Gail.Lage@Eurofinset.com](mailto:Gail.Lage@Eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

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

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

PA Lab ID: 02-00416





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions/Glossary . . . . .	4
Certification Summary . . . . .	5
Sample Summary . . . . .	6
Method Summary . . . . .	7
Lab Chronicle . . . . .	8
Client Sample Results . . . . .	14
QC Sample Results . . . . .	25
QC Association Summary . . . . .	32
Chain of Custody . . . . .	36
Receipt Checklists . . . . .	40

# Case Narrative

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

Job ID: 180-107147-2

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## Job ID: 180-107147-2

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Laboratory: Eurofins TestAmerica, Pittsburgh

### Narrative

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#### Job Narrative 180-107147-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 6/17/2020 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.1° C, 3.2° C and 4.4° C.

#### GC Semi VOA

Methods 300.0, 9056A: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 180-321352 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Sulfate and Nitrate in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

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

#### Metals

Method 6020A: The post digestion spike % recovery for Cadmium associated with batch 180-319579 was outside of control limits. The associated sample is: (180-107116-E-1-A PDS).

Method 6020A: The continuing calibration verification (CCV) associated with batch 180-319729 recovered above the upper control limit for beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

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

#### General Chemistry

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



# Definitions/Glossary

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

Job ID: 180-107147-2

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

### Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC 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.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Accreditation/Certification Summary

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

Job ID: 180-107147-2

## Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528	03-31-21

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
EPA 6020A	3005A	Water	Lithium





# Sample Summary

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

Job ID: 180-107147-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-107147-1	SFL MW-2	Water	06/16/20 13:35	06/17/20 09:00	
180-107147-2	SFL MW-3	Water	06/16/20 11:15	06/17/20 09:00	
180-107147-3	SFL MW-4	Water	06/16/20 12:20	06/17/20 09:00	
180-107147-4	SFL MW-5	Water	06/16/20 11:05	06/17/20 09:00	
180-107147-5	SFL MW-6	Water	06/16/20 12:35	06/17/20 09:00	
180-107147-6	SFL MW-7	Water	06/16/20 10:10	06/17/20 09:00	
180-107147-7	MNW-15	Water	06/16/20 09:05	06/17/20 09:00	
180-107147-8	MNW-18	Water	06/16/20 09:50	06/17/20 09:00	
180-107147-9	Dup-1	Water	06/16/20 00:00	06/17/20 09:00	
180-107147-10	EqBK-SCM-061620	Water	06/16/20 14:55	06/17/20 09:00	
180-107147-11	EqBK-GG-061620	Water	06/16/20 14:50	06/17/20 09:00	



# Method Summary

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

Job ID: 180-107147-2

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
EPA 6020A	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT

#### 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 PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

# Lab Chronicle

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

Job ID: 180-107147-2

**Client Sample ID: SFL MW-2**

**Lab Sample ID: 180-107147-1**

**Date Collected: 06/16/20 13:35**

**Matrix: Water**

**Date Received: 06/17/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHIC2100A		10			320632	07/08/20 04:27	MJH	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: CHIC2100A		100			320632	07/08/20 04:43	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	318980	06/19/20 13:55	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			319205	06/22/20 11:47	RJR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	318980	06/19/20 13:55	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			319277	06/23/20 13:32	RJR	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	319401	06/24/20 14:30	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			319448	06/24/20 17:59	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	15 mL	100 mL	318828	06/18/20 11:26	AVS	TAL PIT

**Client Sample ID: SFL MW-3**

**Lab Sample ID: 180-107147-2**

**Date Collected: 06/16/20 11:15**

**Matrix: Water**

**Date Received: 06/17/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHIC2100A		5			320632	07/08/20 05:30	MJH	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: CHIC2100A		50			320632	07/08/20 05:47	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	318980	06/19/20 13:55	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			319205	06/22/20 11:59	RJR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	318980	06/19/20 13:55	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			319277	06/23/20 14:02	RJR	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	319401	06/24/20 14:30	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			319448	06/24/20 18:01	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	25 mL	100 mL	318829	06/18/20 11:32	AVS	TAL PIT

**Client Sample ID: SFL MW-4**

**Lab Sample ID: 180-107147-3**

**Date Collected: 06/16/20 12:20**

**Matrix: Water**

**Date Received: 06/17/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHIC2100A		5			320632	07/08/20 06:03	MJH	TAL PIT

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-107147-2

## Client Sample ID: SFL MW-4

## Lab Sample ID: 180-107147-3

Date Collected: 06/16/20 12:20

Matrix: Water

Date Received: 06/17/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		50			320632	07/08/20 06:19	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	318980	06/19/20 13:55	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319205	06/22/20 12:01	RJR	TAL PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	318980	06/19/20 13:55	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319277	06/23/20 14:05	RJR	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	319401	06/24/20 14:30	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			319448	06/24/20 18:02	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	318829	06/18/20 11:32	AVS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: SFL MW-5

## Lab Sample ID: 180-107147-4

Date Collected: 06/16/20 11:05

Matrix: Water

Date Received: 06/17/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			320632	07/08/20 07:06	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total/NA	Analysis	EPA 9056A		100			320632	07/08/20 07:22	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	318980	06/19/20 13:55	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319205	06/22/20 12:04	RJR	TAL PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	318980	06/19/20 13:55	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319277	06/23/20 14:07	RJR	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	319401	06/24/20 14:30	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			319448	06/24/20 18:03	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	15 mL	100 mL	318829	06/18/20 11:32	AVS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: SFL MW-6

## Lab Sample ID: 180-107147-5

Date Collected: 06/16/20 12:35

Matrix: Water

Date Received: 06/17/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		10			320632	07/08/20 07:38	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total/NA	Analysis	EPA 9056A		100			320632	07/08/20 07:54	MJH	TAL PIT
Instrument ID: CHIC2100A										

Eurofins TestAmerica, Pittsburgh



# Lab Chronicle

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

Job ID: 180-107147-2

## Client Sample ID: SFL MW-6

## Lab Sample ID: 180-107147-5

Date Collected: 06/16/20 12:35

Matrix: Water

Date Received: 06/17/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	318980	06/19/20 13:55	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319205	06/22/20 12:06	RJR	TAL PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	318980	06/19/20 13:55	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319277	06/23/20 14:10	RJR	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	319401	06/24/20 14:30	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			319448	06/24/20 18:04	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	15 mL	100 mL	318829	06/18/20 11:32	AVS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: SFL MW-7

## Lab Sample ID: 180-107147-6

Date Collected: 06/16/20 10:10

Matrix: Water

Date Received: 06/17/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			320632	07/08/20 08:10	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total/NA	Analysis	EPA 9056A		50			320632	07/08/20 08:25	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	318980	06/19/20 13:55	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319205	06/22/20 12:14	RJR	TAL PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	318980	06/19/20 13:55	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319277	06/23/20 14:12	RJR	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	319401	06/24/20 14:30	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			319448	06/24/20 18:07	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	318829	06/18/20 11:32	AVS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: MNW-15

## Lab Sample ID: 180-107147-7

Date Collected: 06/16/20 09:05

Matrix: Water

Date Received: 06/17/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5			320632	07/08/20 08:41	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total/NA	Analysis	EPA 9056A		25			320632	07/08/20 08:57	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319579	06/25/20 01:52	RSK	TAL PIT
Instrument ID: A										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-107147-2

## Client Sample ID: MNW-15

Date Collected: 06/16/20 09:05

Date Received: 06/17/20 09:00

## Lab Sample ID: 180-107147-7

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	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319729	06/26/20 00:45	RSK	TAL PIT
Instrument ID: A										
Total Recoverable	Prep	3005A			50 mL	50 mL	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319808	06/26/20 19:58	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	319401	06/24/20 14:30	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			319448	06/24/20 18:08	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	318829	06/18/20 11:32	AVS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: MNW-18

Date Collected: 06/16/20 09:50

Date Received: 06/17/20 09:00

## Lab Sample ID: 180-107147-8

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	EPA 9056A		2.5			320632	07/08/20 09:13	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total/NA	Analysis	EPA 9056A		25			320632	07/08/20 09:29	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319579	06/25/20 01:55	RSK	TAL PIT
Instrument ID: A										
Total Recoverable	Prep	3005A			50 mL	50 mL	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319729	06/26/20 00:48	RSK	TAL PIT
Instrument ID: A										
Total Recoverable	Prep	3005A			50 mL	50 mL	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319808	06/26/20 20:01	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	319401	06/24/20 14:30	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			319448	06/24/20 18:53	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	318829	06/18/20 11:32	AVS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: Dup-1

Date Collected: 06/16/20 00:00

Date Received: 06/17/20 09:00

## Lab Sample ID: 180-107147-9

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	EPA 9056A		5			321274	07/11/20 21:37	EPS	TAL PIT
Instrument ID: CHICS2100B										
Total/NA	Analysis	EPA 9056A		50			321274	07/11/20 21:53	EPS	TAL PIT
Instrument ID: CHICS2100B										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-107147-2

**Client Sample ID: Dup-1**

**Lab Sample ID: 180-107147-9**

**Date Collected: 06/16/20 00:00**

**Matrix: Water**

**Date Received: 06/17/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			321352	07/13/20 10:38	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319579	06/25/20 02:05	RSK	TAL PIT
		Instrument ID: A								
Total Recoverable	Prep	3005A			50 mL	50 mL	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319729	06/26/20 00:58	RSK	TAL PIT
		Instrument ID: A								
Total Recoverable	Prep	3005A			50 mL	50 mL	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319808	06/26/20 19:17	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			50 mL	50 mL	319401	06/24/20 14:30	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			319448	06/24/20 18:54	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	318829	06/18/20 11:32	AVS	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: EqBK-SCM-061620**

**Lab Sample ID: 180-107147-10**

**Date Collected: 06/16/20 14:55**

**Matrix: Water**

**Date Received: 06/17/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			321361	07/13/20 12:52	EPS	TAL PIT
		Instrument ID: CHIC2100A								
Total/NA	Analysis	EPA 9056A		1			321274	07/11/20 20:48	EPS	TAL PIT
		Instrument ID: CHICS2100B								
Total Recoverable	Prep	3005A			50 mL	50 mL	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319579	06/25/20 02:09	RSK	TAL PIT
		Instrument ID: A								
Total Recoverable	Prep	3005A			50 mL	50 mL	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319729	06/26/20 01:02	RSK	TAL PIT
		Instrument ID: A								
Total Recoverable	Prep	3005A			50 mL	50 mL	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319808	06/26/20 20:05	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			50 mL	50 mL	319401	06/24/20 14:30	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			319448	06/24/20 18:55	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	318828	06/18/20 11:26	AVS	TAL PIT
		Instrument ID: NOEQUIP								

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-107147-2

**Client Sample ID: EqBK-GG-061620**

**Lab Sample ID: 180-107147-11**

**Date Collected: 06/16/20 14:50**

**Matrix: Water**

**Date Received: 06/17/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHIC2100A		1			321361	07/13/20 13:08	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: A		1			319579	06/25/20 02:12	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: A		1			319729	06/26/20 01:05	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	318981	06/19/20 13:56	JL	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: A		1			319808	06/26/20 20:08	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	319401	06/24/20 14:30	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			319448	06/24/20 18:12	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	318828	06/18/20 11:26	AVS	TAL PIT

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

**Analyst References:**

Lab: TAL PIT

Batch Type: Prep

JL = James Lyu

NAM = Nicole Marfisi

Batch Type: Analysis

AVS = Abbey Smith

EPS = Evan Scheuer

MJH = Matthew Hartman

NAM = Nicole Marfisi

RJR = Ron Rosenbaum

RSK = Robert Kurtz



# Client Sample Results

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

Job ID: 180-107147-2

**Client Sample ID: SFL MW-2**

**Lab Sample ID: 180-107147-1**

Date Collected: 06/16/20 13:35

Matrix: Water

Date Received: 06/17/20 09:00

### Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3250	F1	100		mg/L			07/08/20 04:43	100
Fluoride	ND	F1	1.00		mg/L			07/08/20 04:27	10
Sulfate	1760	F1	10.0		mg/L			07/08/20 04:27	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/19/20 13:55	06/22/20 11:47	1
Arsenic	0.00160		0.00100		mg/L		06/19/20 13:55	06/22/20 11:47	1
Barium	0.0262		0.0100		mg/L		06/19/20 13:55	06/22/20 11:47	1
Beryllium	0.00722		0.00100		mg/L		06/19/20 13:55	06/23/20 13:32	1
Boron	0.489		0.0800		mg/L		06/19/20 13:55	06/22/20 11:47	1
Cadmium	0.00277		0.00100		mg/L		06/19/20 13:55	06/22/20 11:47	1
Calcium	944		0.500		mg/L		06/19/20 13:55	06/22/20 11:47	1
Chromium	ND		0.00200		mg/L		06/19/20 13:55	06/22/20 11:47	1
Cobalt	0.0214		0.000500		mg/L		06/19/20 13:55	06/22/20 11:47	1
Lead	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 11:47	1
Lithium	0.487		0.00500		mg/L		06/19/20 13:55	06/23/20 13:32	1
Molybdenum	ND		0.00500		mg/L		06/19/20 13:55	06/22/20 11:47	1
Selenium	ND		0.00500		mg/L		06/19/20 13:55	06/22/20 11:47	1
Thallium	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 11:47	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/20 14:30	06/24/20 17:59	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6970		66.7		mg/L			06/18/20 11:26	1

# Client Sample Results

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

Job ID: 180-107147-2

**Client Sample ID: SFL MW-3**

**Lab Sample ID: 180-107147-2**

Date Collected: 06/16/20 11:15

Matrix: Water

Date Received: 06/17/20 09:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1090		50.0		mg/L			07/08/20 05:47	50
Fluoride	0.526		0.500		mg/L			07/08/20 05:30	5
Sulfate	2350		50.0		mg/L			07/08/20 05:47	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/19/20 13:55	06/22/20 11:59	1
Arsenic	0.00317		0.00100		mg/L		06/19/20 13:55	06/22/20 11:59	1
Barium	0.0131		0.0100		mg/L		06/19/20 13:55	06/22/20 11:59	1
Beryllium	0.0335		0.00100		mg/L		06/19/20 13:55	06/23/20 14:02	1
Boron	3.67		0.0800		mg/L		06/19/20 13:55	06/22/20 11:59	1
Cadmium	0.00620		0.00100		mg/L		06/19/20 13:55	06/22/20 11:59	1
Calcium	600		0.500		mg/L		06/19/20 13:55	06/22/20 11:59	1
Chromium	ND		0.00200		mg/L		06/19/20 13:55	06/22/20 11:59	1
Cobalt	0.0598		0.000500		mg/L		06/19/20 13:55	06/22/20 11:59	1
Lead	0.0206		0.00100		mg/L		06/19/20 13:55	06/22/20 11:59	1
Lithium	0.296		0.00500		mg/L		06/19/20 13:55	06/23/20 14:02	1
Molybdenum	ND		0.00500		mg/L		06/19/20 13:55	06/22/20 11:59	1
Selenium	ND		0.00500		mg/L		06/19/20 13:55	06/22/20 11:59	1
Thallium	0.00566		0.00100		mg/L		06/19/20 13:55	06/22/20 11:59	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00191		0.000200		mg/L		06/24/20 14:30	06/24/20 18:01	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5180		40.0		mg/L			06/18/20 11:32	1

# Client Sample Results

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

Job ID: 180-107147-2

**Client Sample ID: SFL MW-4**

**Lab Sample ID: 180-107147-3**

Date Collected: 06/16/20 12:20

Matrix: Water

Date Received: 06/17/20 09:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>1760</b>		50.0		mg/L			07/08/20 06:19	50
Fluoride	ND		0.500		mg/L			07/08/20 06:03	5
<b>Sulfate</b>	<b>2320</b>		50.0		mg/L			07/08/20 06:19	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/19/20 13:55	06/22/20 12:01	1
Arsenic	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 12:01	1
<b>Barium</b>	<b>0.0240</b>		0.0100		mg/L		06/19/20 13:55	06/22/20 12:01	1
Beryllium	ND		0.00100		mg/L		06/19/20 13:55	06/23/20 14:05	1
<b>Boron</b>	<b>0.711</b>		0.0800		mg/L		06/19/20 13:55	06/22/20 12:01	1
Cadmium	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 12:01	1
<b>Calcium</b>	<b>759</b>		0.500		mg/L		06/19/20 13:55	06/22/20 12:01	1
Chromium	ND		0.00200		mg/L		06/19/20 13:55	06/22/20 12:01	1
Cobalt	ND		0.000500		mg/L		06/19/20 13:55	06/22/20 12:01	1
Lead	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 12:01	1
<b>Lithium</b>	<b>0.432</b>		0.00500		mg/L		06/19/20 13:55	06/23/20 14:05	1
Molybdenum	ND		0.00500		mg/L		06/19/20 13:55	06/22/20 12:01	1
Selenium	ND		0.00500		mg/L		06/19/20 13:55	06/22/20 12:01	1
Thallium	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 12:01	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/20 14:30	06/24/20 18:02	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>6010</b>		40.0		mg/L			06/18/20 11:32	1

# Client Sample Results

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

Job ID: 180-107147-2

**Client Sample ID: SFL MW-5**

**Lab Sample ID: 180-107147-4**

Date Collected: 06/16/20 11:05

Matrix: Water

Date Received: 06/17/20 09:00

### Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3000		100		mg/L			07/08/20 07:22	100
Fluoride	ND		1.00		mg/L			07/08/20 07:06	10
Sulfate	2190		100		mg/L			07/08/20 07:22	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/19/20 13:55	06/22/20 12:04	1
Arsenic	0.00145		0.00100		mg/L		06/19/20 13:55	06/22/20 12:04	1
Barium	0.0192		0.0100		mg/L		06/19/20 13:55	06/22/20 12:04	1
Beryllium	0.0113		0.00100		mg/L		06/19/20 13:55	06/23/20 14:07	1
Boron	5.35		0.0800		mg/L		06/19/20 13:55	06/22/20 12:04	1
Cadmium	0.00564		0.00100		mg/L		06/19/20 13:55	06/22/20 12:04	1
Calcium	812		0.500		mg/L		06/19/20 13:55	06/22/20 12:04	1
Chromium	0.00241		0.00200		mg/L		06/19/20 13:55	06/22/20 12:04	1
Cobalt	0.0512		0.000500		mg/L		06/19/20 13:55	06/22/20 12:04	1
Lead	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 12:04	1
Lithium	0.704		0.00500		mg/L		06/19/20 13:55	06/23/20 14:07	1
Molybdenum	ND		0.00500		mg/L		06/19/20 13:55	06/22/20 12:04	1
Selenium	ND		0.00500		mg/L		06/19/20 13:55	06/22/20 12:04	1
Thallium	0.00118		0.00100		mg/L		06/19/20 13:55	06/22/20 12:04	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/20 14:30	06/24/20 18:03	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7250		66.7		mg/L			06/18/20 11:32	1



# Client Sample Results

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

Job ID: 180-107147-2

**Client Sample ID: SFL MW-6**

**Lab Sample ID: 180-107147-5**

Date Collected: 06/16/20 12:35

Matrix: Water

Date Received: 06/17/20 09:00

### Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3760		100		mg/L			07/08/20 07:54	100
Fluoride	ND		1.00		mg/L			07/08/20 07:38	10
Sulfate	2350		100		mg/L			07/08/20 07:54	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/19/20 13:55	06/22/20 12:06	1
Arsenic	0.00892		0.00100		mg/L		06/19/20 13:55	06/22/20 12:06	1
Barium	0.0309		0.0100		mg/L		06/19/20 13:55	06/22/20 12:06	1
Beryllium	0.0503		0.00100		mg/L		06/19/20 13:55	06/23/20 14:10	1
Boron	0.384		0.0800		mg/L		06/19/20 13:55	06/22/20 12:06	1
Cadmium	0.0104		0.00100		mg/L		06/19/20 13:55	06/22/20 12:06	1
Calcium	950		0.500		mg/L		06/19/20 13:55	06/22/20 12:06	1
Chromium	ND		0.00200		mg/L		06/19/20 13:55	06/22/20 12:06	1
Cobalt	0.109		0.000500		mg/L		06/19/20 13:55	06/22/20 12:06	1
Lead	0.0115		0.00100		mg/L		06/19/20 13:55	06/22/20 12:06	1
Lithium	0.709		0.00500		mg/L		06/19/20 13:55	06/23/20 14:10	1
Molybdenum	ND		0.00500		mg/L		06/19/20 13:55	06/22/20 12:06	1
Selenium	ND		0.00500		mg/L		06/19/20 13:55	06/22/20 12:06	1
Thallium	0.00333		0.00100		mg/L		06/19/20 13:55	06/22/20 12:06	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/20 14:30	06/24/20 18:04	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	11000		66.7		mg/L			06/18/20 11:32	1

# Client Sample Results

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

Job ID: 180-107147-2

**Client Sample ID: SFL MW-7**

**Lab Sample ID: 180-107147-6**

Date Collected: 06/16/20 10:10

Matrix: Water

Date Received: 06/17/20 09:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>2880</b>		50.0		mg/L			07/08/20 08:25	50
Fluoride	ND		0.500		mg/L			07/08/20 08:10	5
<b>Sulfate</b>	<b>816</b>		5.00		mg/L			07/08/20 08:10	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/19/20 13:55	06/22/20 12:14	1
Arsenic	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 12:14	1
<b>Barium</b>	<b>0.0342</b>		0.0100		mg/L		06/19/20 13:55	06/22/20 12:14	1
Beryllium	ND		0.00100		mg/L		06/19/20 13:55	06/23/20 14:12	1
<b>Boron</b>	<b>0.832</b>		0.0800		mg/L		06/19/20 13:55	06/22/20 12:14	1
Cadmium	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 12:14	1
<b>Calcium</b>	<b>643</b>		0.500		mg/L		06/19/20 13:55	06/22/20 12:14	1
Chromium	ND		0.00200		mg/L		06/19/20 13:55	06/22/20 12:14	1
Cobalt	ND		0.000500		mg/L		06/19/20 13:55	06/22/20 12:14	1
Lead	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 12:14	1
<b>Lithium</b>	<b>0.447</b>		0.00500		mg/L		06/19/20 13:55	06/23/20 14:12	1
Molybdenum	ND		0.00500		mg/L		06/19/20 13:55	06/22/20 12:14	1
Selenium	ND		0.00500		mg/L		06/19/20 13:55	06/22/20 12:14	1
Thallium	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 12:14	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/20 14:30	06/24/20 18:07	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>5830</b>		50.0		mg/L			06/18/20 11:32	1

# Client Sample Results

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

Job ID: 180-107147-2

**Client Sample ID: MNW-15**

**Lab Sample ID: 180-107147-7**

Date Collected: 06/16/20 09:05

Matrix: Water

Date Received: 06/17/20 09:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	654		25.0		mg/L			07/08/20 08:57	25
Fluoride	0.794		0.250		mg/L			07/08/20 08:41	2.5
Sulfate	1370		25.0		mg/L			07/08/20 08:57	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/19/20 13:56	06/25/20 01:52	1
Arsenic	0.00624		0.00100		mg/L		06/19/20 13:56	06/25/20 01:52	1
Barium	0.0171		0.0100		mg/L		06/19/20 13:56	06/25/20 01:52	1
Beryllium	0.0880		0.00100		mg/L		06/19/20 13:56	06/26/20 19:58	1
Boron	8.30		0.0800		mg/L		06/19/20 13:56	06/26/20 00:45	1
Cadmium	0.0388		0.00100		mg/L		06/19/20 13:56	06/25/20 01:52	1
Calcium	327		0.500		mg/L		06/19/20 13:56	06/26/20 00:45	1
Chromium	0.0579		0.00200		mg/L		06/19/20 13:56	06/26/20 19:58	1
Cobalt	0.315		0.000500		mg/L		06/19/20 13:56	06/25/20 01:52	1
Lead	0.00225		0.00100		mg/L		06/19/20 13:56	06/25/20 01:52	1
Lithium	0.106		0.00500		mg/L		06/19/20 13:56	06/26/20 19:58	1
Molybdenum	ND		0.00500		mg/L		06/19/20 13:56	06/25/20 01:52	1
Selenium	ND		0.00500		mg/L		06/19/20 13:56	06/26/20 00:45	1
Thallium	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 01:52	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/20 14:30	06/24/20 18:08	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3170		40.0		mg/L			06/18/20 11:32	1

# Client Sample Results

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

Job ID: 180-107147-2

**Client Sample ID: MNW-18**

**Lab Sample ID: 180-107147-8**

Date Collected: 06/16/20 09:50

Matrix: Water

Date Received: 06/17/20 09:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>437</b>		2.50		mg/L			07/08/20 09:13	2.5
Fluoride	ND		0.250		mg/L			07/08/20 09:13	2.5
<b>Sulfate</b>	<b>1480</b>		25.0		mg/L			07/08/20 09:29	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/19/20 13:56	06/25/20 01:55	1
<b>Arsenic</b>	<b>0.00135</b>		0.00100		mg/L		06/19/20 13:56	06/25/20 01:55	1
<b>Barium</b>	<b>0.0477</b>		0.0100		mg/L		06/19/20 13:56	06/25/20 01:55	1
Beryllium	ND	^	0.00100		mg/L		06/19/20 13:56	06/26/20 00:48	1
<b>Boron</b>	<b>0.485</b>		0.0800		mg/L		06/19/20 13:56	06/26/20 00:48	1
Cadmium	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 01:55	1
<b>Calcium</b>	<b>322</b>		0.500		mg/L		06/19/20 13:56	06/26/20 00:48	1
<b>Chromium</b>	<b>0.00617</b>		0.00200		mg/L		06/19/20 13:56	06/26/20 20:01	1
<b>Cobalt</b>	<b>0.000561</b>		0.000500		mg/L		06/19/20 13:56	06/25/20 01:55	1
Lead	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 01:55	1
<b>Lithium</b>	<b>0.365</b>		0.00500		mg/L		06/19/20 13:56	06/26/20 20:01	1
Molybdenum	ND		0.00500		mg/L		06/19/20 13:56	06/25/20 01:55	1
Selenium	ND		0.00500		mg/L		06/19/20 13:56	06/26/20 00:48	1
Thallium	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 01:55	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/20 14:30	06/24/20 18:53	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>3160</b>		20.0		mg/L			06/18/20 11:32	1

# Client Sample Results

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

Job ID: 180-107147-2

**Client Sample ID: Dup-1**

**Lab Sample ID: 180-107147-9**

Date Collected: 06/16/20 00:00

Matrix: Water

Date Received: 06/17/20 09:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>2890</b>		50.0		mg/L			07/11/20 21:53	50
Fluoride	ND		0.500		mg/L			07/11/20 21:37	5
<b>Sulfate</b>	<b>859</b>		5.00		mg/L			07/13/20 10:38	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/19/20 13:56	06/25/20 02:05	1
Arsenic	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 02:05	1
<b>Barium</b>	<b>0.0372</b>		0.0100		mg/L		06/19/20 13:56	06/25/20 02:05	1
Beryllium	ND	^	0.00100		mg/L		06/19/20 13:56	06/26/20 00:58	1
<b>Boron</b>	<b>0.769</b>		0.0800		mg/L		06/19/20 13:56	06/26/20 00:58	1
Cadmium	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 02:05	1
<b>Calcium</b>	<b>694</b>		0.500		mg/L		06/19/20 13:56	06/26/20 00:58	1
Chromium	ND		0.00200		mg/L		06/19/20 13:56	06/26/20 19:17	1
Cobalt	ND		0.000500		mg/L		06/19/20 13:56	06/25/20 02:05	1
Lead	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 02:05	1
<b>Lithium</b>	<b>0.467</b>		0.00500		mg/L		06/19/20 13:56	06/26/20 19:17	1
Molybdenum	ND		0.00500		mg/L		06/19/20 13:56	06/25/20 02:05	1
Selenium	ND		0.00500		mg/L		06/19/20 13:56	06/26/20 00:58	1
Thallium	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 02:05	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/20 14:30	06/24/20 18:54	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>6040</b>		50.0		mg/L			06/18/20 11:32	1



# Client Sample Results

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

Job ID: 180-107147-2

**Client Sample ID: EqBK-SCM-061620**

**Lab Sample ID: 180-107147-10**

Date Collected: 06/16/20 14:55

Matrix: Water

Date Received: 06/17/20 09:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/11/20 20:48	1
Fluoride	ND		0.100		mg/L			07/11/20 20:48	1
Sulfate	ND		1.00		mg/L			07/13/20 12:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/19/20 13:56	06/25/20 02:09	1
Arsenic	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 02:09	1
Barium	ND		0.0100		mg/L		06/19/20 13:56	06/25/20 02:09	1
Beryllium	ND	^	0.00100		mg/L		06/19/20 13:56	06/26/20 01:02	1
Boron	ND		0.0800		mg/L		06/19/20 13:56	06/26/20 01:02	1
Cadmium	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 02:09	1
Calcium	ND		0.500		mg/L		06/19/20 13:56	06/26/20 01:02	1
<b>Chromium</b>	<b>0.00684</b>		0.00200		mg/L		06/19/20 13:56	06/26/20 20:05	1
Cobalt	ND		0.000500		mg/L		06/19/20 13:56	06/25/20 02:09	1
Lead	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 02:09	1
Lithium	ND		0.00500		mg/L		06/19/20 13:56	06/26/20 20:05	1
Molybdenum	ND		0.00500		mg/L		06/19/20 13:56	06/25/20 02:09	1
Selenium	ND		0.00500		mg/L		06/19/20 13:56	06/26/20 01:02	1
Thallium	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 02:09	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/20 14:30	06/24/20 18:55	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			06/18/20 11:26	1

# Client Sample Results

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

Job ID: 180-107147-2

**Client Sample ID: EqBK-GG-061620**

**Lab Sample ID: 180-107147-11**

Date Collected: 06/16/20 14:50

Matrix: Water

Date Received: 06/17/20 09:00

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.16		1.00		mg/L			07/13/20 13:08	1
Fluoride	ND		0.100		mg/L			07/13/20 13:08	1
Sulfate	ND		1.00		mg/L			07/13/20 13:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/19/20 13:56	06/25/20 02:12	1
Arsenic	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 02:12	1
Barium	ND		0.0100		mg/L		06/19/20 13:56	06/25/20 02:12	1
Beryllium	ND	^	0.00100		mg/L		06/19/20 13:56	06/26/20 01:05	1
Boron	ND		0.0800		mg/L		06/19/20 13:56	06/26/20 01:05	1
Cadmium	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 02:12	1
Calcium	ND		0.500		mg/L		06/19/20 13:56	06/25/20 02:12	1
Chromium	ND		0.00200		mg/L		06/19/20 13:56	06/26/20 20:08	1
Cobalt	ND		0.000500		mg/L		06/19/20 13:56	06/25/20 02:12	1
Lead	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 02:12	1
Lithium	ND		0.00500		mg/L		06/19/20 13:56	06/26/20 20:08	1
Molybdenum	ND		0.00500		mg/L		06/19/20 13:56	06/25/20 02:12	1
Selenium	ND		0.00500		mg/L		06/19/20 13:56	06/26/20 01:05	1
Thallium	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 02:12	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/20 14:30	06/24/20 18:12	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			06/18/20 11:26	1

# QC Sample Results

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

Job ID: 180-107147-2

## Method: EPA 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 180-320632/86**  
**Matrix: Water**  
**Analysis Batch: 320632**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/08/20 03:38	1
Fluoride	ND		0.100		mg/L			07/08/20 03:38	1
Sulfate	ND		1.00		mg/L			07/08/20 03:38	1

**Lab Sample ID: LCS 180-320632/85**  
**Matrix: Water**  
**Analysis Batch: 320632**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	53.35		mg/L		107	80 - 120
Fluoride	2.50	2.611		mg/L		104	80 - 120
Sulfate	50.0	50.04		mg/L		100	80 - 120

**Lab Sample ID: 180-107147-1 MS**  
**Matrix: Water**  
**Analysis Batch: 320632**

**Client Sample ID: SFL MW-2**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	3250	F1	5000	5873	F1	mg/L		53	80 - 120
Fluoride	ND	F1	250	130.1	F1	mg/L		52	80 - 120
Sulfate	1980	F1	5000	4589	F1	mg/L		52	80 - 120

**Lab Sample ID: 180-107147-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 320632**

**Client Sample ID: SFL MW-2**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	3250	F1	5000	6002	F1	mg/L		55	80 - 120	2	15
Fluoride	ND	F1	250	133.7	F1	mg/L		53	80 - 120	3	15
Sulfate	1980	F1	5000	4621	F1	mg/L		53	80 - 120	1	15

**Lab Sample ID: MB 180-321274/54**  
**Matrix: Water**  
**Analysis Batch: 321274**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/11/20 18:37	1
Fluoride	ND		0.100		mg/L			07/11/20 18:37	1
Sulfate	ND		1.00		mg/L			07/11/20 18:37	1

**Lab Sample ID: LCS 180-321274/53**  
**Matrix: Water**  
**Analysis Batch: 321274**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	55.37		mg/L		111	80 - 120
Fluoride	2.50	2.836		mg/L		113	80 - 120
Sulfate	50.0	56.87		mg/L		114	80 - 120

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# QC Sample Results

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

Job ID: 180-107147-2

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

**Lab Sample ID: MB 180-321352/6**  
**Matrix: Water**  
**Analysis Batch: 321352**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/13/20 06:30	1
Fluoride	ND		0.100		mg/L			07/13/20 06:30	1
Sulfate	ND		1.00		mg/L			07/13/20 06:30	1

**Lab Sample ID: LCS 180-321352/5**  
**Matrix: Water**  
**Analysis Batch: 321352**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	53.05		mg/L		106	80 - 120
Fluoride	2.50	2.611		mg/L		104	80 - 120
Sulfate	50.0	53.23		mg/L		106	80 - 120

**Lab Sample ID: MB 180-321361/6**  
**Matrix: Water**  
**Analysis Batch: 321361**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/13/20 06:33	1
Fluoride	ND		0.100		mg/L			07/13/20 06:33	1
Sulfate	ND		1.00		mg/L			07/13/20 06:33	1

**Lab Sample ID: LCS 180-321361/5**  
**Matrix: Water**  
**Analysis Batch: 321361**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.90		mg/L		106	80 - 120
Fluoride	2.50	2.682		mg/L		107	80 - 120
Sulfate	50.0	52.08		mg/L		104	80 - 120

## Method: EPA 6020A - Metals (ICP/MS)

**Lab Sample ID: MB 180-318980/1-A**  
**Matrix: Water**  
**Analysis Batch: 319205**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318980**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/19/20 13:55	06/22/20 10:57	1
Arsenic	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 10:57	1
Barium	ND		0.0100		mg/L		06/19/20 13:55	06/22/20 10:57	1
Boron	ND		0.0800		mg/L		06/19/20 13:55	06/22/20 10:57	1
Cadmium	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 10:57	1
Calcium	ND		0.500		mg/L		06/19/20 13:55	06/22/20 10:57	1
Chromium	ND		0.00200		mg/L		06/19/20 13:55	06/22/20 10:57	1
Cobalt	ND		0.000500		mg/L		06/19/20 13:55	06/22/20 10:57	1
Lead	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 10:57	1
Molybdenum	ND		0.00500		mg/L		06/19/20 13:55	06/22/20 10:57	1
Selenium	ND		0.00500		mg/L		06/19/20 13:55	06/22/20 10:57	1
Thallium	ND		0.00100		mg/L		06/19/20 13:55	06/22/20 10:57	1

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# QC Sample Results

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

Job ID: 180-107147-2

## Method: EPA 6020A - Metals (ICP/MS)

**Lab Sample ID: MB 180-318980/1-A**  
**Matrix: Water**  
**Analysis Batch: 319277**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318980**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.00100		mg/L		06/19/20 13:55	06/23/20 12:45	1
Lithium	ND		0.00500		mg/L		06/19/20 13:55	06/23/20 12:45	1

**Lab Sample ID: LCS 180-318980/2-A**  
**Matrix: Water**  
**Analysis Batch: 319205**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318980**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	0.250	0.2694		mg/L		108	80 - 120
Arsenic	1.00	0.9931		mg/L		99	80 - 120
Barium	1.00	1.027		mg/L		103	80 - 120
Boron	1.25	1.282		mg/L		103	80 - 120
Cadmium	0.500	0.5196		mg/L		104	80 - 120
Calcium	25.0	26.00		mg/L		104	80 - 120
Chromium	0.500	0.5092		mg/L		102	80 - 120
Cobalt	0.500	0.5002		mg/L		100	80 - 120
Lead	0.500	0.5115		mg/L		102	80 - 120
Molybdenum	0.500	0.5191		mg/L		104	80 - 120
Selenium	1.00	1.021		mg/L		102	80 - 120
Thallium	1.00	1.072		mg/L		107	80 - 120

**Lab Sample ID: LCS 180-318980/2-A**  
**Matrix: Water**  
**Analysis Batch: 319277**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318980**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Beryllium	0.500	0.5108		mg/L		102	80 - 120
Lithium	0.500	0.5129		mg/L		103	80 - 120

**Lab Sample ID: 180-107147-1 MS**  
**Matrix: Water**  
**Analysis Batch: 319205**

**Client Sample ID: SFL MW-2**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318980**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	ND		0.250	0.2714		mg/L		109	75 - 125
Arsenic	0.00160		1.00	1.029		mg/L		103	75 - 125
Barium	0.0262		1.00	1.044		mg/L		102	75 - 125
Boron	0.489		1.25	1.887		mg/L		112	75 - 125
Cadmium	0.00277		0.500	0.5119		mg/L		102	75 - 125
Calcium	944		25.0	959.6	4	mg/L		63	75 - 125
Chromium	ND		0.500	0.5052		mg/L		101	75 - 125
Cobalt	0.0214		0.500	0.5120		mg/L		98	75 - 125
Lead	ND		0.500	0.5266		mg/L		105	75 - 125
Molybdenum	ND		0.500	0.5456		mg/L		109	75 - 125
Selenium	ND		1.00	1.035		mg/L		103	75 - 125
Thallium	ND		1.00	1.054		mg/L		105	75 - 125



# QC Sample Results

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

Job ID: 180-107147-2

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

**Lab Sample ID: 180-107147-1 MS**  
**Matrix: Water**  
**Analysis Batch: 319277**

**Client Sample ID: SFL MW-2**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318980**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Beryllium	0.00722		0.500	0.5160		mg/L		102	75 - 125
Lithium	0.487		0.500	1.050		mg/L		113	75 - 125

**Lab Sample ID: 180-107147-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 319205**

**Client Sample ID: SFL MW-2**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318980**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	ND		0.250	0.2800		mg/L		112	75 - 125	3	20
Arsenic	0.00160		1.00	1.038		mg/L		104	75 - 125	1	20
Barium	0.0262		1.00	1.068		mg/L		104	75 - 125	2	20
Boron	0.489		1.25	1.880		mg/L		111	75 - 125	0	20
Cadmium	0.00277		0.500	0.5285		mg/L		105	75 - 125	3	20
Calcium	944		25.0	976.4	4	mg/L		130	75 - 125	2	20
Chromium	ND		0.500	0.5136		mg/L		103	75 - 125	2	20
Cobalt	0.0214		0.500	0.5201		mg/L		100	75 - 125	2	20
Lead	ND		0.500	0.5267		mg/L		105	75 - 125	0	20
Molybdenum	ND		0.500	0.5434		mg/L		109	75 - 125	0	20
Selenium	ND		1.00	1.029		mg/L		103	75 - 125	1	20
Thallium	ND		1.00	1.082		mg/L		108	75 - 125	3	20

**Lab Sample ID: 180-107147-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 319277**

**Client Sample ID: SFL MW-2**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318980**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Beryllium	0.00722		0.500	0.5227		mg/L		103	75 - 125	1	20
Lithium	0.487		0.500	1.065		mg/L		116	75 - 125	1	20

**Lab Sample ID: MB 180-318981/1-A**  
**Matrix: Water**  
**Analysis Batch: 319579**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318981**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/19/20 13:56	06/25/20 01:10	1
Arsenic	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 01:10	1
Barium	ND		0.0100		mg/L		06/19/20 13:56	06/25/20 01:10	1
Cadmium	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 01:10	1
Cobalt	ND		0.000500		mg/L		06/19/20 13:56	06/25/20 01:10	1
Lead	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 01:10	1
Molybdenum	ND		0.00500		mg/L		06/19/20 13:56	06/25/20 01:10	1
Thallium	ND		0.00100		mg/L		06/19/20 13:56	06/25/20 01:10	1

**Lab Sample ID: MB 180-318981/1-A**  
**Matrix: Water**  
**Analysis Batch: 319729**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318981**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	^	0.00100		mg/L		06/19/20 13:56	06/26/20 00:03	1

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# QC Sample Results

Client: Wood E&I Solutions Inc  
 Project/Site: TPA Gibbons Creek

Job ID: 180-107147-2

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

**Lab Sample ID: MB 180-318981/1-A**  
**Matrix: Water**  
**Analysis Batch: 319729**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318981**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.0800		mg/L		06/19/20 13:56	06/26/20 00:03	1
Calcium	ND		0.500		mg/L		06/19/20 13:56	06/26/20 00:03	1
Selenium	ND		0.00500		mg/L		06/19/20 13:56	06/26/20 00:03	1

**Lab Sample ID: MB 180-318981/1-A**  
**Matrix: Water**  
**Analysis Batch: 319808**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318981**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.00200		mg/L		06/19/20 13:56	06/26/20 18:59	1
Lithium	ND		0.00500		mg/L		06/19/20 13:56	06/26/20 18:59	1

**Lab Sample ID: LCS 180-318981/2-A**  
**Matrix: Water**  
**Analysis Batch: 319579**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318981**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	0.250	0.2911		mg/L		116	80 - 120
Arsenic	1.00	0.9694		mg/L		97	80 - 120
Barium	1.00	1.078		mg/L		108	80 - 120
Cadmium	0.500	0.5806		mg/L		116	80 - 120
Cobalt	0.500	0.4862		mg/L		97	80 - 120
Lead	0.500	0.5735		mg/L		115	80 - 120
Molybdenum	0.500	0.5502		mg/L		110	80 - 120
Thallium	1.00	1.156		mg/L		116	80 - 120

**Lab Sample ID: LCS 180-318981/2-A**  
**Matrix: Water**  
**Analysis Batch: 319729**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318981**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Beryllium	0.500	0.5479		mg/L		110	80 - 120
Boron	1.25	1.291		mg/L		103	80 - 120
Calcium	25.0	29.67		mg/L		119	80 - 120
Selenium	1.00	1.156		mg/L		116	80 - 120

**Lab Sample ID: LCS 180-318981/2-A**  
**Matrix: Water**  
**Analysis Batch: 319808**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 318981**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.500	0.5793		mg/L		116	80 - 120
Lithium	0.500	0.5465		mg/L		109	80 - 120

# QC Sample Results

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

Job ID: 180-107147-2

## Method: EPA 7470A - Mercury (CVAA)

**Lab Sample ID: MB 180-319401/1-A**  
**Matrix: Water**  
**Analysis Batch: 319448**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 319401**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/24/20 14:30	06/24/20 17:56	1

**Lab Sample ID: LCS 180-319401/2-A**  
**Matrix: Water**  
**Analysis Batch: 319448**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 319401**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00250	0.002493		mg/L		100	80 - 120

**Lab Sample ID: 180-107147-1 MS**  
**Matrix: Water**  
**Analysis Batch: 319448**

**Client Sample ID: SFL MW-2**  
**Prep Type: Total/NA**  
**Prep Batch: 319401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	ND		0.00100	0.001020		mg/L		102	75 - 125

**Lab Sample ID: 180-107147-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 319448**

**Client Sample ID: SFL MW-2**  
**Prep Type: Total/NA**  
**Prep Batch: 319401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	ND		0.00100	0.001028		mg/L		103	75 - 125	1	20

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

**Lab Sample ID: MB 180-318828/2**  
**Matrix: Water**  
**Analysis Batch: 318828**

**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			06/18/20 11:26	1

**Lab Sample ID: LCS 180-318828/1**  
**Matrix: Water**  
**Analysis Batch: 318828**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Dissolved Solids	192	198.0		mg/L		103	80 - 120

**Lab Sample ID: 180-107147-1 DU**  
**Matrix: Water**  
**Analysis Batch: 318828**

**Client Sample ID: SFL MW-2**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	6970		6280		mg/L		10	10

# QC Sample Results

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

Job ID: 180-107147-2

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

**Lab Sample ID: MB 180-318829/2**  
**Matrix: Water**  
**Analysis Batch: 318829**

**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			06/18/20 11:32	1

**Lab Sample ID: LCS 180-318829/1**  
**Matrix: Water**  
**Analysis Batch: 318829**

**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	192	194.0		mg/L		101	80 - 120



# QC Association Summary

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

Job ID: 180-107147-2

## HPLC/IC

### Analysis Batch: 320632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-1	SFL MW-2	Total/NA	Water	EPA 9056A	
180-107147-1	SFL MW-2	Total/NA	Water	EPA 9056A	
180-107147-2	SFL MW-3	Total/NA	Water	EPA 9056A	
180-107147-2	SFL MW-3	Total/NA	Water	EPA 9056A	
180-107147-3	SFL MW-4	Total/NA	Water	EPA 9056A	
180-107147-3	SFL MW-4	Total/NA	Water	EPA 9056A	
180-107147-4	SFL MW-5	Total/NA	Water	EPA 9056A	
180-107147-4	SFL MW-5	Total/NA	Water	EPA 9056A	
180-107147-5	SFL MW-6	Total/NA	Water	EPA 9056A	
180-107147-5	SFL MW-6	Total/NA	Water	EPA 9056A	
180-107147-6	SFL MW-7	Total/NA	Water	EPA 9056A	
180-107147-6	SFL MW-7	Total/NA	Water	EPA 9056A	
180-107147-7	MNW-15	Total/NA	Water	EPA 9056A	
180-107147-7	MNW-15	Total/NA	Water	EPA 9056A	
180-107147-8	MNW-18	Total/NA	Water	EPA 9056A	
180-107147-8	MNW-18	Total/NA	Water	EPA 9056A	
MB 180-320632/86	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-320632/85	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-107147-1 MS	SFL MW-2	Total/NA	Water	EPA 9056A	
180-107147-1 MSD	SFL MW-2	Total/NA	Water	EPA 9056A	

### Analysis Batch: 321274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-9	Dup-1	Total/NA	Water	EPA 9056A	
180-107147-9	Dup-1	Total/NA	Water	EPA 9056A	
180-107147-10	EqBK-SCM-061620	Total/NA	Water	EPA 9056A	
MB 180-321274/54	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-321274/53	Lab Control Sample	Total/NA	Water	EPA 9056A	

### Analysis Batch: 321352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-9	Dup-1	Total/NA	Water	EPA 9056A	
MB 180-321352/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-321352/5	Lab Control Sample	Total/NA	Water	EPA 9056A	

### Analysis Batch: 321361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-10	EqBK-SCM-061620	Total/NA	Water	EPA 9056A	
180-107147-11	EqBK-GG-061620	Total/NA	Water	EPA 9056A	
MB 180-321361/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-321361/5	Lab Control Sample	Total/NA	Water	EPA 9056A	

## Metals

### Prep Batch: 318980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-1	SFL MW-2	Total Recoverable	Water	3005A	
180-107147-2	SFL MW-3	Total Recoverable	Water	3005A	
180-107147-3	SFL MW-4	Total Recoverable	Water	3005A	
180-107147-4	SFL MW-5	Total Recoverable	Water	3005A	
180-107147-5	SFL MW-6	Total Recoverable	Water	3005A	

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# QC Association Summary

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

Job ID: 180-107147-2

## Metals (Continued)

### Prep Batch: 318980 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-6	SFL MW-7	Total Recoverable	Water	3005A	
MB 180-318980/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-318980/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-107147-1 MS	SFL MW-2	Total Recoverable	Water	3005A	
180-107147-1 MSD	SFL MW-2	Total Recoverable	Water	3005A	

### Prep Batch: 318981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-7	MNW-15	Total Recoverable	Water	3005A	
180-107147-8	MNW-18	Total Recoverable	Water	3005A	
180-107147-9	Dup-1	Total Recoverable	Water	3005A	
180-107147-10	EqBK-SCM-061620	Total Recoverable	Water	3005A	
180-107147-11	EqBK-GG-061620	Total Recoverable	Water	3005A	
MB 180-318981/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-318981/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

### Analysis Batch: 319205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-1	SFL MW-2	Total Recoverable	Water	EPA 6020A	318980
180-107147-2	SFL MW-3	Total Recoverable	Water	EPA 6020A	318980
180-107147-3	SFL MW-4	Total Recoverable	Water	EPA 6020A	318980
180-107147-4	SFL MW-5	Total Recoverable	Water	EPA 6020A	318980
180-107147-5	SFL MW-6	Total Recoverable	Water	EPA 6020A	318980
180-107147-6	SFL MW-7	Total Recoverable	Water	EPA 6020A	318980
MB 180-318980/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	318980
LCS 180-318980/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	318980
180-107147-1 MS	SFL MW-2	Total Recoverable	Water	EPA 6020A	318980
180-107147-1 MSD	SFL MW-2	Total Recoverable	Water	EPA 6020A	318980

### Analysis Batch: 319277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-1	SFL MW-2	Total Recoverable	Water	EPA 6020A	318980
180-107147-2	SFL MW-3	Total Recoverable	Water	EPA 6020A	318980
180-107147-3	SFL MW-4	Total Recoverable	Water	EPA 6020A	318980
180-107147-4	SFL MW-5	Total Recoverable	Water	EPA 6020A	318980
180-107147-5	SFL MW-6	Total Recoverable	Water	EPA 6020A	318980
180-107147-6	SFL MW-7	Total Recoverable	Water	EPA 6020A	318980
MB 180-318980/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	318980
LCS 180-318980/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	318980
180-107147-1 MS	SFL MW-2	Total Recoverable	Water	EPA 6020A	318980
180-107147-1 MSD	SFL MW-2	Total Recoverable	Water	EPA 6020A	318980

### Prep Batch: 319401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-1	SFL MW-2	Total/NA	Water	7470A	
180-107147-2	SFL MW-3	Total/NA	Water	7470A	
180-107147-3	SFL MW-4	Total/NA	Water	7470A	
180-107147-4	SFL MW-5	Total/NA	Water	7470A	
180-107147-5	SFL MW-6	Total/NA	Water	7470A	
180-107147-6	SFL MW-7	Total/NA	Water	7470A	
180-107147-7	MNW-15	Total/NA	Water	7470A	

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# QC Association Summary

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

Job ID: 180-107147-2

## Metals (Continued)

### Prep Batch: 319401 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-8	MNW-18	Total/NA	Water	7470A	
180-107147-9	Dup-1	Total/NA	Water	7470A	
180-107147-10	EqBK-SCM-061620	Total/NA	Water	7470A	
180-107147-11	EqBK-GG-061620	Total/NA	Water	7470A	
MB 180-319401/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-319401/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-107147-1 MS	SFL MW-2	Total/NA	Water	7470A	
180-107147-1 MSD	SFL MW-2	Total/NA	Water	7470A	

### Analysis Batch: 319448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-1	SFL MW-2	Total/NA	Water	EPA 7470A	319401
180-107147-2	SFL MW-3	Total/NA	Water	EPA 7470A	319401
180-107147-3	SFL MW-4	Total/NA	Water	EPA 7470A	319401
180-107147-4	SFL MW-5	Total/NA	Water	EPA 7470A	319401
180-107147-5	SFL MW-6	Total/NA	Water	EPA 7470A	319401
180-107147-6	SFL MW-7	Total/NA	Water	EPA 7470A	319401
180-107147-7	MNW-15	Total/NA	Water	EPA 7470A	319401
180-107147-8	MNW-18	Total/NA	Water	EPA 7470A	319401
180-107147-9	Dup-1	Total/NA	Water	EPA 7470A	319401
180-107147-10	EqBK-SCM-061620	Total/NA	Water	EPA 7470A	319401
180-107147-11	EqBK-GG-061620	Total/NA	Water	EPA 7470A	319401
MB 180-319401/1-A	Method Blank	Total/NA	Water	EPA 7470A	319401
LCS 180-319401/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	319401
180-107147-1 MS	SFL MW-2	Total/NA	Water	EPA 7470A	319401
180-107147-1 MSD	SFL MW-2	Total/NA	Water	EPA 7470A	319401

### Analysis Batch: 319579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-7	MNW-15	Total Recoverable	Water	EPA 6020A	318981
180-107147-8	MNW-18	Total Recoverable	Water	EPA 6020A	318981
180-107147-9	Dup-1	Total Recoverable	Water	EPA 6020A	318981
180-107147-10	EqBK-SCM-061620	Total Recoverable	Water	EPA 6020A	318981
180-107147-11	EqBK-GG-061620	Total Recoverable	Water	EPA 6020A	318981
MB 180-318981/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	318981
LCS 180-318981/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	318981

### Analysis Batch: 319729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-7	MNW-15	Total Recoverable	Water	EPA 6020A	318981
180-107147-8	MNW-18	Total Recoverable	Water	EPA 6020A	318981
180-107147-9	Dup-1	Total Recoverable	Water	EPA 6020A	318981
180-107147-10	EqBK-SCM-061620	Total Recoverable	Water	EPA 6020A	318981
180-107147-11	EqBK-GG-061620	Total Recoverable	Water	EPA 6020A	318981
MB 180-318981/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	318981
LCS 180-318981/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	318981

### Analysis Batch: 319808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-7	MNW-15	Total Recoverable	Water	EPA 6020A	318981
180-107147-8	MNW-18	Total Recoverable	Water	EPA 6020A	318981

Eurofins TestAmerica, Pittsburgh

# QC Association Summary

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

Job ID: 180-107147-2

## Metals (Continued)

### Analysis Batch: 319808 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-9	Dup-1	Total Recoverable	Water	EPA 6020A	318981
180-107147-10	EqBK-SCM-061620	Total Recoverable	Water	EPA 6020A	318981
180-107147-11	EqBK-GG-061620	Total Recoverable	Water	EPA 6020A	318981
MB 180-318981/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	318981
LCS 180-318981/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	318981

## General Chemistry

### Analysis Batch: 318828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-1	SFL MW-2	Total/NA	Water	SM 2540C	
180-107147-10	EqBK-SCM-061620	Total/NA	Water	SM 2540C	
180-107147-11	EqBK-GG-061620	Total/NA	Water	SM 2540C	
MB 180-318828/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-318828/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-107147-1 DU	SFL MW-2	Total/NA	Water	SM 2540C	

### Analysis Batch: 318829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107147-2	SFL MW-3	Total/NA	Water	SM 2540C	
180-107147-3	SFL MW-4	Total/NA	Water	SM 2540C	
180-107147-4	SFL MW-5	Total/NA	Water	SM 2540C	
180-107147-5	SFL MW-6	Total/NA	Water	SM 2540C	
180-107147-6	SFL MW-7	Total/NA	Water	SM 2540C	
180-107147-7	MNW-15	Total/NA	Water	SM 2540C	
180-107147-8	MNW-18	Total/NA	Water	SM 2540C	
180-107147-9	Dup-1	Total/NA	Water	SM 2540C	
MB 180-318829/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-318829/1	Lab Control Sample	Total/NA	Water	SM 2540C	

# Chain of Custody Record

<b>Client Information</b>		Lab PM: <u>Lage, Gail</u>		Carrier Tracking No(s):	
Client Contact: <u>Charlie Macon</u>		E-Mail: <u>gail.lage@testamericainc.com</u>		COC No: <u>490-105950-24956.2</u>	
Company: <u>Wood E&amp;I Solutions Inc</u>		Phone: <u>512-413-3876</u>		Page: <u>1 of 1</u>	
Address: <u>3755 South Capital of Texas Highway Suite 375</u>		Due Date Requested:		Job #: <u>SCM</u>	
City: <u>Austin</u>		TAT Requested (days): <u>Standard</u>		Preservation Codes:	
State, Zip: <u>TX, 78704</u>		PO #: <u></u>		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)	
Phone: <u>512-241-4382(Tel)</u>		Purchase Order Requested		Other:	
Email: <u>charlie.macon@woodpic.com</u>		WO #:		180-107147 Chain of Custody	
Project Name: <u>AMEC CCR TMPA Gibbons Creek</u>		Project #: <u>49013510</u>		Barcode	
Site: <u>Texas</u>		SSOW#:		Total Number of Containers	

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=other)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0, 904.0	956A, ORGM, 28D - Chloride, Fluoride, Sulfate	6020A, 7470A	2540C, Calcd - Total Dissolved Solids	Analysis Requested
SFL MW-3	06-16-20	1:35	G	W	N	N	X	X	X	X	
SFL MW-3		11:15			N	N					
SFL MW-4		12:20			N	N					
SFL MW-5		11:05			N	N					
SFL MW-6		12:35			N	N					
SFL MW-7		10:10			N	N					
MNW-15		09:05			N	N					
MNW-18		09:50			N	N					
DUP-1		-			N	N					
EQBK-SCM-061620		14:55			N	N					
EQBK-66-061620		2:50			N	N					

**Possible Hazard Identification**  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Radiological  
 Deliverable Requested: I, II, III, IV, Other (specify)

**Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

**Special Instructions/QC Requirements:**

**Empty Kit Relinquished by:** \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: Samuel C. Macon Date: 6-16-20 @ 1600 Company: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Company: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Company: \_\_\_\_\_

**Custody Seals Intact:** \_\_\_\_\_ Custody Seal No.: \_\_\_\_\_  
 Δ Yes Δ No

**Received by:** Samuel Macon Date: 6-17-20 Company: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date: 9:00 Company: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Company: \_\_\_\_\_

Method of Shipment: \_\_\_\_\_  
 Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_





180-107147 Waybill

afins  
Environment Testing  
TestAmerica

Part 1 56400-434 RITZ EXP 03/20

N ID 2) 43-3876  
MACON

ORI  
SAM  
WDC  
3755

TX HWY SUITE 375

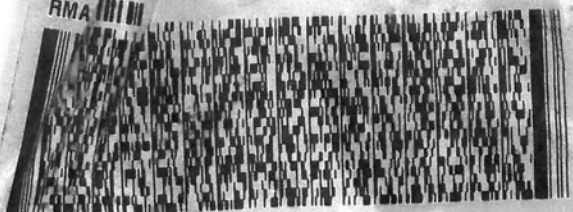
SHIP DATE: 09JUN20  
ACTWGT: 10.00 LB MAN  
CAD: 592545/CAFE3313

TO  
STAMERICA PITTSBURGH  
VE

EURING  
301 PA  
RIG PA  
PITSB PA 152382907  
REF: 8490-105950

(412) 7060  
DEPT TLES

RMA IIII



FedEx  
Express



J191219029007

FedEx  
TRK# 1685 4442 3390  
027

WED - 17 JUN 10:30A  
PRIORITY OVERNIGHT

NA AGCA

15238  
PA-US PIT

uncorrected temp  
thermometer ID

3.2 °C  
19

Initials

JS

VI-SR-001 effective 7/26/13

06/16 56DJ1/C7DD/FE4A

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Ref: S490-105950  
Dep: BOTTLES

Date: 09Jun20  
Wgt: 10.00 LB  
DV:

TNG: 0.00  
HL: 0.00  
COLING: 0.00

Svcs: PRIORITY OVERNIGHT Master 1685 4442 3357  
TRCK: 1685 4442 3405

1685 4442 3405  
1685 4442 3405



Environment Testing  
TestAmerica

1685 4442 3405  
FZ

Part # 158403-404 R112 EXP 02/20

ORIGIN ID: MIFA (512) 413-3876  
SAM MACON  
WDD  
3755 S. CAPITAL OF TX HWY SUITE 375  
AUSTIN, TX 78704  
UNITED STATES US

SHIP DATE: 09JUN20  
ACTWGT: 10.00 LB MAN  
CAD: 592545/CAFE3313

TO

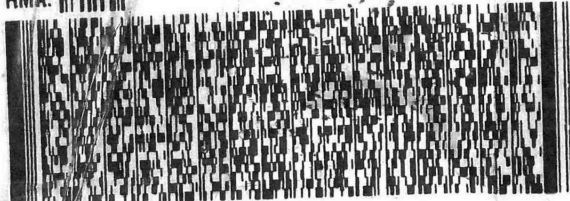
EUROFINS TESTAMERICA PITTSBURGH  
301 ALPHA DRIVE  
RIDC PARK  
PITTSBURGH PA 152382907

(412) 963-7068  
DEPT: BOTTLES

REF: S490-105950

2850/002/0595

RMA: ||| |||



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Express



FedEx  
TRK# 1685 4442 3405  
0221

WED - 17 JUN 10:30A  
PRIORITY OVERNIGHT

NA AGCA

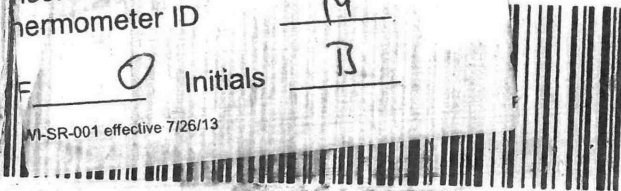
15238  
PA-US PIT

Uncorrected temp  
thermometer ID

4.4 °C  
14  
B

Initials

WI-SR-001 effective 7/26/13

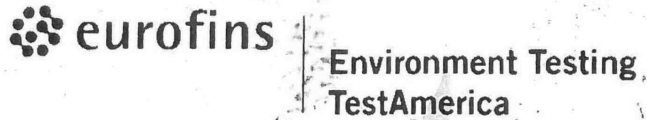


#3713351 06/16 56BJ1/C7DD/FE4A

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Ref: S490-105950	Date: 09Jun20	SHIPPING:	0.00
Dep: BOTTLES	Wgt: 10.00 LBS	SPECIAL:	0.00
		HANDLING:	0.00
	DV: 0.00	TOTAL:	0.00

Svc: PRIORITY OVERNIGHT Master 1685 4442 3357  
 TRK: 1685 4442 3416



ORIGIN ID:MIFA (512) 413-3876  
 SAM MACON  
 WOOD  
 3755 S. CAPITAL OF TX HWY SUITE 375  
 AUSTIN, TX 78704  
 UNITED STATES US

SHIP DATE: 09JUN20  
 ACTWGT: 10.00 LB MAN  
 CAD: 592545/CAFE3313

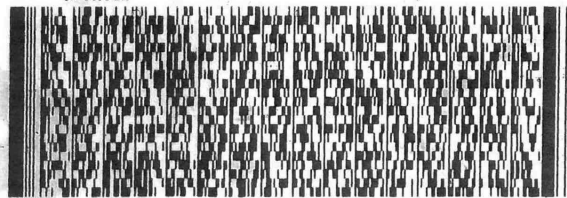
TO

**EUROFINS TESTAMERICA PITTSBURGH**  
**301 ALPHA DRIVE**  
**RIDC PARK**  
**PITTSBURGH PA 152382907**

(412) 963-7068  
 DEPT: BOTTLES

REF: S490-105950

RMA: ||| ||| |||



**FedEx**  
Express



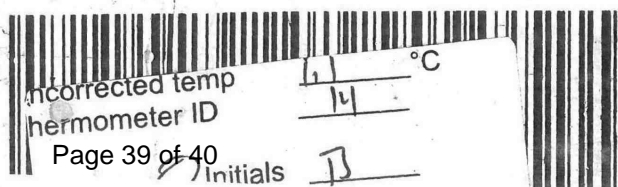
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**FedEx**  
 TRK# 1685 4442 3416  
 0221

**WED - 17 JUN 10:30A**  
**PRIORITY OVERNIGHT**

**NA AGCA**

**15238**  
 PA-US **PIT**



Uncorrected temp \_\_\_\_\_ °C  
 Thermometer ID \_\_\_\_\_

Page 39 of 40

Initials JB

7/17/2020

- 1
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# Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-107147-2

**Login Number: 107147**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

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

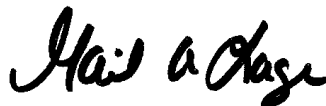
## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-107191-1  
Client Project/Site: TPA Gibbons Creek  
Sampling Event: CCR

For:  
Wood E&I Solutions Inc  
3520 Executive Center Drive Suite 220  
Austin, Texas 78731

Attn: Charlie Macon



Authorized for release by:  
7/26/2020 9:50:31 PM

Gail Lage, Senior Project Manager  
(615)301-5741  
[Gail.Lage@Eurofinset.com](mailto:Gail.Lage@Eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

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

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

PA Lab ID: 02-00416





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions/Glossary . . . . .	4
Certification Summary . . . . .	5
Sample Summary . . . . .	6
Method Summary . . . . .	7
Lab Chronicle . . . . .	8
Client Sample Results . . . . .	12
QC Sample Results . . . . .	23
QC Association Summary . . . . .	24
Chain of Custody . . . . .	25
Receipt Checklists . . . . .	30



# Case Narrative

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

Job ID: 180-107191-1

## Job ID: 180-107191-1

### Laboratory: Eurofins TestAmerica, Pittsburgh

#### Narrative

#### Job Narrative 180-107191-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 6/18/2020 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.6° C, 3.2° C and 4.6° C.

#### RAD

Method 903.0: Radium-226 Prep Batch 160-474052:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

AP MW-1D (180-107191-1), AP MW-5 (180-107191-2), AP MW-4 (180-107191-3), SSP/AP MW-1 (180-107191-4), SSP MW-2 (180-107191-5), SSP MW-3 (180-107191-6), SSP MW-4 (180-107191-7), AP MW-3 (180-107191-8), Dup 2 (180-107191-9), Equip Blank-1SCM-061720 (180-107191-10), Equip Blank-2 GG-061720 (180-107191-11), (LCS 160-474052/1-A), (MB 160-474052/24-A), (500-183769-L-3-A), (500-183769-L-3-B MS) and (500-183769-M-3-A MSD)

Method 904.0: Radium-228 Prep Batch 160-474054-

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

AP MW-1D (180-107191-1), AP MW-5 (180-107191-2), AP MW-4 (180-107191-3), SSP/AP MW-1 (180-107191-4), SSP MW-2 (180-107191-5), SSP MW-3 (180-107191-6), SSP MW-4 (180-107191-7), AP MW-3 (180-107191-8), Dup 2 (180-107191-9), Equip Blank-1SCM-061720 (180-107191-10), Equip Blank-2 GG-061720 (180-107191-11), (LCS 160-474054/1-A), (MB 160-474054/24-A), (500-183769-L-3-C), (500-183769-L-3-D MS) and (500-183769-M-3-B MSD)

Method PrecSep\_0: Radium 228 Prep Batch 160-474052

The following samples were prepared at a reduced aliquot due to yellow discoloration: SSP MW-3 (180-107191-6).

Method PrecSep\_0: Radium 228 Prep Batch 160-474054:

The following samples had a brown pellet throughout the out of ingrowth process. Samples 180-107491-7 and 180-107491-9 stayed discolored all the way through the process and when plated they dried a light brown color.

Method PrecSep-21: Radium 226 Prep Batch 160-474052

The following samples were prepared at a reduced aliquot due to yellow discoloration: SSP MW-3 (180-107191-6).

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

# Definitions/Glossary

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

Job ID: 180-107191-1

## Qualifiers

### Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Accreditation/Certification Summary

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

Job ID: 180-107191-1

## Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-20
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-21
Illinois	NELAP	004553	11-30-20
Iowa	State	373	09-17-20
Kansas	NELAP	E-10236	10-31-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	07-01-21
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-20
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-20
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-20
Pennsylvania	NELAP	68-00540	02-28-21
Texas	NELAP	T104704193-19-13	07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-20
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-20
West Virginia DEP	State	381	10-31-20

# Sample Summary

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

Job ID: 180-107191-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-107191-1	AP MW-1D	Water	06/17/20 08:50	06/18/20 08:30	
180-107191-2	AP MW-5	Water	06/17/20 10:30	06/18/20 08:30	
180-107191-3	AP MW-4	Water	06/17/20 11:30	06/18/20 08:30	
180-107191-4	SSP/AP MW-1	Water	06/17/20 12:50	06/18/20 08:30	
180-107191-5	SSP MW-2	Water	06/17/20 14:15	06/18/20 08:30	
180-107191-6	SSP MW-3	Water	06/17/20 12:10	06/18/20 08:30	
180-107191-7	SSP MW-4	Water	06/17/20 09:05	06/18/20 08:30	
180-107191-8	AP MW-3	Water	06/17/20 13:30	06/18/20 08:30	
180-107191-9	Dup 2	Water	06/17/20 00:00	06/18/20 08:30	
180-107191-10	Equip Blank-1SCM-061720	Water	06/17/20 14:50	06/18/20 08:30	
180-107191-11	Equip Blank-2 GG-061720	Water	06/17/20 14:55	06/18/20 08:30	

# Method Summary

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

Job ID: 180-107191-1

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 = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566





# Lab Chronicle

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

Job ID: 180-107191-1

## Client Sample ID: AP MW-1D

## Lab Sample ID: 180-107191-1

Date Collected: 06/17/20 08:50

Matrix: Water

Date Received: 06/18/20 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.19 mL	1.0 g	474052	06/23/20 08:34	RJD	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	476320	07/15/20 09:45	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.19 mL	1.0 g	474054	06/23/20 09:05	RJD	TAL SL
Total/NA	Analysis	904.0		1			475062	07/01/20 09:21	SCB	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			476633	07/17/20 14:25	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP MW-5

## Lab Sample ID: 180-107191-2

Date Collected: 06/17/20 10:30

Matrix: Water

Date Received: 06/18/20 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.48 mL	1.0 g	474052	06/23/20 08:34	RJD	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	476320	07/15/20 09:46	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.48 mL	1.0 g	474054	06/23/20 09:05	RJD	TAL SL
Total/NA	Analysis	904.0		1			475062	07/01/20 09:21	SCB	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			476633	07/17/20 14:25	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP MW-4

## Lab Sample ID: 180-107191-3

Date Collected: 06/17/20 11:30

Matrix: Water

Date Received: 06/18/20 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.10 mL	1.0 g	474052	06/23/20 08:34	RJD	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	476320	07/15/20 09:47	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.10 mL	1.0 g	474054	06/23/20 09:05	RJD	TAL SL
Total/NA	Analysis	904.0		1			475062	07/01/20 09:21	SCB	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			476633	07/17/20 14:25	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SSP/AP MW-1

## Lab Sample ID: 180-107191-4

Date Collected: 06/17/20 12:50

Matrix: Water

Date Received: 06/18/20 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.83 mL	1.0 g	474052	06/23/20 08:34	RJD	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	476320	07/15/20 09:47	SCB	TAL SL
Instrument ID: GFPCRED										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-107191-1

## Client Sample ID: SSP/AP MW-1

Lab Sample ID: 180-107191-4

Date Collected: 06/17/20 12:50

Matrix: Water

Date Received: 06/18/20 08:30

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			999.83 mL	1.0 g	474054	06/23/20 09:05	RJD	TAL SL
Total/NA	Analysis	904.0		1			475062	07/01/20 09:22	SCB	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			476633	07/17/20 14:25	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SSP MW-2

Lab Sample ID: 180-107191-5

Date Collected: 06/17/20 14:15

Matrix: Water

Date Received: 06/18/20 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.07 mL	1.0 g	474052	06/23/20 08:34	RJD	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	476320	07/15/20 09:47	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.07 mL	1.0 g	474054	06/23/20 09:05	RJD	TAL SL
Total/NA	Analysis	904.0		1			475062	07/01/20 09:22	SCB	TAL SL
Instrument ID: GFPCPROTEAN										
Total/NA	Analysis	Ra226_Ra228		1			476633	07/17/20 14:25	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SSP MW-3

Lab Sample ID: 180-107191-6

Date Collected: 06/17/20 12:10

Matrix: Water

Date Received: 06/18/20 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.07 mL	1.0 g	474052	06/23/20 08:34	RJD	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	476320	07/15/20 09:47	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			750.07 mL	1.0 g	474054	06/23/20 09:05	RJD	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	475049	07/01/20 09:26	SCB	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			476633	07/17/20 14:25	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: SSP MW-4

Lab Sample ID: 180-107191-7

Date Collected: 06/17/20 09:05

Matrix: Water

Date Received: 06/18/20 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.16 mL	1.0 g	474052	06/23/20 08:34	RJD	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	476320	07/15/20 09:47	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.16 mL	1.0 g	474054	06/23/20 09:05	RJD	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	475049	07/01/20 09:26	SCB	TAL SL
Instrument ID: GFPCORANGE										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-107191-1

**Client Sample ID: SSP MW-4**

**Lab Sample ID: 180-107191-7**

Date Collected: 06/17/20 09:05

Matrix: Water

Date Received: 06/18/20 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			476633	07/17/20 14:25	SMP	TAL SL

**Client Sample ID: AP MW-3**

**Lab Sample ID: 180-107191-8**

Date Collected: 06/17/20 13:30

Matrix: Water

Date Received: 06/18/20 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.18 mL	1.0 g	474052	06/23/20 08:34	RJD	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	476320	07/15/20 09:47	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.18 mL	1.0 g	474054	06/23/20 09:05	RJD	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	475049	07/01/20 09:26	SCB	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			476633	07/17/20 14:25	SMP	TAL SL
Instrument ID: NOEQUIP										

**Client Sample ID: Dup 2**

**Lab Sample ID: 180-107191-9**

Date Collected: 06/17/20 00:00

Matrix: Water

Date Received: 06/18/20 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.19 mL	1.0 g	474052	06/23/20 08:34	RJD	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	476320	07/15/20 09:48	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.19 mL	1.0 g	474054	06/23/20 09:05	RJD	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	475049	07/01/20 09:26	SCB	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			476633	07/17/20 14:25	SMP	TAL SL
Instrument ID: NOEQUIP										

**Client Sample ID: Equip Blank-1SCM-061720**

**Lab Sample ID: 180-107191-10**

Date Collected: 06/17/20 14:50

Matrix: Water

Date Received: 06/18/20 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.45 mL	1.0 g	474052	06/23/20 08:34	RJD	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	476320	07/15/20 09:48	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.45 mL	1.0 g	474054	06/23/20 09:05	RJD	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	475049	07/01/20 09:26	SCB	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			476633	07/17/20 14:25	SMP	TAL SL
Instrument ID: NOEQUIP										

# Lab Chronicle

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

Job ID: 180-107191-1

**Client Sample ID: Equip Blank-2 GG-061720**

**Lab Sample ID: 180-107191-11**

**Date Collected: 06/17/20 14:55**

**Matrix: Water**

**Date Received: 06/18/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.16 mL	1.0 g	474052	06/23/20 08:34	RJD	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	476320	07/15/20 09:48	SCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.16 mL	1.0 g	474054	06/23/20 09:05	RJD	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	475049	07/01/20 09:26	SCB	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			476633	07/17/20 14:25	SMP	TAL SL
Instrument ID: NOEQUIP										

**Laboratory References:**

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

**Analyst References:**

Lab: TAL SL

Batch Type: Prep

RJD = Ryan Domalewski

Batch Type: Analysis

SCB = Sarah Bernsen

SMP = Siobhan Perry

# Client Sample Results

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

Job ID: 180-107191-1

**Client Sample ID: AP MW-1D**

**Lab Sample ID: 180-107191-1**

Date Collected: 06/17/20 08:50

Matrix: Water

Date Received: 06/18/20 08:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.306		0.105	0.109	1.00	0.112	pCi/L	06/23/20 08:34	07/15/20 09:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.2		40 - 110					06/23/20 08:34	07/15/20 09:45	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	1.55		0.370	0.397	1.00	0.450	pCi/L	06/23/20 09:05	07/01/20 09:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.2		40 - 110					06/23/20 09:05	07/01/20 09:21	1
Y Carrier	85.6		40 - 110					06/23/20 09:05	07/01/20 09:21	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	1.86		0.385	0.412	5.00	0.450	pCi/L		07/17/20 14:25	1



# Client Sample Results

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

Job ID: 180-107191-1

**Client Sample ID: AP MW-5**

**Lab Sample ID: 180-107191-2**

Date Collected: 06/17/20 10:30

Matrix: Water

Date Received: 06/18/20 08:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.309		0.0944	0.0984	1.00	0.0701	pCi/L	06/23/20 08:34	07/15/20 09:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.1		40 - 110					06/23/20 08:34	07/15/20 09:46	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	0.816		0.303	0.312	1.00	0.420	pCi/L	06/23/20 09:05	07/01/20 09:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.1		40 - 110					06/23/20 09:05	07/01/20 09:21	1
Y Carrier	87.1		40 - 110					06/23/20 09:05	07/01/20 09:21	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	1.12		0.317	0.327	5.00	0.420	pCi/L		07/17/20 14:25	1

# Client Sample Results

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

Job ID: 180-107191-1

**Client Sample ID: AP MW-4**

**Lab Sample ID: 180-107191-3**

Date Collected: 06/17/20 11:30

Matrix: Water

Date Received: 06/18/20 08:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.249</b>		0.0861	0.0890	1.00	0.0772	pCi/L	06/23/20 08:34	07/15/20 09:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		40 - 110					06/23/20 08:34	07/15/20 09:47	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>0.863</b>		0.275	0.286	1.00	0.362	pCi/L	06/23/20 09:05	07/01/20 09:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		40 - 110					06/23/20 09:05	07/01/20 09:21	1
Y Carrier	92.7		40 - 110					06/23/20 09:05	07/01/20 09:21	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
<b>Combined Radium 226 + 228</b>	<b>1.11</b>		0.288	0.300	5.00	0.362	pCi/L		07/17/20 14:25	1

# Client Sample Results

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

Job ID: 180-107191-1

**Client Sample ID: SSP/AP MW-1**

**Lab Sample ID: 180-107191-4**

Date Collected: 06/17/20 12:50

Matrix: Water

Date Received: 06/18/20 08:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.285</b>		0.0875	0.0912	1.00	0.0638	pCi/L	06/23/20 08:34	07/15/20 09:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.6		40 - 110					06/23/20 08:34	07/15/20 09:47	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>1.04</b>		0.302	0.317	1.00	0.392	pCi/L	06/23/20 09:05	07/01/20 09:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.6		40 - 110					06/23/20 09:05	07/01/20 09:22	1
Y Carrier	87.9		40 - 110					06/23/20 09:05	07/01/20 09:22	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
<b>Combined Radium 226 + 228</b>	<b>1.33</b>		0.314	0.330	5.00	0.392	pCi/L		07/17/20 14:25	1

# Client Sample Results

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

Job ID: 180-107191-1

**Client Sample ID: SSP MW-2**

**Lab Sample ID: 180-107191-5**

Date Collected: 06/17/20 14:15

Matrix: Water

Date Received: 06/18/20 08:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.568</b>		0.123	0.133	1.00	0.0699	pCi/L	06/23/20 08:34	07/15/20 09:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					06/23/20 08:34	07/15/20 09:47	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>1.56</b>		0.348	0.376	1.00	0.418	pCi/L	06/23/20 09:05	07/01/20 09:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					06/23/20 09:05	07/01/20 09:22	1
Y Carrier	88.2		40 - 110					06/23/20 09:05	07/01/20 09:22	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
<b>Combined Radium 226 + 228</b>	<b>2.13</b>		0.369	0.399	5.00	0.418	pCi/L		07/17/20 14:25	1

# Client Sample Results

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

Job ID: 180-107191-1

**Client Sample ID: SSP MW-3**

**Lab Sample ID: 180-107191-6**

Date Collected: 06/17/20 12:10

Matrix: Water

Date Received: 06/18/20 08:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	5.68		0.438	0.674	1.00	0.0873	pCi/L	06/23/20 08:34	07/15/20 09:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					06/23/20 08:34	07/15/20 09:47	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	26.3		1.25	2.72	1.00	0.536	pCi/L	06/23/20 09:05	07/01/20 09:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					06/23/20 09:05	07/01/20 09:26	1
Y Carrier	87.9		40 - 110					06/23/20 09:05	07/01/20 09:26	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	32.0		1.32	2.80	5.00	0.536	pCi/L		07/17/20 14:25	1



# Client Sample Results

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

Job ID: 180-107191-1

**Client Sample ID: SSP MW-4**

**Lab Sample ID: 180-107191-7**

Date Collected: 06/17/20 09:05

Matrix: Water

Date Received: 06/18/20 08:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-226</b>	<b>0.731</b>		0.143	0.158	1.00	0.0713	pCi/L	06/23/20 08:34	07/15/20 09:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.1		40 - 110					06/23/20 08:34	07/15/20 09:47	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>1.87</b>		0.353	0.393	1.00	0.347	pCi/L	06/23/20 09:05	07/01/20 09:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.1		40 - 110					06/23/20 09:05	07/01/20 09:26	1
Y Carrier	85.2		40 - 110					06/23/20 09:05	07/01/20 09:26	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
<b>Combined Radium 226 + 228</b>	<b>2.60</b>		0.381	0.424	5.00	0.347	pCi/L		07/17/20 14:25	1

# Client Sample Results

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

Job ID: 180-107191-1

**Client Sample ID: AP MW-3**

**Lab Sample ID: 180-107191-8**

Date Collected: 06/17/20 13:30

Matrix: Water

Date Received: 06/18/20 08:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.387		0.106	0.112	1.00	0.0745	pCi/L	06/23/20 08:34	07/15/20 09:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					06/23/20 08:34	07/15/20 09:47	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	1.21		0.292	0.313	1.00	0.324	pCi/L	06/23/20 09:05	07/01/20 09:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					06/23/20 09:05	07/01/20 09:26	1
Y Carrier	86.7		40 - 110					06/23/20 09:05	07/01/20 09:26	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	1.60		0.311	0.332	5.00	0.324	pCi/L		07/17/20 14:25	1

# Client Sample Results

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

Job ID: 180-107191-1

**Client Sample ID: Dup 2**

**Lab Sample ID: 180-107191-9**

Date Collected: 06/17/20 00:00

Matrix: Water

Date Received: 06/18/20 08:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.725		0.139	0.154	1.00	0.0819	pCi/L	06/23/20 08:34	07/15/20 09:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/23/20 08:34	07/15/20 09:48	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	1.27		0.326	0.346	1.00	0.416	pCi/L	06/23/20 09:05	07/01/20 09:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/23/20 09:05	07/01/20 09:26	1
Y Carrier	87.5		40 - 110					06/23/20 09:05	07/01/20 09:26	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	1.99		0.354	0.379	5.00	0.416	pCi/L		07/17/20 14:25	1

# Client Sample Results

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

Job ID: 180-107191-1

**Client Sample ID: Equip Blank-1SCM-061720**

**Lab Sample ID: 180-107191-10**

Date Collected: 06/17/20 14:50

Matrix: Water

Date Received: 06/18/20 08:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0126	U	0.0458	0.0458	1.00	0.0890	pCi/L	06/23/20 08:34	07/15/20 09:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.1		40 - 110					06/23/20 08:34	07/15/20 09:48	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	-0.0905	U	0.172	0.172	1.00	0.331	pCi/L	06/23/20 09:05	07/01/20 09:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.1		40 - 110					06/23/20 09:05	07/01/20 09:26	1
Y Carrier	95.0		40 - 110					06/23/20 09:05	07/01/20 09:26	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	-0.0779	U	0.178	0.178	5.00	0.331	pCi/L		07/17/20 14:25	1

# Client Sample Results

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

Job ID: 180-107191-1

**Client Sample ID: Equip Blank-2 GG-061720**

**Lab Sample ID: 180-107191-11**

Date Collected: 06/17/20 14:55

Matrix: Water

Date Received: 06/18/20 08:30

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00668	U	0.0441	0.0441	1.00	0.0891	pCi/L	06/23/20 08:34	07/15/20 09:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.9		40 - 110					06/23/20 08:34	07/15/20 09:48	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	0.0964	U	0.207	0.207	1.00	0.357	pCi/L	06/23/20 09:05	07/01/20 09:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.9		40 - 110					06/23/20 09:05	07/01/20 09:26	1
Y Carrier	87.5		40 - 110					06/23/20 09:05	07/01/20 09:26	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	0.103	U	0.212	0.212	5.00	0.357	pCi/L		07/17/20 14:25	1



# QC Sample Results

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

Job ID: 180-107191-1

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

**Lab Sample ID: MB 160-474052/24-A**  
**Matrix: Water**  
**Analysis Batch: 476320**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 474052**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.02528	U	0.0401	0.0402	1.00	0.0702	pCi/L	06/23/20 08:34	07/15/20 11:56	1
Carrier	MB MB		Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	%Yield	Qualifier	40 - 110					06/23/20 08:34	07/15/20 11:56	1
	98.2									

**Lab Sample ID: LCS 160-474052/1-A**  
**Matrix: Water**  
**Analysis Batch: 476320**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 474052**

Analyte	LCS LCS		Spike	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qual	Uncert. (2σ+/-)					
Radium-226			11.3	10.57		1.09	1.00	0.0687	pCi/L	93	75 - 125
Carrier	LCS LCS		Limits								
Ba Carrier	%Yield	Qualifier	40 - 110								
	89.6										

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

**Lab Sample ID: MB 160-474054/24-A**  
**Matrix: Water**  
**Analysis Batch: 475049**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 474054**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.1848	U	0.190	0.190	1.00	0.308	pCi/L	06/23/20 09:05	07/01/20 09:29	1
Carrier	MB MB		Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	%Yield	Qualifier	40 - 110					06/23/20 09:05	07/01/20 09:29	1
Y Carrier	94.6		40 - 110					06/23/20 09:05	07/01/20 09:29	1

**Lab Sample ID: LCS 160-474054/1-A**  
**Matrix: Water**  
**Analysis Batch: 475062**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 474054**

Analyte	LCS LCS		Spike	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qual	Uncert. (2σ+/-)					
Radium-228			10.3	10.23		1.19	1.00	0.417	pCi/L	99	75 - 125
Carrier	LCS LCS		Limits								
Ba Carrier	%Yield	Qualifier	40 - 110								
Y Carrier	86.0		40 - 110								

# QC Association Summary

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

Job ID: 180-107191-1

## Rad

### Prep Batch: 474052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107191-1	AP MW-1D	Total/NA	Water	PrecSep-21	
180-107191-2	AP MW-5	Total/NA	Water	PrecSep-21	
180-107191-3	AP MW-4	Total/NA	Water	PrecSep-21	
180-107191-4	SSP/AP MW-1	Total/NA	Water	PrecSep-21	
180-107191-5	SSP MW-2	Total/NA	Water	PrecSep-21	
180-107191-6	SSP MW-3	Total/NA	Water	PrecSep-21	
180-107191-7	SSP MW-4	Total/NA	Water	PrecSep-21	
180-107191-8	AP MW-3	Total/NA	Water	PrecSep-21	
180-107191-9	Dup 2	Total/NA	Water	PrecSep-21	
180-107191-10	Equip Blank-1SCM-061720	Total/NA	Water	PrecSep-21	
180-107191-11	Equip Blank-2 GG-061720	Total/NA	Water	PrecSep-21	
MB 160-474052/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-474052/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

### Prep Batch: 474054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107191-1	AP MW-1D	Total/NA	Water	PrecSep_0	
180-107191-2	AP MW-5	Total/NA	Water	PrecSep_0	
180-107191-3	AP MW-4	Total/NA	Water	PrecSep_0	
180-107191-4	SSP/AP MW-1	Total/NA	Water	PrecSep_0	
180-107191-5	SSP MW-2	Total/NA	Water	PrecSep_0	
180-107191-6	SSP MW-3	Total/NA	Water	PrecSep_0	
180-107191-7	SSP MW-4	Total/NA	Water	PrecSep_0	
180-107191-8	AP MW-3	Total/NA	Water	PrecSep_0	
180-107191-9	Dup 2	Total/NA	Water	PrecSep_0	
180-107191-10	Equip Blank-1SCM-061720	Total/NA	Water	PrecSep_0	
180-107191-11	Equip Blank-2 GG-061720	Total/NA	Water	PrecSep_0	
MB 160-474054/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-474054/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

**Chain of Custody Record**

<b>Client Information</b>		Lab PM: <u>Lage, Gail</u>		Carrier Tracking No(s):	
Client Contact: <u>Charlie Macon</u>		E-Mail: <u>gail.lage@testamericainc.com</u>		COC No: <u>490-105950-24956.1</u>	
Company: <u>Wood E&amp;I Solutions Inc</u>		Phone: <u>512-241-3876</u>		Page: <u>Page 1 of 3</u>	
Address: <u>3755 South Capital of Texas Highway Suite 375</u>		City: <u>Austin</u>		Job #:	
State, Zip: <u>TX, 78704</u>		Due Date Requested:		Analysis Requested	
Phone: <u>512-241-4382(Tel)</u>		TAT Requested (days):		A - HCL	
Email: <u>charlie.macon@woodplc.com</u>		PO #: <u>Purchase Order Requested</u>		M - Hexane	
Project Name: <u>AMEC CCR TMPA Gibbons Creek</u>		WO #:		N - None	
Site: <u>Texas</u>		Project #: <u>49013510</u>		O - AsNaO2	
		SSOW#:		P - Na2O4S	
				Q - NaHSO4	
				R - Na2S2O3	
				S - H2SO4	
				T - TSP Dodecahydrate	
				U - Acetone	
				V - MCAA	
				W - pH 4-5	
				Z - other (specify)	
				Other:	
				Total Number of containers	
				2540C, Calcd - Total Dissolved Solids	
				6020A, 7470A	
				956A, ORGFM, 28D - Chloride, Fluoride, Sulfate	
				903, 904, 0	
				Perform MS/MSD (Yes or No)	
				Field Filtered Sample (Yes or No)	
				Preservation Codes:	
				Matrix (W=water, S=solid, O=oil, BT=Tissue, A=Air)	
				Sample Type (C=Comp, G=grab)	
				Sample Time	
				Sample Date	
				Sample Identification	
				AP MW-1D	
				AP MW-5	
				AP MW-4	
				SSP/AP MW-1	
				SSP MW-2	
				SSP MW-3	
				SSP MW-4	
				AP MW-3	
				DUP-2	
				E08K-5CM-061720	
				E08K-GG-061720	
				Possible Hazard Identification	
				Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological <input type="checkbox"/>	
				Deliverable Requested: I, II, III, IV, Other (specify)	
				Empty Kit Relinquished by:	
				Date/Time: <u>6-17-20 @ 15:45</u> Wood Company	
				Relinquished by: <u>Sam C. Macon</u>	
				Date/Time: <u>6-18-20</u> Company	
				Relinquished by: <u>[Signature]</u>	
				Date/Time: <u>8:30</u> Company	
				Relinquished by:	
				Date/Time:	
				Custody Seals Intact: <u>Δ Yes Δ No</u>	
				Custody Seal No.:	
				Cooler Temperature(s) °C and Other Remarks:	
				Special Instructions/QC Requirements:	
				Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
				Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months	
				Method of Shipment:	
				Received by: <u>[Signature]</u> Date/Time: <u>6-18-20</u> Company	
				Received by: <u>[Signature]</u> Date/Time: <u>8:30</u> Company	
				Received by: <u>[Signature]</u> Date/Time: <u>[Blank]</u> Company	
				Cooler Temperature(s) °C and Other Remarks:	



DV: 0.00 TOTAL: 0.00

Svc: PRIORITY OVERNIGHT Master 1685 4442 3357  
TRCK: 1685 4442 3368



Environment Testing  
TestAmerica

Part # 159469-434 FITZ EXP 02/20

ORIGIN ID: MIFA (512) 413-3876  
SAM MACON  
WOOD  
3755 S. CAPITAL OF TX HWY SUITE 375  
AUSTIN, TX 78704  
UNITED STATES US

SHIP DATE: 09JUN20  
ACTWGT: 10.00 LB MAN  
CAD: 592545/CAFE3313

TO

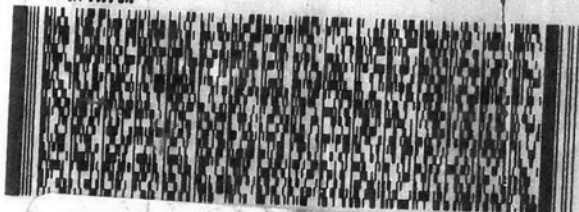
EUROFINS TESTAMERICA PITTSBURGH  
301 ALPHA DRIVE  
RIDC PARK  
PITTSBURGH PA 152382907

(412) 983-7068  
DEPT: BOTTLES

REF: 8490-105950

2950/082/13595

RMA: ||| ||| |||



FedEx  
Express



AL1020812161F

FedEx

TRK# 1685 4442 3368  
0221

THU - 18 JUN 10:30A  
PRIORITY OVERNIGHT

NA AGCA

15238  
PA-US PIT

07-412-8121 EXP 01/21

Uncorrected temp  
Thermometer ID

3.2 °C  
14

CF 0 Initials TB

PT-WI-SR-001 effective 7/26/13



180-107191 Waybill

#545758 06/17 56BJ1/C7DD/FE4A

- 1
- 2
- 3
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- 12
- 13







**Chain of Custody Record**



Client Information (Sub Contract Lab)		Lab PM:		Carrier Tracking No(s):						
Client Contact: TestAmerica Laboratories, Inc.		Lage, Gail		180-398864.1						
Shipping/Receiving		E-Mail: gail.lage@testamericainc.com		Page: Page 1 of 2						
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-107191-1						
Address: 13715 Rider Trail North,		Due Date Requested: 7/17/2020		Preservation Codes:						
City: Earth City		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 - EDTA Z - other (Specify)						
State, Zip: MO, 63045		PO #:		M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 L - EDTA						
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		WO #:		Other:						
Email:		Project #: 49013510								
Project Name: TAMPA Gibbons Creek		SSOW#:								
Site: AMEC Gibbons Creek Stream										
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water/soil, BT=tissue, Av=Ab)	Field Filtered Sample (Yes or No)	Perform M/MSD (Yes or No)	903 0/PrecSep_21 Standard Target List	904 0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
AP MW-1D (180-107191-1)	6/17/20	08:50 Central	Water	Water	X	X	X	X	2	
AP MW-5 (180-107191-2)	6/17/20	10:30 Central	Water	Water	X	X	X	X	2	
AP MW-4 (180-107191-3)	6/17/20	11:30 Central	Water	Water	X	X	X	X	2	
SSP/AP MW-1 (180-107191-4)	6/17/20	12:50 Central	Water	Water	X	X	X	X	2	
SSP MW-2 (180-107191-5)	6/17/20	14:15 Central	Water	Water	X	X	X	X	2	
SSP MW-3 (180-107191-6)	6/17/20	12:10 Central	Water	Water	X	X	X	X	2	
SSP MW-4 (180-107191-7)	6/17/20	09:05 Central	Water	Water	X	X	X	X	2	
AP MW-3 (180-107191-8)	6/17/20	13:30 Central	Water	Water	X	X	X	X	2	
Dup 2 (180-107191-9)	6/17/20	Central	Water	Water	X	X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our 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/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_ Primary Deliverable Rank: 2  
 Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Method of Shipment: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: 6/19/2020 09:00 Company: \_\_\_\_\_  
 Relinquished by: FED EX Date/Time: 6/20/2020 08:30 Company: ETA STL  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Custody Seals Intact: \_\_\_\_\_ Custody Seal No.: \_\_\_\_\_  
 Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab P/N:	Carrier Tracking No(s):	COC No:																																																																																															
Client Contact: Shipping/Receiving		Phone:	Large, Gail	State of Origin:	180-398864.2																																																																																															
Company: TestAmerica Laboratories, Inc.		E-Mail:	gail.lage@testamericainc.com	Texas	Page: 2 of 2																																																																																															
Address: 13715 Rider Trail North,		Accreditations Required (See note): NELAP - Texas		Job #:	180-107191-1																																																																																															
City: Earth City		Due Date Requested: 7/17/2020	<table border="1"> <thead> <tr> <th colspan="2">Analysis Requested</th> <th>Field Filtered Sample (Yes or No)</th> <th>Perform M/MSD (Yes or No)</th> <th>903.0/PresSep_21 Standard Target List</th> <th>904.0/PresSep_0 Standard Target List</th> <th>Total Number of Containers</th> <th rowspan="2">Special Instructions/Note:</th> </tr> </thead> <tbody> <tr> <td>Sample Date</td> <td>Sample Time</td> <td>Sample Type (C=Comp, G=grab)</td> <td>Matrix (W=water, S=solid, O=washbott, BT=tissue, A=air)</td> <td>X</td> <td>X</td> <td>2</td> <td rowspan="2"></td> </tr> <tr> <td>6/17/20</td> <td>14:50 Central</td> <td>Water</td> <td>Water</td> <td>X</td> <td>X</td> <td>2</td> </tr> <tr> <td>6/17/20</td> <td>14:55 Central</td> <td>Water</td> <td>Water</td> <td>X</td> <td>X</td> <td>2</td> <td></td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>			Analysis Requested		Field Filtered Sample (Yes or No)	Perform M/MSD (Yes or No)	903.0/PresSep_21 Standard Target List	904.0/PresSep_0 Standard Target List	Total Number of Containers	Special Instructions/Note:	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=washbott, BT=tissue, A=air)	X	X	2		6/17/20	14:50 Central	Water	Water	X	X	2	6/17/20	14:55 Central	Water	Water	X	X	2																																																																	
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State, Zip: MO, 63045	PO #:	TAT Requested (days):	Project #:	Preservation Codes:																																																																																																
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:		49013510	A - HCL	M - Hexane																																																																																															
E-mail:				B - NaOH	N - None																																																																																															
Project Name: TMPA Gibbons Creek	Site: AMEC Gibbons Creek Stream			C - Zn Acetate	O - AsNaO2																																																																																															
				D - Nitric Acid	P - Na2CAS																																																																																															
				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:																																																																																																

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica 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/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

**Possible Hazard Identification**

Unconfirmed  
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2  
Special Instructions/QC Requirements:  Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: *[Signature]* Date/Time: 6/17/20 1700 Company: FEDEX  
 Relinquished by: *[Signature]* Date/Time: 6/17/20 0830 Company: ESTL  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seal No.: \_\_\_\_\_  
 Custody Seals Intact:  Yes  No  
 Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_

## Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-107191-1

**Login Number: 107191**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

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



# Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-107191-1

**Login Number: 107191**

**List Number: 2**

**Creator: Boyd, Jacob C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 06/22/20 03:19 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.	True	
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	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



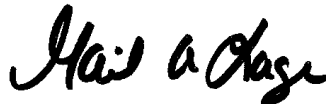
## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-107191-2  
Client Project/Site: TPA Gibbons Creek  
Sampling Event: CCR

For:  
Wood E&I Solutions Inc  
3520 Executive Center Drive Suite 220  
Austin, Texas 78731

Attn: Charlie Macon



Authorized for release by:  
7/17/2020 10:11:34 AM

Gail Lage, Senior Project Manager  
(615)301-5741  
[Gail.Lage@Eurofinset.com](mailto:Gail.Lage@Eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

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

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

PA Lab ID: 02-00416





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Definitions/Glossary . . . . .	4
Certification Summary . . . . .	5
Sample Summary . . . . .	6
Method Summary . . . . .	7
Lab Chronicle . . . . .	8
Client Sample Results . . . . .	14
QC Sample Results . . . . .	25
QC Association Summary . . . . .	30
Chain of Custody . . . . .	34
Receipt Checklists . . . . .	37

# Case Narrative

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

Job ID: 180-107191-2

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## Job ID: 180-107191-2

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Laboratory: Eurofins TestAmerica, Pittsburgh

### Narrative

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Job Narrative  
180-107191-2

### Comments

No additional comments.

### Receipt

The samples were received on 6/18/2020 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.6° C, 3.2° C and 4.6° C.

### GC Semi VOA

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

### Metals

Method 6020A: The serial dilution performed for the following sample associated with batch 180-319579 was outside control limits for boron: AP MW-1D (180-107191-1)

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

### General Chemistry

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

# Definitions/Glossary

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

Job ID: 180-107191-2

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Accreditation/Certification Summary

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

Job ID: 180-107191-2

## Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528	03-31-21

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
EPA 6020A	3005A	Water	Lithium



# Sample Summary

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

Job ID: 180-107191-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-107191-1	AP MW-1D	Water	06/17/20 08:50	06/18/20 08:30	
180-107191-2	AP MW-5	Water	06/17/20 10:30	06/18/20 08:30	
180-107191-3	AP MW-4	Water	06/17/20 11:30	06/18/20 08:30	
180-107191-4	SSP/AP MW-1	Water	06/17/20 12:50	06/18/20 08:30	
180-107191-5	SSP MW-2	Water	06/17/20 14:15	06/18/20 08:30	
180-107191-6	SSP MW-3	Water	06/17/20 12:10	06/18/20 08:30	
180-107191-7	SSP MW-4	Water	06/17/20 09:05	06/18/20 08:30	
180-107191-8	AP MW-3	Water	06/17/20 13:30	06/18/20 08:30	
180-107191-9	Dup 2	Water	06/17/20 00:00	06/18/20 08:30	
180-107191-10	Equip Blank-1SCM-061720	Water	06/17/20 14:50	06/18/20 08:30	
180-107191-11	Equip Blank-2 GG-061720	Water	06/17/20 14:55	06/18/20 08:30	



# Method Summary

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

Job ID: 180-107191-2

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
EPA 6020A	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT

#### 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 PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

# Lab Chronicle

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

Job ID: 180-107191-2

**Client Sample ID: AP MW-1D**

**Lab Sample ID: 180-107191-1**

**Date Collected: 06/17/20 08:50**

**Matrix: Water**

**Date Received: 06/18/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHIC2100A		10			321361	07/14/20 00:02	EPS	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: CHICS2100B		1			320790	07/08/20 18:46	MJH	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: CHICS2100B		10			320790	07/08/20 19:02	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: A		1			319579	06/24/20 21:55	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: A		1			319808	06/26/20 16:56	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	319935	06/29/20 18:00	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			320111	06/30/20 16:20	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	319018	06/20/20 11:29	AVS	TAL PIT

**Client Sample ID: AP MW-5**

**Lab Sample ID: 180-107191-2**

**Date Collected: 06/17/20 10:30**

**Matrix: Water**

**Date Received: 06/18/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHICS2100B		25	1 mL	1.0 mL	320790	07/08/20 19:19	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: A		1			319579	06/24/20 22:12	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: A		1			319808	06/26/20 17:13	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	319935	06/29/20 18:00	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			320111	06/30/20 16:21	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	25 mL	100 mL	319018	06/20/20 11:29	AVS	TAL PIT

**Client Sample ID: AP MW-4**

**Lab Sample ID: 180-107191-3**

**Date Collected: 06/17/20 11:30**

**Matrix: Water**

**Date Received: 06/18/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHIC2100A		25			321361	07/14/20 01:40	EPS	TAL PIT

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-107191-2

**Client Sample ID: AP MW-4**

**Lab Sample ID: 180-107191-3**

**Date Collected: 06/17/20 11:30**

**Matrix: Water**

**Date Received: 06/18/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5			320790	07/08/20 19:51	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319579	06/24/20 22:16	RSK	TAL PIT
		Instrument ID: A								
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319808	06/26/20 17:17	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			50 mL	50 mL	319935	06/29/20 18:00	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			320111	06/30/20 16:22	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	319018	06/20/20 11:29	AVS	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: SSP/AP MW-1**

**Lab Sample ID: 180-107191-4**

**Date Collected: 06/17/20 12:50**

**Matrix: Water**

**Date Received: 06/18/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		50			321361	07/14/20 01:57	EPS	TAL PIT
		Instrument ID: CHIC2100A								
Total/NA	Analysis	EPA 9056A		5			320790	07/08/20 20:24	MJH	TAL PIT
		Instrument ID: CHICS2100B								
Total/NA	Analysis	EPA 9056A		50			320790	07/08/20 20:40	MJH	TAL PIT
		Instrument ID: CHICS2100B								
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319579	06/24/20 22:19	RSK	TAL PIT
		Instrument ID: A								
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319808	06/26/20 17:34	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			50 mL	50 mL	319935	06/29/20 18:00	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			320111	06/30/20 16:25	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	319017	06/20/20 11:16	AVS	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: SSP MW-2**

**Lab Sample ID: 180-107191-5**

**Date Collected: 06/17/20 14:15**

**Matrix: Water**

**Date Received: 06/18/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		50			321361	07/14/20 02:13	EPS	TAL PIT
		Instrument ID: CHIC2100A								
Total/NA	Analysis	EPA 9056A		5			320790	07/08/20 20:57	MJH	TAL PIT
		Instrument ID: CHICS2100B								

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-107191-2

**Client Sample ID: SSP MW-2**

**Lab Sample ID: 180-107191-5**

**Date Collected: 06/17/20 14:15**

**Matrix: Water**

**Date Received: 06/18/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		50			320790	07/08/20 21:13	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319579	06/24/20 22:30	RSK	TAL PIT
		Instrument ID: A								
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319808	06/26/20 17:37	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			50 mL	50 mL	319935	06/29/20 18:00	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			320111	06/30/20 16:26	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	319018	06/20/20 11:29	AVS	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: SSP MW-3**

**Lab Sample ID: 180-107191-6**

**Date Collected: 06/17/20 12:10**

**Matrix: Water**

**Date Received: 06/18/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		50			321361	07/14/20 02:29	EPS	TAL PIT
		Instrument ID: CHIC2100A								
Total/NA	Analysis	EPA 9056A		5			320790	07/08/20 22:02	MJH	TAL PIT
		Instrument ID: CHICS2100B								
Total/NA	Analysis	EPA 9056A		50			320790	07/08/20 22:18	MJH	TAL PIT
		Instrument ID: CHICS2100B								
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319579	06/24/20 22:33	RSK	TAL PIT
		Instrument ID: A								
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319808	06/26/20 17:40	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			50 mL	50 mL	319935	06/29/20 18:00	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			320111	06/30/20 16:27	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	319018	06/20/20 11:29	AVS	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: SSP MW-4**

**Lab Sample ID: 180-107191-7**

**Date Collected: 06/17/20 09:05**

**Matrix: Water**

**Date Received: 06/18/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		50			321361	07/14/20 02:46	EPS	TAL PIT
		Instrument ID: CHIC2100A								
Total/NA	Analysis	EPA 9056A		5			320790	07/08/20 22:35	MJH	TAL PIT
		Instrument ID: CHICS2100B								

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-107191-2

**Client Sample ID: SSP MW-4**

**Lab Sample ID: 180-107191-7**

**Date Collected: 06/17/20 09:05**

**Matrix: Water**

**Date Received: 06/18/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		50			320790	07/08/20 22:51	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319579	06/24/20 22:36	RSK	TAL PIT
		Instrument ID: A								
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319808	06/26/20 17:44	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			50 mL	50 mL	319935	06/29/20 18:00	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			320111	06/30/20 16:28	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	319017	06/20/20 11:16	AVS	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: AP MW-3**

**Lab Sample ID: 180-107191-8**

**Date Collected: 06/17/20 13:30**

**Matrix: Water**

**Date Received: 06/18/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			320790	07/08/20 23:07	MJH	TAL PIT
		Instrument ID: CHICS2100B								
Total/NA	Analysis	EPA 9056A		10			321352	07/13/20 21:32	EPS	TAL PIT
		Instrument ID: CHICS2100B								
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319579	06/24/20 22:40	RSK	TAL PIT
		Instrument ID: A								
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319808	06/26/20 17:47	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			50 mL	50 mL	319935	06/29/20 18:00	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			320111	06/30/20 16:29	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	319018	06/20/20 11:29	AVS	TAL PIT
		Instrument ID: NOEQUIP								

**Client Sample ID: Dup 2**

**Lab Sample ID: 180-107191-9**

**Date Collected: 06/17/20 00:00**

**Matrix: Water**

**Date Received: 06/18/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			321274	07/12/20 08:47	EPS	TAL PIT
		Instrument ID: CHICS2100B								
Total/NA	Analysis	EPA 9056A		50			321352	07/13/20 22:05	EPS	TAL PIT
		Instrument ID: CHICS2100B								

Eurofins TestAmerica, Pittsburgh



# Lab Chronicle

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

Job ID: 180-107191-2

## Client Sample ID: Dup 2

Date Collected: 06/17/20 00:00

Date Received: 06/18/20 08:30

## Lab Sample ID: 180-107191-9

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	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319579	06/24/20 22:43	RSK	TAL PIT
Instrument ID: A										
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319808	06/26/20 17:51	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	319935	06/29/20 18:00	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			320111	06/30/20 16:30	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	319018	06/20/20 11:29	AVS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: Equip Blank-1SCM-061720

Date Collected: 06/17/20 14:50

Date Received: 06/18/20 08:30

## Lab Sample ID: 180-107191-10

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	EPA 9056A		1			320632	07/07/20 18:23	MJH	TAL PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319579	06/24/20 22:47	RSK	TAL PIT
Instrument ID: A										
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319808	06/26/20 17:54	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			50 mL	50 mL	319935	06/29/20 18:00	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			320111	06/30/20 16:31	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	319018	06/20/20 11:29	AVS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: Equip Blank-2 GG-061720

Date Collected: 06/17/20 14:55

Date Received: 06/18/20 08:30

## Lab Sample ID: 180-107191-11

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	EPA 9056A		1			321274	07/12/20 09:19	EPS	TAL PIT
Instrument ID: CHICS2100B										
Total/NA	Analysis	EPA 9056A		1			321352	07/13/20 22:21	EPS	TAL PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319579	06/24/20 22:50	RSK	TAL PIT
Instrument ID: A										
Total Recoverable	Prep	3005A			50 mL	50 mL	319101	06/22/20 09:25	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			319808	06/26/20 17:57	RSK	TAL PIT
Instrument ID: A										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

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

Job ID: 180-107191-2

**Client Sample ID: Equip Blank-2 GG-061720**

**Lab Sample ID: 180-107191-11**

**Date Collected: 06/17/20 14:55**

**Matrix: Water**

**Date Received: 06/18/20 08:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	319935	06/29/20 18:00	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			320111	06/30/20 16:32	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	319018	06/20/20 11:29	AVS	TAL PIT

## Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

## Analyst References:

Lab: TAL PIT

Batch Type: Prep

KEM = Kimberly Mahoney

NAM = Nicole Marfisi

Batch Type: Analysis

AVS = Abbey Smith

EPS = Evan Scheuer

MJH = Matthew Hartman

NAM = Nicole Marfisi

RSK = Robert Kurtz

# Client Sample Results

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

Job ID: 180-107191-2

**Client Sample ID: AP MW-1D**

**Lab Sample ID: 180-107191-1**

Date Collected: 06/17/20 08:50

Matrix: Water

Date Received: 06/18/20 08:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	201		10.0		mg/L			07/08/20 19:02	10
Fluoride	0.626		0.100		mg/L			07/08/20 18:46	1
Sulfate	552		10.0		mg/L			07/14/20 00:02	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 21:55	1
Arsenic	0.00818		0.00100		mg/L		06/22/20 09:25	06/24/20 21:55	1
Barium	0.0234		0.0100		mg/L		06/22/20 09:25	06/24/20 21:55	1
Beryllium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 21:55	1
Boron	4.46		0.0800		mg/L		06/22/20 09:25	06/24/20 21:55	1
Cadmium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 21:55	1
Calcium	108		0.500		mg/L		06/22/20 09:25	06/24/20 21:55	1
Chromium	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 21:55	1
Cobalt	0.0163		0.000500		mg/L		06/22/20 09:25	06/24/20 21:55	1
Lead	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 21:55	1
Lithium	0.0327		0.00500		mg/L		06/22/20 09:25	06/26/20 16:56	1
Molybdenum	0.0201		0.00500		mg/L		06/22/20 09:25	06/24/20 21:55	1
Selenium	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 21:55	1
Thallium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 21:55	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/29/20 18:00	06/30/20 16:20	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1400		10.0		mg/L			06/20/20 11:29	1

# Client Sample Results

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

Job ID: 180-107191-2

**Client Sample ID: AP MW-5**

**Lab Sample ID: 180-107191-2**

Date Collected: 06/17/20 10:30

Matrix: Water

Date Received: 06/18/20 08:30

### Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	361		25.0		mg/L			07/08/20 19:19	25
Fluoride	ND		2.50		mg/L			07/08/20 19:19	25
Sulfate	2030		25.0		mg/L			07/08/20 19:19	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:12	1
Arsenic	0.00859		0.00100		mg/L		06/22/20 09:25	06/24/20 22:12	1
Barium	0.0249		0.0100		mg/L		06/22/20 09:25	06/24/20 22:12	1
Beryllium	0.0492		0.00100		mg/L		06/22/20 09:25	06/24/20 22:12	1
Boron	3.25		0.0800		mg/L		06/22/20 09:25	06/24/20 22:12	1
Cadmium	0.00594		0.00100		mg/L		06/22/20 09:25	06/24/20 22:12	1
Calcium	362		0.500		mg/L		06/22/20 09:25	06/24/20 22:12	1
Chromium	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:12	1
Cobalt	0.117		0.000500		mg/L		06/22/20 09:25	06/24/20 22:12	1
Lead	0.00632		0.00100		mg/L		06/22/20 09:25	06/24/20 22:12	1
Lithium	0.395		0.00500		mg/L		06/22/20 09:25	06/26/20 17:13	1
Molybdenum	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:12	1
Selenium	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:12	1
Thallium	0.00224		0.00100		mg/L		06/22/20 09:25	06/24/20 22:12	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000753		0.000200		mg/L		06/29/20 18:00	06/30/20 16:21	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3430		40.0		mg/L			06/20/20 11:29	1

# Client Sample Results

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

Job ID: 180-107191-2

**Client Sample ID: AP MW-4**

**Lab Sample ID: 180-107191-3**

Date Collected: 06/17/20 11:30

Matrix: Water

Date Received: 06/18/20 08:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>472</b>		2.50		mg/L			07/08/20 19:51	2.5
Fluoride	ND		0.250		mg/L			07/08/20 19:51	2.5
<b>Sulfate</b>	<b>2190</b>		25.0		mg/L			07/14/20 01:40	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:16	1
Arsenic	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:16	1
<b>Barium</b>	<b>0.0155</b>		0.0100		mg/L		06/22/20 09:25	06/24/20 22:16	1
Beryllium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:16	1
<b>Boron</b>	<b>2.18</b>		0.0800		mg/L		06/22/20 09:25	06/24/20 22:16	1
Cadmium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:16	1
<b>Calcium</b>	<b>523</b>		0.500		mg/L		06/22/20 09:25	06/24/20 22:16	1
Chromium	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:16	1
Cobalt	ND		0.000500		mg/L		06/22/20 09:25	06/24/20 22:16	1
Lead	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:16	1
<b>Lithium</b>	<b>0.959</b>		0.00500		mg/L		06/22/20 09:25	06/26/20 17:17	1
Molybdenum	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:16	1
Selenium	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:16	1
Thallium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:16	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/29/20 18:00	06/30/20 16:22	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>3780</b>		40.0		mg/L			06/20/20 11:29	1



# Client Sample Results

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

Job ID: 180-107191-2

**Client Sample ID: SSP/AP MW-1**

**Lab Sample ID: 180-107191-4**

Date Collected: 06/17/20 12:50

Matrix: Water

Date Received: 06/18/20 08:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>1730</b>		50.0		mg/L			07/08/20 20:40	50
Fluoride	ND		0.500		mg/L			07/08/20 20:24	5
<b>Sulfate</b>	<b>3210</b>		50.0		mg/L			07/14/20 01:57	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:19	1
<b>Arsenic</b>	<b>0.00169</b>		0.00100		mg/L		06/22/20 09:25	06/24/20 22:19	1
<b>Barium</b>	<b>0.0284</b>		0.0100		mg/L		06/22/20 09:25	06/24/20 22:19	1
Beryllium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:19	1
<b>Boron</b>	<b>0.750</b>		0.0800		mg/L		06/22/20 09:25	06/24/20 22:19	1
Cadmium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:19	1
<b>Calcium</b>	<b>643</b>		0.500		mg/L		06/22/20 09:25	06/24/20 22:19	1
Chromium	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:19	1
Cobalt	ND		0.000500		mg/L		06/22/20 09:25	06/24/20 22:19	1
<b>Lead</b>	<b>0.00100</b>		0.00100		mg/L		06/22/20 09:25	06/24/20 22:19	1
<b>Lithium</b>	<b>1.43</b>		0.00500		mg/L		06/22/20 09:25	06/26/20 17:34	1
Molybdenum	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:19	1
Selenium	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:19	1
Thallium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:19	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/29/20 18:00	06/30/20 16:25	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>7890</b>		50.0		mg/L			06/20/20 11:16	1

# Client Sample Results

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

Job ID: 180-107191-2

**Client Sample ID: SSP MW-2**

**Lab Sample ID: 180-107191-5**

Date Collected: 06/17/20 14:15

Matrix: Water

Date Received: 06/18/20 08:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2650		50.0		mg/L			07/08/20 21:13	50
Fluoride	ND		0.500		mg/L			07/08/20 20:57	5
Sulfate	2610		50.0		mg/L			07/14/20 02:13	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:30	1
Arsenic	0.00622		0.00100		mg/L		06/22/20 09:25	06/24/20 22:30	1
Barium	0.0261		0.0100		mg/L		06/22/20 09:25	06/24/20 22:30	1
Beryllium	0.0587		0.00100		mg/L		06/22/20 09:25	06/24/20 22:30	1
Boron	0.765		0.0800		mg/L		06/22/20 09:25	06/24/20 22:30	1
Cadmium	0.00410		0.00100		mg/L		06/22/20 09:25	06/24/20 22:30	1
Calcium	822		0.500		mg/L		06/22/20 09:25	06/24/20 22:30	1
Chromium	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:30	1
Cobalt	0.0933		0.000500		mg/L		06/22/20 09:25	06/24/20 22:30	1
Lead	0.00597		0.00100		mg/L		06/22/20 09:25	06/24/20 22:30	1
Lithium	0.739		0.00500		mg/L		06/22/20 09:25	06/26/20 17:37	1
Molybdenum	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:30	1
Selenium	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:30	1
Thallium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:30	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/29/20 18:00	06/30/20 16:26	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5850		50.0		mg/L			06/20/20 11:29	1

# Client Sample Results

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

Job ID: 180-107191-2

**Client Sample ID: SSP MW-3**

**Lab Sample ID: 180-107191-6**

Date Collected: 06/17/20 12:10

Matrix: Water

Date Received: 06/18/20 08:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2060		50.0		mg/L			07/08/20 22:18	50
Fluoride	ND		0.500		mg/L			07/08/20 22:02	5
Sulfate	2760		50.0		mg/L			07/14/20 02:29	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:33	1
Arsenic	0.00695		0.00100		mg/L		06/22/20 09:25	06/24/20 22:33	1
Barium	0.0239		0.0100		mg/L		06/22/20 09:25	06/24/20 22:33	1
Beryllium	0.105		0.00100		mg/L		06/22/20 09:25	06/24/20 22:33	1
Boron	2.78		0.0800		mg/L		06/22/20 09:25	06/24/20 22:33	1
Cadmium	0.0787		0.00100		mg/L		06/22/20 09:25	06/24/20 22:33	1
Calcium	722		0.500		mg/L		06/22/20 09:25	06/24/20 22:33	1
Chromium	0.00616		0.00200		mg/L		06/22/20 09:25	06/24/20 22:33	1
Cobalt	0.558		0.000500		mg/L		06/22/20 09:25	06/24/20 22:33	1
Lead	0.00545		0.00100		mg/L		06/22/20 09:25	06/24/20 22:33	1
Lithium	0.662		0.00500		mg/L		06/22/20 09:25	06/26/20 17:40	1
Molybdenum	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:33	1
Selenium	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:33	1
Thallium	0.0102		0.00100		mg/L		06/22/20 09:25	06/24/20 22:33	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/29/20 18:00	06/30/20 16:27	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6330		50.0		mg/L			06/20/20 11:29	1

# Client Sample Results

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

Job ID: 180-107191-2

**Client Sample ID: SSP MW-4**

**Lab Sample ID: 180-107191-7**

Date Collected: 06/17/20 09:05

Matrix: Water

Date Received: 06/18/20 08:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>1350</b>		50.0		mg/L			07/08/20 22:51	50
Fluoride	ND		0.500		mg/L			07/08/20 22:35	5
<b>Sulfate</b>	<b>1340</b>		50.0		mg/L			07/14/20 02:46	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:36	1
<b>Arsenic</b>	<b>0.00103</b>		0.00100		mg/L		06/22/20 09:25	06/24/20 22:36	1
<b>Barium</b>	<b>0.0273</b>		0.0100		mg/L		06/22/20 09:25	06/24/20 22:36	1
Beryllium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:36	1
<b>Boron</b>	<b>1.17</b>		0.0800		mg/L		06/22/20 09:25	06/24/20 22:36	1
Cadmium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:36	1
<b>Calcium</b>	<b>403</b>		0.500		mg/L		06/22/20 09:25	06/24/20 22:36	1
<b>Chromium</b>	<b>0.00762</b>		0.00200		mg/L		06/22/20 09:25	06/24/20 22:36	1
Cobalt	ND		0.000500		mg/L		06/22/20 09:25	06/24/20 22:36	1
Lead	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:36	1
<b>Lithium</b>	<b>0.911</b>		0.00500		mg/L		06/22/20 09:25	06/26/20 17:44	1
Molybdenum	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:36	1
Selenium	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:36	1
Thallium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:36	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/29/20 18:00	06/30/20 16:28	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>3880</b>		40.0		mg/L			06/20/20 11:16	1

# Client Sample Results

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

Job ID: 180-107191-2

**Client Sample ID: AP MW-3**

**Lab Sample ID: 180-107191-8**

Date Collected: 06/17/20 13:30

Matrix: Water

Date Received: 06/18/20 08:30

### Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	160		1.00		mg/L			07/08/20 23:07	1
Fluoride	ND		0.100		mg/L			07/08/20 23:07	1
Sulfate	807		10.0		mg/L			07/13/20 21:32	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:40	1
Arsenic	0.00129		0.00100		mg/L		06/22/20 09:25	06/24/20 22:40	1
Barium	0.0238		0.0100		mg/L		06/22/20 09:25	06/24/20 22:40	1
Beryllium	0.00236		0.00100		mg/L		06/22/20 09:25	06/24/20 22:40	1
Boron	3.23		0.0800		mg/L		06/22/20 09:25	06/24/20 22:40	1
Cadmium	0.00432		0.00100		mg/L		06/22/20 09:25	06/24/20 22:40	1
Calcium	139		0.500		mg/L		06/22/20 09:25	06/24/20 22:40	1
Chromium	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:40	1
Cobalt	0.0358		0.000500		mg/L		06/22/20 09:25	06/24/20 22:40	1
Lead	0.00121		0.00100		mg/L		06/22/20 09:25	06/24/20 22:40	1
Lithium	0.0531		0.00500		mg/L		06/22/20 09:25	06/26/20 17:47	1
Molybdenum	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:40	1
Selenium	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:40	1
Thallium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:40	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000324		0.000200		mg/L		06/29/20 18:00	06/30/20 16:29	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1330		10.0		mg/L			06/20/20 11:29	1



# Client Sample Results

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

Job ID: 180-107191-2

**Client Sample ID: Dup 2**

**Lab Sample ID: 180-107191-9**

Date Collected: 06/17/20 00:00

Matrix: Water

Date Received: 06/18/20 08:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>1310</b>		50.0		mg/L			07/13/20 22:05	50
Fluoride	ND		0.500		mg/L			07/12/20 08:47	5
<b>Sulfate</b>	<b>1450</b>		50.0		mg/L			07/13/20 22:05	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:43	1
<b>Arsenic</b>	<b>0.00120</b>		0.00100		mg/L		06/22/20 09:25	06/24/20 22:43	1
<b>Barium</b>	<b>0.0267</b>		0.0100		mg/L		06/22/20 09:25	06/24/20 22:43	1
Beryllium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:43	1
<b>Boron</b>	<b>1.16</b>		0.0800		mg/L		06/22/20 09:25	06/24/20 22:43	1
Cadmium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:43	1
<b>Calcium</b>	<b>411</b>		0.500		mg/L		06/22/20 09:25	06/24/20 22:43	1
<b>Chromium</b>	<b>0.00748</b>		0.00200		mg/L		06/22/20 09:25	06/24/20 22:43	1
Cobalt	ND		0.000500		mg/L		06/22/20 09:25	06/24/20 22:43	1
Lead	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:43	1
<b>Lithium</b>	<b>0.927</b>		0.00500		mg/L		06/22/20 09:25	06/26/20 17:51	1
Molybdenum	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:43	1
Selenium	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:43	1
Thallium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:43	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/29/20 18:00	06/30/20 16:30	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>3620</b>		40.0		mg/L			06/20/20 11:29	1

# Client Sample Results

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

Job ID: 180-107191-2

**Client Sample ID: Equip Blank-1SCM-061720**

**Lab Sample ID: 180-107191-10**

Date Collected: 06/17/20 14:50

Matrix: Water

Date Received: 06/18/20 08:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/07/20 18:23	1
Fluoride	ND		0.100		mg/L			07/07/20 18:23	1
Sulfate	ND		1.00		mg/L			07/07/20 18:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:47	1
Arsenic	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:47	1
Barium	ND		0.0100		mg/L		06/22/20 09:25	06/24/20 22:47	1
Beryllium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:47	1
Boron	ND		0.0800		mg/L		06/22/20 09:25	06/24/20 22:47	1
Cadmium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:47	1
Calcium	ND		0.500		mg/L		06/22/20 09:25	06/24/20 22:47	1
Chromium	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:47	1
Cobalt	ND		0.000500		mg/L		06/22/20 09:25	06/24/20 22:47	1
Lead	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:47	1
Lithium	ND		0.00500		mg/L		06/22/20 09:25	06/26/20 17:54	1
Molybdenum	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:47	1
Selenium	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:47	1
Thallium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:47	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/29/20 18:00	06/30/20 16:31	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			06/20/20 11:29	1

# Client Sample Results

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

Job ID: 180-107191-2

**Client Sample ID: Equip Blank-2 GG-061720**

**Lab Sample ID: 180-107191-11**

Date Collected: 06/17/20 14:55

Matrix: Water

Date Received: 06/18/20 08:30

**Method: EPA 9056A - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/13/20 22:21	1
Fluoride	ND		0.100		mg/L			07/12/20 09:19	1
Sulfate	ND		1.00		mg/L			07/13/20 22:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:50	1
Arsenic	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:50	1
Barium	ND		0.0100		mg/L		06/22/20 09:25	06/24/20 22:50	1
Beryllium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:50	1
Boron	ND		0.0800		mg/L		06/22/20 09:25	06/24/20 22:50	1
Cadmium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:50	1
Calcium	ND		0.500		mg/L		06/22/20 09:25	06/24/20 22:50	1
Chromium	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 22:50	1
Cobalt	ND		0.000500		mg/L		06/22/20 09:25	06/24/20 22:50	1
Lead	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:50	1
Lithium	ND		0.00500		mg/L		06/22/20 09:25	06/26/20 17:57	1
Molybdenum	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:50	1
Selenium	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 22:50	1
Thallium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 22:50	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/29/20 18:00	06/30/20 16:32	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10.0		mg/L			06/20/20 11:29	1

# QC Sample Results

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

Job ID: 180-107191-2

## Method: EPA 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 180-320632/46**  
**Matrix: Water**  
**Analysis Batch: 320632**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/07/20 17:03	1
Fluoride	ND		0.100		mg/L			07/07/20 17:03	1
Sulfate	ND		1.00		mg/L			07/07/20 17:03	1

**Lab Sample ID: LCS 180-320632/45**  
**Matrix: Water**  
**Analysis Batch: 320632**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	53.43		mg/L		107	80 - 120
Fluoride	2.50	2.633		mg/L		105	80 - 120
Sulfate	50.0	51.37		mg/L		103	80 - 120

**Lab Sample ID: MB 180-320790/6**  
**Matrix: Water**  
**Analysis Batch: 320790**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/08/20 05:27	1
Fluoride	ND		0.100		mg/L			07/08/20 05:27	1
Sulfate	ND		1.00		mg/L			07/08/20 05:27	1

**Lab Sample ID: LCS 180-320790/5**  
**Matrix: Water**  
**Analysis Batch: 320790**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.78		mg/L		104	80 - 120
Fluoride	2.50	2.662		mg/L		106	80 - 120
Sulfate	50.0	52.54		mg/L		105	80 - 120

**Lab Sample ID: MB 180-321274/101**  
**Matrix: Water**  
**Analysis Batch: 321274**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/12/20 07:25	1
Fluoride	ND		0.100		mg/L			07/12/20 07:25	1
Sulfate	ND		1.00		mg/L			07/12/20 07:25	1

**Lab Sample ID: LCS 180-321274/100**  
**Matrix: Water**  
**Analysis Batch: 321274**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	54.95		mg/L		110	80 - 120
Fluoride	2.50	2.812		mg/L		112	80 - 120
Sulfate	50.0	56.14		mg/L		112	80 - 120

Eurofins TestAmerica, Pittsburgh

# QC Sample Results

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

Job ID: 180-107191-2

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

**Lab Sample ID: MB 180-321352/53**  
**Matrix: Water**  
**Analysis Batch: 321352**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/13/20 20:26	1
Fluoride	ND		0.100		mg/L			07/13/20 20:26	1
Sulfate	ND		1.00		mg/L			07/13/20 20:26	1

**Lab Sample ID: LCS 180-321352/52**  
**Matrix: Water**  
**Analysis Batch: 321352**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.08		mg/L		104	80 - 120
Fluoride	2.50	2.605		mg/L		104	80 - 120
Sulfate	50.0	52.46		mg/L		105	80 - 120

**Lab Sample ID: MB 180-321361/43**  
**Matrix: Water**  
**Analysis Batch: 321361**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00		mg/L			07/13/20 19:08	1
Fluoride	ND		0.100		mg/L			07/13/20 19:08	1
Sulfate	ND		1.00		mg/L			07/13/20 19:08	1

**Lab Sample ID: LCS 180-321361/42**  
**Matrix: Water**  
**Analysis Batch: 321361**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.07		mg/L		100	80 - 120
Fluoride	2.50	2.539		mg/L		102	80 - 120
Sulfate	50.0	48.93		mg/L		98	80 - 120

**Lab Sample ID: 180-107191-1 MS**  
**Matrix: Water**  
**Analysis Batch: 321361**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	552		500	1027		mg/L		95	80 - 120

**Lab Sample ID: 180-107191-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 321361**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Sulfate	552		500	985.3		mg/L		87	80 - 120	4	15



# QC Sample Results

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

Job ID: 180-107191-2

## Method: EPA 6020A - Metals (ICP/MS)

**Lab Sample ID: MB 180-319101/1-A**  
**Matrix: Water**  
**Analysis Batch: 319579**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319101**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 21:48	1
Arsenic	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 21:48	1
Barium	ND		0.0100		mg/L		06/22/20 09:25	06/24/20 21:48	1
Beryllium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 21:48	1
Boron	ND		0.0800		mg/L		06/22/20 09:25	06/24/20 21:48	1
Cadmium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 21:48	1
Calcium	ND		0.500		mg/L		06/22/20 09:25	06/24/20 21:48	1
Chromium	ND		0.00200		mg/L		06/22/20 09:25	06/24/20 21:48	1
Cobalt	ND		0.000500		mg/L		06/22/20 09:25	06/24/20 21:48	1
Lead	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 21:48	1
Molybdenum	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 21:48	1
Selenium	ND		0.00500		mg/L		06/22/20 09:25	06/24/20 21:48	1
Thallium	ND		0.00100		mg/L		06/22/20 09:25	06/24/20 21:48	1

**Lab Sample ID: MB 180-319101/1-A**  
**Matrix: Water**  
**Analysis Batch: 319808**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319101**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.00500		mg/L		06/22/20 09:25	06/26/20 16:49	1

**Lab Sample ID: LCS 180-319101/2-A**  
**Matrix: Water**  
**Analysis Batch: 319579**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319101**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.2655		mg/L		106	80 - 120
Arsenic	1.00	0.9429		mg/L		94	80 - 120
Barium	1.00	0.9943		mg/L		99	80 - 120
Beryllium	0.500	0.4248		mg/L		85	80 - 120
Boron	1.25	1.042		mg/L		83	80 - 120
Cadmium	0.500	0.5319		mg/L		106	80 - 120
Calcium	25.0	26.66		mg/L		107	80 - 120
Chromium	0.500	0.5420		mg/L		108	80 - 120
Cobalt	0.500	0.4663		mg/L		93	80 - 120
Lead	0.500	0.5259		mg/L		105	80 - 120
Molybdenum	0.500	0.5123		mg/L		102	80 - 120
Selenium	1.00	1.041		mg/L		104	80 - 120
Thallium	1.00	1.051		mg/L		105	80 - 120

**Lab Sample ID: LCS 180-319101/2-A**  
**Matrix: Water**  
**Analysis Batch: 319808**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319101**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.5049		mg/L		101	80 - 120

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# QC Sample Results

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

Job ID: 180-107191-2

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

**Lab Sample ID: 180-107191-1 MS**  
**Matrix: Water**  
**Analysis Batch: 319808**

**Client Sample ID: AP MW-1D**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319101**  
**%Rec.**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Lithium	0.0327		0.500	0.5291		mg/L		99	75 - 125

**Lab Sample ID: 180-107191-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 319808**

**Client Sample ID: AP MW-1D**  
**Prep Type: Total Recoverable**  
**Prep Batch: 319101**  
**%Rec.**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lithium	0.0327		0.500	0.5247		mg/L		98	75 - 125	1	20

## Method: EPA 7470A - Mercury (CVAA)

**Lab Sample ID: MB 180-319935/1-A**  
**Matrix: Water**  
**Analysis Batch: 320111**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 319935**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200		mg/L		06/29/20 18:00	06/30/20 16:15	1

**Lab Sample ID: LCS 180-319935/2-A**  
**Matrix: Water**  
**Analysis Batch: 320111**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 319935**  
**%Rec.**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00250	0.002485		mg/L		99	80 - 120

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

**Lab Sample ID: MB 180-319017/2**  
**Matrix: Water**  
**Analysis Batch: 319017**

**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			06/20/20 11:16	1

**Lab Sample ID: LCS 180-319017/1**  
**Matrix: Water**  
**Analysis Batch: 319017**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**%Rec.**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Dissolved Solids	192	192.0		mg/L		100	80 - 120

**Lab Sample ID: MB 180-319018/2**  
**Matrix: Water**  
**Analysis Batch: 319018**

**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			06/20/20 11:29	1

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# QC Sample Results

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

Job ID: 180-107191-2

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

**Lab Sample ID: LCS 180-319018/1**  
**Matrix: Water**  
**Analysis Batch: 319018**

**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	192	208.0		mg/L		108	80 - 120

**Lab Sample ID: 180-107191-8 DU**  
**Matrix: Water**  
**Analysis Batch: 319018**

**Client Sample ID: AP MW-3**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1330		1342		mg/L		0.8	10

- 1
- 2
- 3
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# QC Association Summary

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

Job ID: 180-107191-2

## HPLC/IC

### Analysis Batch: 320632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107191-10	Equip Blank-1SCM-061720	Total/NA	Water	EPA 9056A	
MB 180-320632/46	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-320632/45	Lab Control Sample	Total/NA	Water	EPA 9056A	

### Analysis Batch: 320790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107191-1	AP MW-1D	Total/NA	Water	EPA 9056A	
180-107191-1	AP MW-1D	Total/NA	Water	EPA 9056A	
180-107191-2	AP MW-5	Total/NA	Water	EPA 9056A	
180-107191-3	AP MW-4	Total/NA	Water	EPA 9056A	
180-107191-4	SSP/AP MW-1	Total/NA	Water	EPA 9056A	
180-107191-4	SSP/AP MW-1	Total/NA	Water	EPA 9056A	
180-107191-5	SSP MW-2	Total/NA	Water	EPA 9056A	
180-107191-5	SSP MW-2	Total/NA	Water	EPA 9056A	
180-107191-6	SSP MW-3	Total/NA	Water	EPA 9056A	
180-107191-6	SSP MW-3	Total/NA	Water	EPA 9056A	
180-107191-7	SSP MW-4	Total/NA	Water	EPA 9056A	
180-107191-7	SSP MW-4	Total/NA	Water	EPA 9056A	
180-107191-8	AP MW-3	Total/NA	Water	EPA 9056A	
MB 180-320790/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-320790/5	Lab Control Sample	Total/NA	Water	EPA 9056A	

### Analysis Batch: 321274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107191-9	Dup 2	Total/NA	Water	EPA 9056A	
180-107191-11	Equip Blank-2 GG-061720	Total/NA	Water	EPA 9056A	
MB 180-321274/101	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-321274/100	Lab Control Sample	Total/NA	Water	EPA 9056A	

### Analysis Batch: 321352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107191-8	AP MW-3	Total/NA	Water	EPA 9056A	
180-107191-9	Dup 2	Total/NA	Water	EPA 9056A	
180-107191-11	Equip Blank-2 GG-061720	Total/NA	Water	EPA 9056A	
MB 180-321352/53	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-321352/52	Lab Control Sample	Total/NA	Water	EPA 9056A	

### Analysis Batch: 321361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107191-1	AP MW-1D	Total/NA	Water	EPA 9056A	
180-107191-3	AP MW-4	Total/NA	Water	EPA 9056A	
180-107191-4	SSP/AP MW-1	Total/NA	Water	EPA 9056A	
180-107191-5	SSP MW-2	Total/NA	Water	EPA 9056A	
180-107191-6	SSP MW-3	Total/NA	Water	EPA 9056A	
180-107191-7	SSP MW-4	Total/NA	Water	EPA 9056A	
MB 180-321361/43	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-321361/42	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-107191-1 MS	AP MW-1D	Total/NA	Water	EPA 9056A	
180-107191-1 MSD	AP MW-1D	Total/NA	Water	EPA 9056A	

# QC Association Summary

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

Job ID: 180-107191-2

## Metals

### Prep Batch: 319101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107191-1	AP MW-1D	Total Recoverable	Water	3005A	
180-107191-2	AP MW-5	Total Recoverable	Water	3005A	
180-107191-3	AP MW-4	Total Recoverable	Water	3005A	
180-107191-4	SSP/AP MW-1	Total Recoverable	Water	3005A	
180-107191-5	SSP MW-2	Total Recoverable	Water	3005A	
180-107191-6	SSP MW-3	Total Recoverable	Water	3005A	
180-107191-7	SSP MW-4	Total Recoverable	Water	3005A	
180-107191-8	AP MW-3	Total Recoverable	Water	3005A	
180-107191-9	Dup 2	Total Recoverable	Water	3005A	
180-107191-10	Equip Blank-1SCM-061720	Total Recoverable	Water	3005A	
180-107191-11	Equip Blank-2 GG-061720	Total Recoverable	Water	3005A	
MB 180-319101/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-319101/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-107191-1 MS	AP MW-1D	Total Recoverable	Water	3005A	
180-107191-1 MSD	AP MW-1D	Total Recoverable	Water	3005A	

### Analysis Batch: 319579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107191-1	AP MW-1D	Total Recoverable	Water	EPA 6020A	319101
180-107191-2	AP MW-5	Total Recoverable	Water	EPA 6020A	319101
180-107191-3	AP MW-4	Total Recoverable	Water	EPA 6020A	319101
180-107191-4	SSP/AP MW-1	Total Recoverable	Water	EPA 6020A	319101
180-107191-5	SSP MW-2	Total Recoverable	Water	EPA 6020A	319101
180-107191-6	SSP MW-3	Total Recoverable	Water	EPA 6020A	319101
180-107191-7	SSP MW-4	Total Recoverable	Water	EPA 6020A	319101
180-107191-8	AP MW-3	Total Recoverable	Water	EPA 6020A	319101
180-107191-9	Dup 2	Total Recoverable	Water	EPA 6020A	319101
180-107191-10	Equip Blank-1SCM-061720	Total Recoverable	Water	EPA 6020A	319101
180-107191-11	Equip Blank-2 GG-061720	Total Recoverable	Water	EPA 6020A	319101
MB 180-319101/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	319101
LCS 180-319101/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	319101

### Analysis Batch: 319808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107191-1	AP MW-1D	Total Recoverable	Water	EPA 6020A	319101
180-107191-2	AP MW-5	Total Recoverable	Water	EPA 6020A	319101
180-107191-3	AP MW-4	Total Recoverable	Water	EPA 6020A	319101
180-107191-4	SSP/AP MW-1	Total Recoverable	Water	EPA 6020A	319101
180-107191-5	SSP MW-2	Total Recoverable	Water	EPA 6020A	319101
180-107191-6	SSP MW-3	Total Recoverable	Water	EPA 6020A	319101
180-107191-7	SSP MW-4	Total Recoverable	Water	EPA 6020A	319101
180-107191-8	AP MW-3	Total Recoverable	Water	EPA 6020A	319101
180-107191-9	Dup 2	Total Recoverable	Water	EPA 6020A	319101
180-107191-10	Equip Blank-1SCM-061720	Total Recoverable	Water	EPA 6020A	319101
180-107191-11	Equip Blank-2 GG-061720	Total Recoverable	Water	EPA 6020A	319101
MB 180-319101/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	319101
LCS 180-319101/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	319101
180-107191-1 MS	AP MW-1D	Total Recoverable	Water	EPA 6020A	319101
180-107191-1 MSD	AP MW-1D	Total Recoverable	Water	EPA 6020A	319101



# QC Association Summary

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

Job ID: 180-107191-2

## Metals

### Prep Batch: 319935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107191-1	AP MW-1D	Total/NA	Water	7470A	
180-107191-2	AP MW-5	Total/NA	Water	7470A	
180-107191-3	AP MW-4	Total/NA	Water	7470A	
180-107191-4	SSP/AP MW-1	Total/NA	Water	7470A	
180-107191-5	SSP MW-2	Total/NA	Water	7470A	
180-107191-6	SSP MW-3	Total/NA	Water	7470A	
180-107191-7	SSP MW-4	Total/NA	Water	7470A	
180-107191-8	AP MW-3	Total/NA	Water	7470A	
180-107191-9	Dup 2	Total/NA	Water	7470A	
180-107191-10	Equip Blank-1SCM-061720	Total/NA	Water	7470A	
180-107191-11	Equip Blank-2 GG-061720	Total/NA	Water	7470A	
MB 180-319935/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-319935/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Analysis Batch: 320111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107191-1	AP MW-1D	Total/NA	Water	EPA 7470A	319935
180-107191-2	AP MW-5	Total/NA	Water	EPA 7470A	319935
180-107191-3	AP MW-4	Total/NA	Water	EPA 7470A	319935
180-107191-4	SSP/AP MW-1	Total/NA	Water	EPA 7470A	319935
180-107191-5	SSP MW-2	Total/NA	Water	EPA 7470A	319935
180-107191-6	SSP MW-3	Total/NA	Water	EPA 7470A	319935
180-107191-7	SSP MW-4	Total/NA	Water	EPA 7470A	319935
180-107191-8	AP MW-3	Total/NA	Water	EPA 7470A	319935
180-107191-9	Dup 2	Total/NA	Water	EPA 7470A	319935
180-107191-10	Equip Blank-1SCM-061720	Total/NA	Water	EPA 7470A	319935
180-107191-11	Equip Blank-2 GG-061720	Total/NA	Water	EPA 7470A	319935
MB 180-319935/1-A	Method Blank	Total/NA	Water	EPA 7470A	319935
LCS 180-319935/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	319935

## General Chemistry

### Analysis Batch: 319017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107191-4	SSP/AP MW-1	Total/NA	Water	SM 2540C	
180-107191-7	SSP MW-4	Total/NA	Water	SM 2540C	
MB 180-319017/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-319017/1	Lab Control Sample	Total/NA	Water	SM 2540C	

### Analysis Batch: 319018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-107191-1	AP MW-1D	Total/NA	Water	SM 2540C	
180-107191-2	AP MW-5	Total/NA	Water	SM 2540C	
180-107191-3	AP MW-4	Total/NA	Water	SM 2540C	
180-107191-5	SSP MW-2	Total/NA	Water	SM 2540C	
180-107191-6	SSP MW-3	Total/NA	Water	SM 2540C	
180-107191-8	AP MW-3	Total/NA	Water	SM 2540C	
180-107191-9	Dup 2	Total/NA	Water	SM 2540C	
180-107191-10	Equip Blank-1SCM-061720	Total/NA	Water	SM 2540C	
180-107191-11	Equip Blank-2 GG-061720	Total/NA	Water	SM 2540C	
MB 180-319018/2	Method Blank	Total/NA	Water	SM 2540C	

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# QC Association Summary

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

Job ID: 180-107191-2

## General Chemistry (Continued)

### Analysis Batch: 319018 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-319018/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-107191-8 DU	AP MW-3	Total/NA	Water	SM 2540C	

- 1
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- 3
- 4
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- 8
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- 10
- 11
- 12
- 13

**Chain of Custody Record**

<b>Client Information</b>		Lab PM: <i>Lage, Gail</i>		Carrier Tracking No(s):	
Client Contact: <i>Charlie Macon</i>		E-Mail: <i>gail.lage@testamericainc.com</i>		COC No: 490-105950-24956.1	
Company: <i>Wood E&amp;I Solutions Inc</i>		Phone: <i>512-241-3876</i>		Page: Page 1 of 3	
Address: <i>3755 South Capital of Texas Highway Suite 375</i>		City: <i>Austin</i>		Job #:	
State, Zip: <i>TX, 78704</i>		PO #: <i>512-241-4382(Tel)</i>		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - NaHSO4 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify) Other:	
Phone: <i>512-241-4382(Tel)</i>		Purchase Order Requested		Total Number of containers	
Email: <i>charlie.macon@woodplc.com</i>		WO #:		Analysis Requested	
Project Name: <i>AMEC CCR TMPA Gibbons Creek</i>		Project #: <i>49013510</i>		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 Z - other (specify) Other:	
Site: <i>Texas</i>		SSOW#:		Barcode:	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		956A, ORGFM, 28D - Chloride, Fluoride, Sulfate		6020A, 7470A		2540C, Calcd - Total Dissolved Solids	
					D	N	D	N	D	N	D	N	D	N
<i>AP MW-1D</i>	<i>6-17-20</i>	<i>0850</i>	<i>G</i>	<i>W</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>
<i>AP MW-5</i>		<i>1030</i>												
<i>AP MW-4</i>		<i>1130</i>												
<i>SSP/AP MW-1</i>		<i>1250</i>												
<i>SSP MW-2</i>		<i>2115</i>												
<i>SSP MW-3</i>		<i>1210</i>												
<i>SSP MW-4</i>		<i>0905</i>												
<i>AP MW-3</i>		<i>1330</i>												
<i>DUP-2</i>														
<i>EOBK-SCM-061720</i>		<i>2150</i>												
<i>EOBK-GG-061720</i>		<i>1455</i>												

**Possible Hazard Identification**  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Radiological  
 Deliverable Requested: I, II, III, IV, Other (specify)

**Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Special Instructions/QC Requirements:

DV: 0.00 TOTAL: 0.00

Svc: PRIORITY OVERNIGHT Master 1685 4442 3357  
TRCK: 1685 4442 3368



Environment Testing  
TestAmerica

Part # 159469-434 FITZ EXP 02/20

ORIGIN ID: MIFA (512) 413-3876  
SAM MACON  
WOOD  
3755 S. CAPITAL OF TX HWY SUITE 375  
AUSTIN, TX 78704  
UNITED STATES US

SHIP DATE: 09JUN20  
ACTWGT: 10.00 LB MAN  
CAD: 592545/CAFE3313

TO

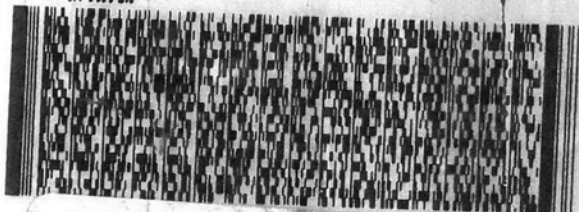
EUROFINS TESTAMERICA PITTSBURGH  
301 ALPHA DRIVE  
RIDC PARK  
PITTSBURGH PA 152382907

(412) 983-7068  
DEPT: BOTTLES

REF: 8490-105950

2950/0827/13595

RMA: ||| ||| |||



FedEx  
Express



AL1020812161F

FedEx

TRK# 1685 4442 3368  
0221

THU - 18 JUN 10:30A  
PRIORITY OVERNIGHT

NA AGCA

15238

PA-US PIT

07-APR-2019 EXP 01/21

Uncorrected temp  
Thermometer ID

3.2 °C  
14

CF 0 Initials TB

PT-WI-SR-001 effective 7/26/13



180-107191 Waybill

#545758 06/17 56BJ1/C7DD/FE4A

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- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

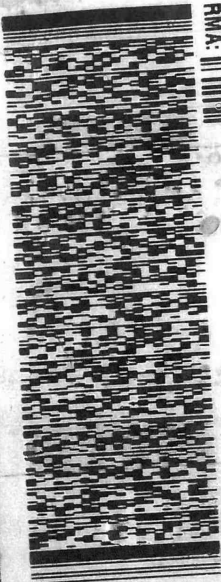


- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

ORIGIN ID: MIFA (512) 413-3876  
 SHIP DATE: 09 JUN 20  
 SHIP WGT: 10.00 LB MAN  
 SHIP HAZCON  
 3255 S. CAPITAL OF TX HWY SUITE 325  
 CND: 592545/CAFEE3313  
 UNITED STATES US

EUROFINS TESTAMERICA PITTSBURGH  
 301 ALPHA DRIVE  
 RIDG PARK  
 PITTSBURGH PA 152382907  
 REF: 8490-108950  
 (412) 983-7068  
 DEF: 8011ES

RMA: ||| ||| ||| |||



**FedEx**  
Express

AN 100280612161F

**FedEx**  
 TRK# 1685 442 3380  
 0221

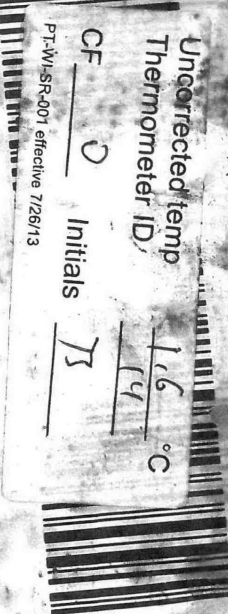
THU - 18 JUN 10:30A  
 PRIORITY OVERNIGHT

15238  
 PA-US  
 PIT

Uncorrected temp \_\_\_\_\_ °C  
 Thermometer ID: 116  
14

CF 0 Initials JS

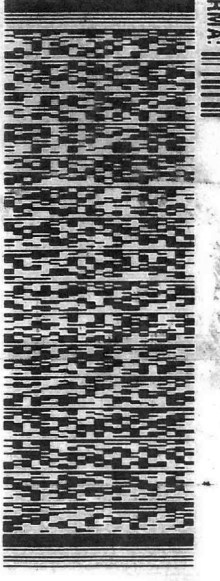
PT-WI-SR-001 effective 7/26/13



4545758 06/17 563JJC7DD/FE48

EUROFINS TESTAMERICA PITTSBURGH  
 301 ALPHA DRIVE  
 RIDG PARK  
 PITTSBURGH PA 152382907  
 REF: 8490-108950  
 (412) 983-7068  
 DEF: 8011ES

RMA: ||| ||| ||| |||



**FedEx**  
Express

AN 100280612161F

**FedEx**  
 TRK# 1685 442 3379  
 0221

THU - 18 JUN 10:30A  
 PRIORITY OVERNIGHT

15238  
 PA-US  
 PIT

Uncorrected temp \_\_\_\_\_ °C  
 Thermometer ID: 116  
14

CF 0 Initials JS

PT-WI-SR-001 effective 7/26/13



4545758 06/17 563JJC7DD/FE48



# Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 180-107191-2

**Login Number: 107191**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

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



## List of Abbreviations



## List of Abbreviations

AP - Ash Pond  
C-O-C – chain-of-custody  
COC – Chemical of Concern  
Dup - Duplicate Sample  
DUS – Data Usability Summary  
EQBK - Equipment Blank  
ER – Exception Report  
GCSES – Gibbons Creek Steam Electric Station  
LCS - Laboratory Control Sample  
LCSD - Laboratory Control Sample Duplicate  
LRC – Laboratory Review Checklist  
MDC - Minimum Detectable Concentration  
MDL - Method Detection Limit  
mg/L - milligrams per liter  
MNW/MW - Monitoring Well  
MS - Matrix Spike  
MSD - Matrix Spike Duplicate  
NELAP - National Environmental Laboratory Accreditation Program  
pCi/L - picoCuries per Liter  
QA/QC - quality assurance/quality control  
QC - Quality Control  
RL - Reporting Limit  
RPD - Relative Percent Difference  
S.U. - Standard Units  
SDL - Sample Detection Limit  
SFL - Site F Landfill  
SSP - Scrubber Sludge Pond  
TA – Test America  
TCEQ – Texas Commission on Environmental Quality  
TDS - Total Dissolved Solids  
TMPA – Texas Municipal Power Agency  
TRRP – Texas Risk Reduction Program