

**2018**

**ANNUAL GROUNDWATER MONITORING AND  
CORRECTIVE ACTION REPORT**

**COAL COMBUSTION RESIDUALS (CCR) RULE**

**D.B. WILSON CCR LANDFILL  
OHIO COUNTY, KENTUCKY**

*Prepared for:*

Big Rivers Electric Corporation  
D.B. Wilson Generating Station  
5663 State Route 85 West  
Centertown, Kentucky 42328

January 2019

## CONTENTS

Section		Page
1.0	INTRODUCTION.....	1
1.1	Site Background.....	1
2.0	2018 ACTIVITIES SUMMARY .....	1
2.1	Program Monitoring Well System .....	1
2.2	Groundwater Sampling .....	2
3.0	DATA EVALUATION.....	3
3.1	Monitoring Well System .....	3
3.2	Groundwater Flow.....	4
3.3	Sampling Results .....	4
3.4	Statistical Evaluation.....	4
3.5	Discussion and Conclusions.....	5
4.0	GENERAL INFORMATION.....	5
4.1	Problems Encountered and Resolutions .....	5
4.2	Actions Planned for 2019.....	5
5.0	REFERENCES.....	5

### Table List

Table 1	Monitoring Well System Summary of Monitoring Well Construction
Table 2	Monitoring Well Network Groundwater Elevations

### List of Figures

Figure 1	General Location Map
Figure 2	CCR Groundwater Monitoring System
Figure 3	Groundwater Surface Map, December 2018

### List of Attachments

Appendix A	Analytical Summary Tables
Appendix B	Analytical Laboratory Reports
Appendix C	Statistical Evaluation

## 1.0 INTRODUCTION

At the request of Big Rivers Electric Corporation (BREC), AECOM Technical Services, Inc. (AECOM) prepared this 2018 Annual Groundwater Monitoring and Corrective Action Report for the BREC D.B. Wilson Coal Combustion Residuals (CCR) Landfill (Wilson Phase II Landfill), located in Ohio County, Kentucky. This report was prepared in accordance with Part 257.90, Sub-Part (e) of the United States Environmental Protection Agency (USEPA) CCR Rule. The CCR Rule was established to regulate the disposal of CCR produced by electricity generating facilities (USEPA, 2015).

This report summarizes all activities related to the CCR Rule groundwater monitoring program at the Wilson Phase II Landfill in 2018. The following sections present a site background summary, a discussion of field activities performed, a summary of laboratory results, statistical evaluation findings, and conclusions regarding groundwater conditions in the aquifer system subject to monitoring under the CCR Rule.

As stated in the previous 2016-2017 Annual Groundwater Monitoring and Corrective Action Report, statistical results of the baseline groundwater data indicate that the Wilson Phase II Landfill would require initiation of Assessment Monitoring as most of the Appendix III constituents, excluding fluoride and pH, have statistically significant increases (SSIs) over background. On February 5, 2018, BREC posted a formal notification that the Wilson Phase II Landfill would enter into an Assessment Monitoring Program, fulfilling the requirement of 40 Code of Federal Regulations (CFR) § 257.107(h)(4).

### 1.1 Site Background

The Wilson Phase II Landfill is located in Ohio County approximately 5 miles northwest of the town of Centertown, Kentucky (**Figure 1**). The property is located northwest and adjacent to the D.B. Wilson Generating Station (Wilson Station). The Wilson Phase II Landfill is a Kentucky permitted landfill that receives special wastes generated by burning coal (CCRs) from Wilson Station. The current Wilson Phase II Landfill footprint is approximately 92 acres (**Figure 2**).

As stated in the published CCR monitoring well network certification (<http://www.bigrivers.com/ccr-rule-compliance-wilson-station/>), the Wilson Phase II CCR Landfill is raised above adjacent ground to a maximum elevation of approximately 520 feet above mean sea level (AMSL). The original ground surface within the landfill footprint was an irregular post-mining reclaimed surface.

## 2.0 2018 ACTIVITIES SUMMARY

The following subsections describe the activities that were performed in 2018 for the Wilson Phase II Landfill related to the CCR Groundwater Monitoring Network.

### 2.1 Program Monitoring Well System

Prior to implementation of the CCR Rule, a groundwater monitoring well network was already present at the Wilson Phase II Landfill in compliance with the requirements of the facility's operating permit. The existing wells are located along the perimeter of the permitted footprint for the Wilson Phase II Landfill, and meet the CCR Rule requirements that downgradient monitoring wells must be located at the waste boundary of the (active) CCR unit, or as close as practical.

Under the requirements stated in the operating permit, five (5) monitoring wells (MW-5, MW-6, MW-7, MW-8 and MW-10) were installed adjacent to the Wilson Phase II CCR Landfill to determine the general direction of groundwater movement and to monitoring groundwater at the site. MW-8 is located north of the landfill and is considered upgradient. MW-5, MW-6 (both west of the landfill), MW-7 (southwest of the landfill) and MW-10 (south of the landfill) are considered as downgradient. As-built specifics of each well installation are summarized on **Table 1**. The locations of the groundwater monitoring wells are shown on

the **Figure 2**. Each well has a dedicated bladder pump and tubing system installed for sampling purposes.

As stated in the CCR monitoring well network certification, the stratigraphic interval considered as the most prominent water-transmitting zone within and adjacent to the Wilson Station is material identified as reclaimed surface mining spoil material comprised of disrupted consolidated sandstone and shale of the Carbondale Formation. The United States Geological Survey (USGS) Geologic Map of the Equality Quadrangle describes underlying bedrock as “Sandstone, siltstone, shale, coal and underclay: Sandstone, light- to medium-gray, fine-grained, massive, micaceous, locally grades into thin-bedded siltstone. Siltstone, light- to medium-gray and yellowish-brown.” For purposes of compliance with the USEPA Disposal of CCR from Electric Utilities; Final Rule groundwater monitoring requirements; this disrupted sequence comprising the unconsolidated mine spoil is considered to be the uppermost aquifer underlying the Wilson Phase II Landfill.

Details about the monitoring network are presented in the *Monitoring Well Completion Report, D.B. Wilson Special Waste Landfill, Solid Waste Permit Number 092-00004, Ohio County* dated April 13, 2009 maintained within the operating record at Wilson Station.

In accordance with 40 CFR § 257.91(e)(1), the CCR monitoring network for the Wilson Phase II Landfill was certified by a Professional Engineer on June 28, 2016. A copy of the Groundwater Monitoring System Certification document is available on the public website for CCR Activities maintained by BREC (<http://www.bigrivers.com/ccr-rule-compliance-wilson-station/>).

### Characterization Monitoring Well Network

In accordance with the requirements of 40 CFR § 257.95(g)(1), five (5) new monitoring wells (MW-102, MW-104, MW-105, MW-110, and MW-4D) were installed in October 2018 for the characterization of groundwater at locations indicated on **Figure 2**. As-built specifics of each well installation are summarized on **Table 1**. The new monitoring wells, located at projected downgradient positions east, southeast, south, and southwest of the Wilson Phase II Landfill, will assist in the characterization of the existence, quality, quantity, areal extent and depth of groundwater degradation, and the rate and direction of migration of CCR contaminants in the groundwater. A report of the characterization well installation and details about the characterization monitoring will be presented within the Assessment of Corrective Measures Report in accordance with of 40 CFR § 257.96.

### 2.2 Groundwater Sampling

Four groundwater sampling events were conducted at Wilson Phase II Landfill in 2018. The following table summarizes the dates of each of the sampling events and the wells included in the events.

Event Type	Sampling Event	Dates	Wells Sampled
Assessment	10	April 13-14, 2018	Background (Upgradient) MW-8 Downgradient MW-5, MW-6, MW-7. MW-10
Re-Sampling (Assessment)	11	July 12-13, 2018	Background (Upgradient) MW-8 Downgradient MW-5, MW-6, MW-7. MW-10

Event Type	Sampling Event	Dates	Wells Sampled
Assessment	12	October 3-4, 2018	Background (Upgradient) MW-8 Downgradient MW-5, MW-6, MW-7, MW-10
Characterization	1	November 2, 2018	Characterization Wells MW-4D, MW-102, MW-104, MW-105, MW110

Monitoring wells were sampled in accordance with low flow sampling techniques developed and incorporated into current operating permits which are maintained within the operating record at Wilson Station.

Groundwater sampling activities were performed by BREC personnel with all collected samples submitted to Test America, Inc. (Test America) in Nashville, Tennessee for analyses. Groundwater samples collected during the April Assessment Monitoring Event were analyzed for Appendix IV parameters only in accordance with 40 CFR § 257.95(b). Groundwater samples collected during the July re-sampling monitoring event and the October Assessment Monitoring Event were analyzed for Appendix III and detected Appendix IV parameters in accordance with 40 CFR § 257.95(d)(1). Groundwater samples collected during the November “characterization” monitoring event were analyzed for Appendix III and Appendix IV parameters in accordance with 40 CFR § 257.95(g)(1).

No filtration of samples was conducted in either the field or laboratory procedures. Laboratory analyses were performed in accordance with approved USEPA methods.

### 3.0 DATA EVALUATION

The following sections present details of the monitoring system, groundwater flow, groundwater sampling results, and statistical evaluation for the Wilson Phase II Landfill datasets.

#### 3.1 Monitoring Well System

No changes were made to the Program Monitoring Well System in 2018. Monitoring wells MW-1, MW-2, MW-3, and MW-4 were added to the CCR program as “water level only” monitoring points as indicated on **Figure 2**. As-built specifics of each well installation are summarized on **Table 1**. Details of the monitoring well installation are recorded in the *Monitoring Well Completion Report, D.B. Wilson Special Waste Landfill, Solid Waste Permit Number 092-00004 LI 1 MOGW1, Ohio County* dated July 3, 1997 maintained within the operating record at Wilson Station.

In accordance with the requirements of 40 CFR § 257.95(g)(1), five (5) new monitoring wells (MW-102, MW-104, MW-105, MW-110, and MW-4D) were installed in October 2018 at locations indicated on **Figure 2** for the characterization of groundwater. As-built specifics of each well installation are summarized on **Table 1**. The new monitoring wells, located at projected downgradient positions east, southeast, south, and southwest of the Wilson Phase II Landfill, will assist in the characterization of the existence, quality, quantity, areal extent and depth of groundwater degradation, and the rate and direction of migration of CCR contaminants in the groundwater.

## 3.2 Groundwater Flow

Groundwater level data collected during the 2018 monitoring events are summarized on **Table 2**. These data were used to construct a piezometric surface map to illustrate groundwater flow conditions for the uppermost aquifer (**Figure 3**, November 2018). These data and figure are representative of general conditions at the site and support the following analysis.

Overall groundwater flow beneath the footprint of the Wilson Phase II Landfill is to the south and southeast. Groundwater flow beneath the Landfill is influenced by extensive strip-mining and the physical extent of mine spoil deposits. These mine spoil deposits are laterally limited by the remaining bedrock high-walls left undisturbed along the north side of State Route 85 and beyond the western edge of the Wilson Phase II Landfill.

## 3.3 Sampling Results

During 2018 a total of three (3) Assessment sampling events and one (1) characterization sampling event were completed. Results from these sampling events are summarized on the tables included as **Attachment A**. Complete analytical laboratory reports are included in **Attachment B**.

## 3.4 Statistical Evaluation

In accordance with 40 CFR § 257.93(f), 40 CFR § 257.93(h), and 40 CFR § 257.95(d)(2), AECOM conducted a statistical evaluation of the Assessment groundwater data to determine any SSIs over baseline concentrations for the Appendix III and Appendix IV parameters and any statistically significant levels (SSLs) over established groundwater protection standards (GWPS) for detected Appendix IV parameters.

Statistical methods were chosen in accordance with 40 CFR § 257.93(f) and the rationale behind why each method was selected is outlined in Statistical Methods Certification Document dated June 28, 2016. A copy of this document is available on the public website for CCR Activities maintained by BREC (<http://www.bigrivers.com/ccr-rule-compliance-wilson-station/>).

The Assessment data were evaluated using an interwell statistical approach, comparing upgradient to downgradient wells, with monitoring well MW-8 as the upgradient well. The statistical analysis results indicate that Appendix III constituents boron, calcium, chloride, pH, sulfate, and total dissolved solids (TDS) at monitoring well MW-5; boron calcium, sulfate and TDS at monitoring well MW-6; boron and chloride at monitoring well MW-7; and boron, calcium, chloride, sulfate, and TDS at monitoring well MW-10 have SSIs over background that were confirmed by subsequent Assessment sampling events. Based on these results, Assessment Monitoring is required to continue at the Wilson Phase II Landfill on a semi-annual basis.

Statistical analysis of the April 2018 Appendix IV Assessment Monitoring results indicate that cobalt and lithium at monitoring wells MW-5, MW-6, and MW-7 and cobalt at monitoring well MW-10 have SSIs over background that were confirmed by a subsequent re-sampling event in July 2018. The Appendix IV constituents with SSIs were further evaluated to determine whether they are present at SSLs over established GWPS.

The Assessment results indicate that cobalt at monitoring well MW-10 is present as a SSL above the GWPS. The lower confidence limit (LCLs) for the remaining wells and Appendix IV constituents are equal to or less than the established GWPS and thus are not SSLs. A summary of the statistical evaluation conducted on the Appendix III and assessment Appendix IV parameters is provided as **Attachment C**.

On December 6, 2018, BREC posted a formal notification that one constituent in Appendix IV has been detected at statistically significant levels above the established groundwater protection standard per 40 CFR Part 257.107(h)(6).

### **3.5 Discussion and Conclusions**

Based upon the statistical evaluation of Appendix III and Appendix IV parameters collected during Assessment Monitoring at the Wilson Phase II Landfill, BREC will continue Assessment Monitoring in 2019 and initiate an Assessment of Corrective Measures as required under 40 CFR § 257.96.

On December 6, 2018, BREC posted a formal notification that the Wilson Phase II Landfill would initiate an Assessment of Corrective Measures per 40 CFR § 257.95(g)(1-5), fulfilling the requirement of 40 CFR § 257.107(h)(7).

Due to the nature of the Wilson Phase II Landfill site setting (former mining area with large minespoils deposit), many CCR parameters are expected to be naturally occurring in the uppermost aquifer. BREC will evaluate whether Alternative Source Demonstrations (ASDs) for SSIs and SSLs at Wilson Phase II Landfill is warranted.

## **4.0 GENERAL INFORMATION**

The following subsections summarize any problems encountered in the CCR program through 2018, any resolutions to those problems if needed and upcoming actions planned for 2019.

### **4.1 Problems Encountered and Resolutions**

The initial, certified monitoring well system did not include piezometric monitoring points along the far eastern perimeter of the mine spoil footprint in the vicinity of the CCR Unit. In response, monitoring wells MW-1, MW-2, MW-3, and MW-4 were added to the CCR program as “water-level only” monitoring points in order to better evaluate groundwater flow within the mine spoil environment.

No other problems were encountered during the 2018 monitoring period.

### **4.2 Actions Planned for 2019**

Continued Assessment Monitoring of all Program monitoring wells for the Wilson Phase II Landfill are planned for 2019. Pending the results from the groundwater characterization in accordance with 40 CFR § 257.95(g)(1), ASD activities or an Assessment of Corrective Measures will be triggered. Any notifications required by 40 CFR § 257.95(g) or 40 CFR § 257.96 will be transmitted accordingly.

## **5.0 REFERENCES**

United States Environmental Protection Agency, 2015. Part 257.90, Sub-Part (e) Coal Combustion Residuals Rule.

## Tables



**TABLE 1**  
**MONITORING WELL SYSTEM SUMMARY OF MONITORING WELL CONSTRUCTION**  
**WILSON PHASE II LANDFILL**  
**BIG RIVERS ELECTRIC CORPORATION - WILSON STATION**  
**OHIO COUNTY, KENTUCKY**

Well No.		Location*		Reference Elevation*		Casing Length (feet, TOIC)	Size / Type (ID / Material)	Filter Pack Interval (feet, NAD27)		Screened Interval (feet, NAD27)		Bottom of Boring (feet, GS)
		Lat	Long	TOIC (feet, NAD27)	GS (feet, NAD27)			Top	Bottom	Top	Bottom	
<b>Program Monitoring Wells</b>												
MW-5 (8005-3477)	D	37.4638	-87.0910	469.14	467.42	75.0	2 inch / PVC	404.92	391.42	402.92	392.92	76
MW-6 (8005-3476)	D	37.4614	-87.0910	433.06	431.12	53.5	2 inch / PVC	390.42	377.12	388.12	378.12	54
MW-7 (8005-3479)	D	37.4584	-87.0913	426.14	424.08	50.0	2 inch / PVC	386.58	373.18	384.58	374.58	50.9
MW-8 (8005-3475)	U / B	37.4682	-87.0883	471.60	470.01	63.5	2 inch / PVC	419.53	405.96	417.05	407.05	64.05
MW-10 (8005-3478)	D	37.4544	-87.0902	398.91	396.91	22.4	2 inch / PVC	387.16	373.83	384.99	374.99	23.08
<b>Characterization Wells</b>												
MW-4D (8007-4811)	D / C	37.4542	-87.0851	410.02	407.03	96.4	2 inch / PVC	326.03	313.03	324.03	314.03	111
MW-102 (8007-2995)	D / C	37.4613	-87.0757	399.71	396.46	39.3	2 inch / PVC	372.46	360.46	370.46	360.46	36
MW-104 (8007-2994)	D / C	37.4517	-87.0826	392.87	389.76	43.4	2 inch / PVC	361.76	349.26	359.76	349.76	40
MW-105 (8007-2992)	D / C	37.4516	-87.0973	396.74	393.56	63.3	2 inch / PVC	366.56	333.56	343.56	333.56	60
MW-110 (8007-2996)	D / C	37.4521	-87.0907	393.54	390.56	42.8	2 inch / PVC	362.56	350.56	360.56	350.56	76 / 40
<b>Water Levels Only</b>												
P-9 (8005-3480)	water level only	37.4622	-87.0867	432.37	429.19	38.7	2 inch / PVC	402.99	389.99	400.99	390.99	39.2
P-11 (8005-3472)	water level only	37.4593	-87.0872	446.55	444.03	68.6	2 inch / PVC	388.43	374.90	385.93	375.93	69.13
MW-1 (8002-9621)	water level only	37.4667	-87.0852	443.89	442.31	36.3	4 inch / PVC	419.6	407.6	417.6	407.6	36
MW-2 (8002-9622)	water level only	37.4618	-87.0820	417.11	414.60	36.0	4 inch / PVC	393.3	381.1	391.1	381.1	36
MW-3 (8002-9623)	water level only	37.4576	-87.0845	411.12	408.19	36.2	4 inch / PVC	387.2	374.9	384.9	374.9	36
MW-4 (8002-9624)	water level only	37.4546	-87.0850	408.82	406.55	31.3	4 inch / PVC	389.6	377.5	387.5	377.5	31

Reference elevation of monitoring wells surveyed by Associated Engineers, Inc., Madisonville, Kentucky June 2015 and November 2018

Survey coordinates were based on the Kentucky State Plane, Kentucky Southern Zone, NAD27 datum

PVC = Polyvinyl chloride

ID = Internal Diameter

TOIC = Top of internal casing, or measured from (below) TOIC

GS = Ground Surface, or measured from (below) GS

U / B = Upgradient / Background

D = Downgradient

C = Characterization

**TABLE 2**  
**MONITORING WELL NETWORK GROUNDWATER ELEVATIONS**  
**WILSON PHASE II CCR LANDFILL**  
**BIG RIVERS ELECTRIC CORPORATION - WILSON STATION**  
**OHIO COUNTY, KENTUCKY**

<b>WILSON PHASE II CCR LANDFILL</b>										
<b>PROGRAM GROUNDWATER MONITORING WELL</b>										
<b>Reference Elevation TOIC*(ft, NAD27)</b>	<b>MW-5</b>		<b>MW-6</b>		<b>MW-7</b>		<b>MW-8</b>		<b>MW-10</b>	
	Downgradient 469.14		Downgradient 433.06		Downgradient 426.14		Upgradient/Background 471.60		Downgradient 398.91	
<b>Date Measured</b>	<b>Depth to Water (ft) (feet)</b>	<b>GW Elevation (feet)</b>	<b>Depth to Water (ft) (feet)</b>	<b>GW Elevation (feet)</b>	<b>Depth to Water (ft) (feet)</b>	<b>GW Elevation (feet)</b>	<b>Depth to Water (ft) (feet)</b>	<b>GW Elevation (feet)</b>	<b>Depth to Water (ft) (feet)</b>	<b>GW Elevation (feet)</b>
4/13/2018	56.30	412.84	41.32	391.74	39.38	386.76	44.54	427.06	13.21	385.70
7/12/2018	57.56	411.58	42.60	390.46	39.93	386.21	44.45	427.15	13.39	385.52
10/3/2018	59.89	409.25	43.54	389.52	40.28	385.86	46.94	424.66	13.66	385.25
12/11/2018	59.45	409.69	43.29	389.77	40.18	385.96	46.73	424.87	13.60	385.31

Reference elevation of monitoring wells surveyed by Associated Engineers, Inc., Madisonville, Kentucky June 2015  
Survey coordinates were based on the Kentucky State Plane, Kentucky Southern Zone, NAD27 datum

<b>CHARACTERIZATION GROUNDWATER MONITORING WELL</b>										
<b>Reference Elevation TOIC*(ft, NAD27)</b>	<b>MW-4D</b>		<b>MW-102</b>		<b>MW-104</b>		<b>MW-105</b>		<b>MW-110</b>	
	Characterization 410.02		Characterization 399.71		Characterization 392.87		Characterization 396.74		Characterization 393.54	
<b>Date Measured</b>	<b>Depth to Water (ft) (feet)</b>	<b>GW Elevation (feet)</b>	<b>Depth to Water (ft) (feet)</b>	<b>GW Elevation (feet)</b>	<b>Depth to Water (ft) (feet)</b>	<b>GW Elevation (feet)</b>	<b>Depth to Water (ft) (feet)</b>	<b>GW Elevation (feet)</b>	<b>Depth to Water (ft) (feet)</b>	<b>GW Elevation (feet)</b>
11/2/2018	23.62	386.40	11.15	388.56	6.70	386.17	6.57	390.17	9.48	384.06
12/11/2018	24.38	385.64	11.25	388.46	6.78	386.09	6.66	390.08	9.02	384.52

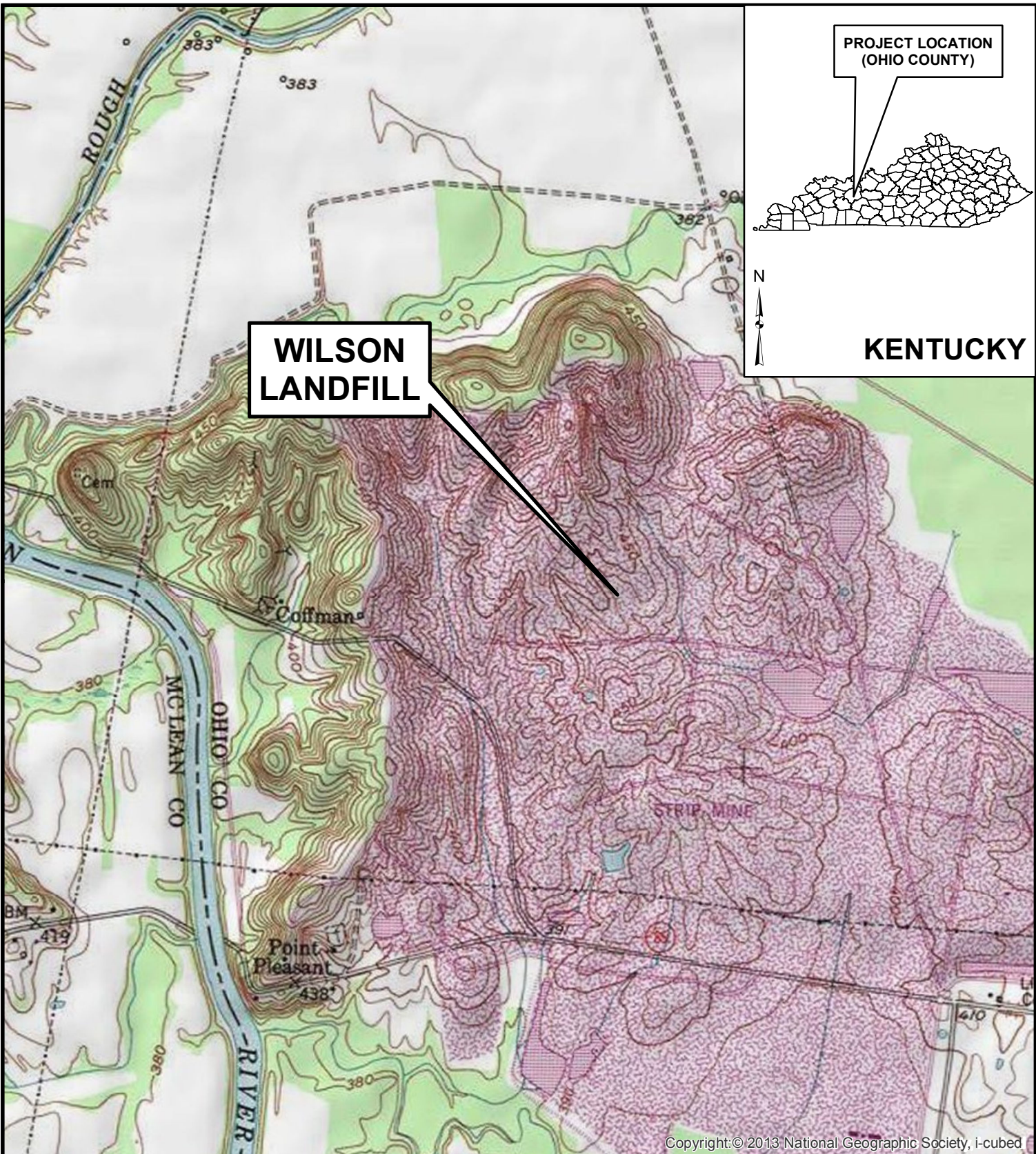
Reference elevation of monitoring wells surveyed by Associated Engineers, Inc., Madisonville, Kentucky November 2018  
Survey coordinates were based on the Kentucky State Plane, Kentucky Southern Zone, NAD27 datum  
TOIC = Top of internal casing  
GW = Groundwater; GS = Ground Surface; NM = Not measured

**TABLE 2 (continued)**  
**GROUNDWATER ELEVATIONS**  
**SUPPLEMENTAL WATER LEVEL ONLY MONITORING POINTS**  
**BIG RIVERS ELECTRIC CORPORATION - WILSON STATION**  
**OHIO COUNTY, KENTUCKY**

Reference Elevation TOIC*(ft, NAD27)	SUPPLEMENTAL WATER LEVEL ONLY MONITORING POINTS								PEIZOMETERS			
	MW-1		MW-2		MW-3		MW-4		North (P9)		South (P11)	
	Water Level Only 443.89		Water Level Only 417.11		Water Level Only 411.12		Water Level Only 408.82		Water Level Only 432.37		Water Level Only 446.55	
Date Measured	Depth to Water (ft) (feet)	GW Elevation (feet)	Depth to Water (ft) (feet)	GW Elevation (feet)	Depth to Water (ft) (feet)	GW Elevation (feet)	Depth to Water (ft) (feet)	GW Elevation (feet)	Depth to Water (ft) (feet)	GW Elevation (feet)	Depth to Water (ft) (feet)	GW Elevation (feet)
4/13/2018	18.02	425.87	17.05	400.06	24.39	386.73	23.58	385.24	25.81	406.56	60.15	386.40
7/12/2018	19.03	424.86	18.76	398.35	25.02	386.10	23.36	385.46	NM	NM	NM	NM
10/3/2018	18.86	425.03	19.34	397.77	25.03	386.09	23.40	385.42	25.95	406.42	60.89	385.66
12/11/2018	18.43	425.46	18.64	398.47	25.50	385.62	23.18	385.64	25.91	406.46	60.89	385.66

Reference elevation of monitoring wells surveyed by Associated Engineers, Inc., Madisonville, Kentucky June 2015  
Survey coordinates were based on the Kentucky State Plane, Kentucky Southern Zone, NAD27 datum  
TOIC = Top of internal casing  
GW = Groundwater; GS = Ground Surface; NM = Not measured

## Figures



Copyright: © 2013 National Geographic Society, i-cubed

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

EQUALITY QUADRANGLE  
(<https://viewer.nationalmap.gov/basic/>)

0 1,500 3,000  
Feet



*Wilson Station  
Ohio County, Kentucky*

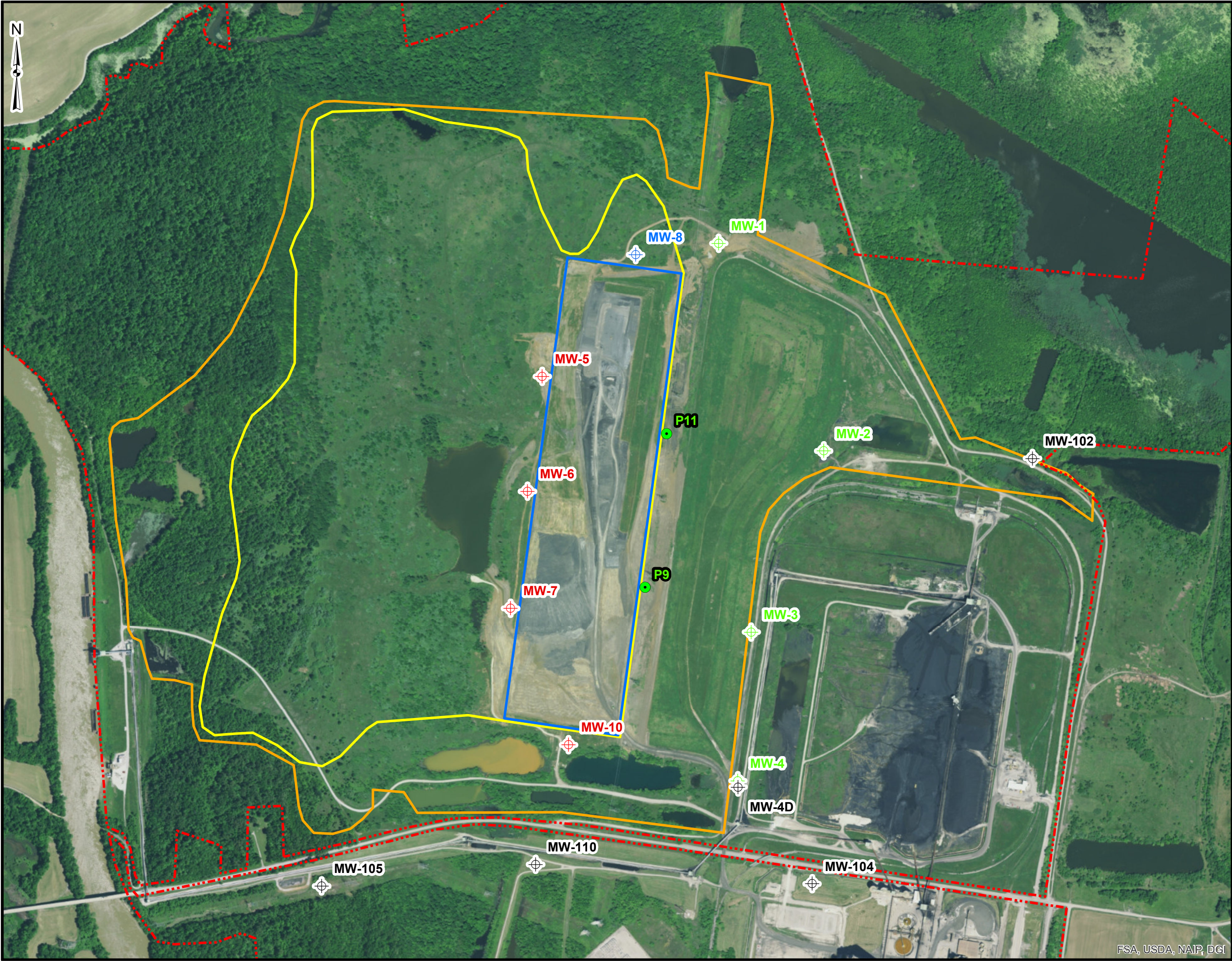
FIGURE 1  
GENERAL LOCATION MAP

DATE: 1/11/2019

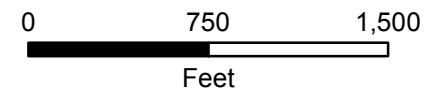
SCALE: 1IN = 1,500 FEET

CREATED BY: ALW

JOB NO. 60579935



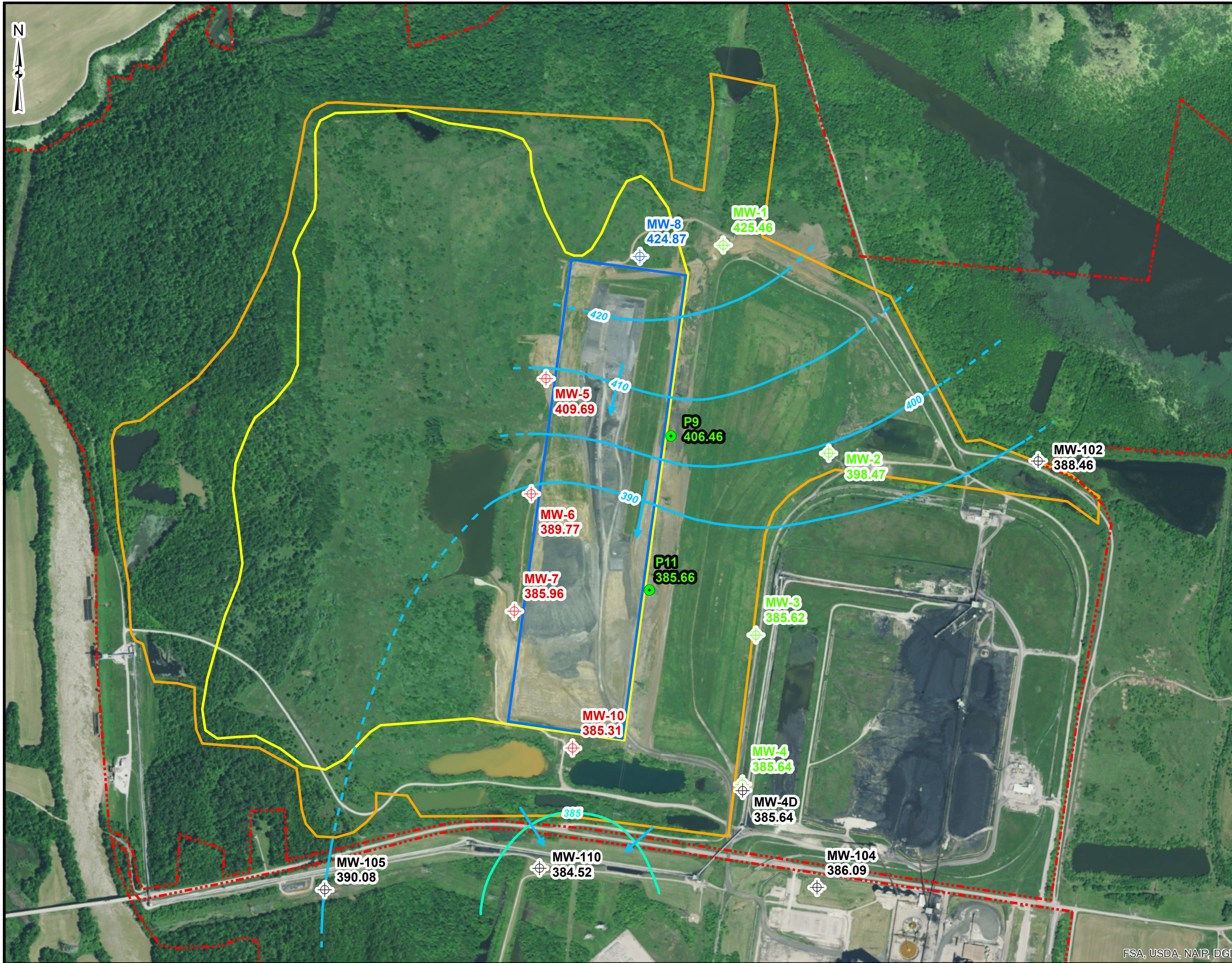
- Legend**
- Property Boundary
  - CCR Phase 2 Fill
  - Bond Increment
  - KAR Permit Area
  - Downgradient CCR Monitoring Well Location
  - Upgradient CCR Monitoring Well Location
  - Characterization Monitoring Well Location
  - Piezometer Location (Water Level Only)
  - Monitoring Well Location (Water Level Only)



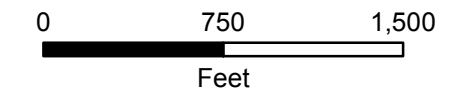
*Wilson Landfill*  
Ohio County, Kentucky

**FIGURE 2**  
CCR GROUNDWATER  
MONITORING SYSTEM

DATE: 1/16/2019	SCALE: 1IN = 750 FEET
CREATED BY: ALW	
JOB NO. 60579935	



- Legend**
- Property Boundary
  - CCR Phase 2 Fill
  - Bond Increment
  - KAR Permit Area
  - ⊕ Downgradient CCR Monitoring Well Location
  - ⊕ Upgradient CCR Monitoring Well Location
  - ⊕ Characterization Monitoring Well Location
  - Piezometer Location (Water Level Only)
  - ⊕ Monitoring Well Location (Water Level Only)
  - Water Table Contour (Inferred from Available Monitoring Data)
  - Groundwater Flow Direction
- 409.69 Groundwater Elevation (Feet, NAD27) Measured December 11, 2018



**Big Rivers** Wilson Landfill  
Ohio County, Kentucky

FIGURE 3  
GROUNDWATER SURFACE MAP  
DECEMBER 2018

DATE: 1/16/2019	SCALE: 1IN = 750 FEET
CREATED BY: ALW	
JOB NO. 60579935	

**Attachment A**  
**Analytical Summary Tables**



**WILSON LANDFILL - CCR ANALYTICAL SUMMARY  
MW-5**

APPENDIX III CONSTITUENTS	Detection Limit	GWPS	DATE																							
			4/4/2016		5/20/2016		8/25/2016		10/4/2016		2/15/2017		5/17/2017		8/16/2017		9/28/2017		10/12/2017		4/13/2018		7/12/2018		10/3/2018	
			Baseline Events															Assessment		Re-sample		Assessment				
Boron	0.08		0.387	JB	0.282	JB	0.386	J	0.367	JB	0.839	J	0.981	JB	1.17		0.81	J	1.27				0.667	J	0.755	JB
Calcium	0.5		673		472		509		464		471	B	514	B	480		493		480	B			504		471	
Chloride	3		49.3	B	60.2	JB	73.5		89.8		160	B	169	B	180		158	B	261				69.3	B	94.0	B
Fluoride	1		ND	J	ND	J	ND		0.838		ND	J	ND	J	ND	JB	ND	J	2.88				ND	J	ND	J
Sulfate	5		1630		1950		1670	B	1570	B	1620		1530		2040	B	1860	B	1730	B			1520		1640	B
pH (Field Measurement)	0.10		6.59		6.34		7.17		6.93		5.94		6.92		6.77		6.46		7.18		6.67		6.13		6.25	
Total Dissolved Solids	10		2840		2960		2940		2930		3000		3100		3220		3090		3040				3210		3200	
<b>APPENDIX IV CONSTITUENTS</b>																										
Antimony	0.002	0.006 mg/L	ND		ND		ND	J	ND	JB	ND		ND	JB	ND	JB	ND	J			ND	JB	ND	J	NA	
Arsenic	0.005	0.01 mg/L	0.00524	J	0.00523		0.00577	B	ND	J	ND	J	ND	JB	ND	J	ND	J			ND	J	ND	J	ND	J
Barium	0.2	2 mg/L	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J			ND	J	ND	J	NA	
Beryllium	0.002	0.004 mg/L	ND		ND	J	ND	J	ND	J	ND		ND	J	ND	J	ND				ND		NA		NA	
Cadmium	0.001	0.005 mg/L	ND		ND		ND		ND		ND		ND		ND		ND				ND		NA		NA	
Chromium	0.003	0.1 mg/L	ND		ND	J	0.00309	B	ND	J	ND		ND	J	ND	J	ND				ND	J	ND		NA	
Cobalt	0.005	0.006 mg/L	0.00909	J	0.00829		0.00659		0.00664		0.00518		0.0057		ND	J	0.0051				0.00873		0.00672		0.00660	
Fluoride	1	4 mg/L	ND	J	ND	J	ND		0.838		ND	J	ND	J	ND	JB	ND	J			ND	J	ND	J	ND	J
Lead	0.005	0.015 mg/L	ND		ND		ND	J	ND	JB	ND	J	ND	J	ND	J	ND	J			ND	J	ND	J	NA	
Lithium	0.05	0.040 mg/L	0.0243	J	0.0283	J	0.0374	J	0.0338	J	0.0432		0.042	J	0.0489	J	0.0398				0.0370	J	0.0375	J	0.0382	J
Mercury	0.0002	0.002 mg/L	ND		ND		ND		ND		ND		ND		ND		ND				ND		NA		NA	
Molybdenum	0.01	0.1 mg/L	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J			ND	J	ND	J	ND	J
Radium 226	1	5 pCi/L	0.645		0.915		0.714		1.19		1.01		0.967		1.22		1.01				0.783		0.711		1.23	
Radium 228																										
Selenium	0.01	0.05 mg/L	ND		ND	J	ND	J	ND	J	ND	J	ND	JB	ND	J	ND				ND	J	ND	J	NA	
Thallium	0.001	0.002 mg/L	ND		ND	J	ND		ND	J	ND		ND	J	ND	J	ND				ND		ND		NA	

\*All results listed in milligrams per liter (mg/L) unless otherwise noted by the Maximum Contaminant Level (MCL)  
 GWPS = Groundwater Protection Standard  
 NA = Not Analyzed  
 NC = Not Collected  
 ND = Not Detected at or above Method Detection Limit  
 pCi/L = picoCuries per Liter  
 J = Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.  
 B = Compound was found in the blank and sample.

**WILSON LANDFILL - CCR ANALYTICAL SUMMARY  
MW-6**

APPENDIX III CONSTITUENTS	Detection Limit	GWPS	DATE																							
			4/5/2016		5/19/2016		8/25/2016		10/4/2016		2/15/2017		5/18/2017		8/16/2017		9/29/2017		10/12/2017		4/13/2018		7/12/2018		10/4/2018	
			Baseline Events																		Assessment		Re-sample		Assessment	
Boron	0.08		0.255	JB	0.243	JB	0.27	J	0.228	JB	0.293		0.265	JB	0.298	J	0.328	J	0.286	J			0.250	J	0.272	JB
Calcium	0.5		534		466		470		445		414	B	490	B	477		459		438	B			478	J	426	
Chloride	3		3.65	B	5.09	B	4.1	B	4.63		4.93		4.37	B	5.49	B	5.36	B	5.6				4.79	B	6.16	B
Fluoride	1		ND	J	ND	JB	ND		ND		ND	J	ND	J	ND	JB	ND	J	2.96				ND	J	ND	J
Sulfate	5		1560		1710		1660	B	1790	B	1610		1570		1840	B	1630	B	1670	B			1730		1590	B
pH (Field Measurement)	0.10		6.40		6.26		6.56		6.64		6.09		6.35		6.36		6.29		6.4		6.15		6.07		6.08	
Total Dissolved Solids	10		2740		2780		2790		2800		2620		2820		2950		2900		2920				2920		3050	
<b>APPENDIX IV CONSTITUENTS</b>																										
Antimony	0.002	0.006 mg/L	ND		ND	J	ND	J	ND	JB	ND	J	ND	JB	ND	JB	ND	JB			ND	JB	ND	J	NA	
Arsenic	0.005	0.01 mg/L	ND	J	0.00736		ND	JB	0.00534		0.0123		ND	B	0.00598		0.00632				ND	J	0.00683		0.00592	
Barium	0.2	2 mg/L	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J			ND	J	ND	J	NA	
Beryllium	0.002	0.004 mg/L	ND		ND		ND		ND	J	ND		ND		ND		ND				ND		NA		NA	
Cadmium	0.001	0.005 mg/L	ND		ND		ND		ND		ND		ND		ND		ND				ND		NA		NA	
Chromium	0.003	0.1 mg/L	ND		ND	J	ND	B	ND		ND		ND		ND		ND	J			ND	J	ND		NA	
Cobalt	0.005	0.006 mg/L	0.00728	J	0.00713		0.0074		0.00688		0.0054		0.0059		0.00578		0.00686				0.00742		0.00672		0.00666	
Fluoride	1	4 mg/L	ND	J	ND	J	ND		ND		ND	J	ND	J	ND	JB	ND	J			ND	J	ND	J	ND	J
Lead	0.005	0.015 mg/L	ND		ND	J	ND	J	ND	JB	ND	J	ND	J	ND	J	ND	J			ND	J	ND	J	NA	
Lithium	0.05	0.040 mg/L	0.0326	J	0.0419	J	0.0494	J	0.0459	J	0.0508		0.0455	J	0.0495	J	0.0472	J			0.0470	J	0.0496	J	0.0463	J
Mercury	0.0002	0.002 mg/L	ND		ND		ND		ND		ND		ND		ND		0.000161	J F1			ND		NA		NA	
Molybdenum	0.01	0.1 mg/L	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J			ND	J	ND	J	ND	J
Radium 226	1	5 pCi/L	0.596		0.581		0.519		0.847		0.919		0.892		0.82		0.639		0.900		0.795		1.44			
Radium 228																										
Selenium	0.01	0.05 mg/L	ND		ND		ND		ND	J	ND		ND		ND		ND				ND		ND		NA	
Thallium	0.001	0.002 mg/L	ND		ND	J	ND	J	ND	J	ND		ND		ND		ND	J			ND	J	ND		NA	

\*All results listed in milligrams per liter (mg/L) unless otherwise noted by the Maximum Contaminant Level (MCL)  
 GWPS = Groundwater Protection Standard  
 NA = Not Analyzed  
 NC = Not Collected  
 ND = Not Detected at or above Method Detection Limit  
 pCi/L = picoCuries per Liter  
 J = Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.  
 B = Compound was found in the blank and sample.  
 F1 = MS and/or MSD Recovery is outside acceptance limits.

**WILSON LANDFILL - CCR ANALYTICAL SUMMARY  
MW-7**

APPENDIX III CONSTITUENTS	Detection Limit	GWPS	DATE																							
			4/4/2016		5/19/2016		8/25/2016		10/6/2016		2/15/2017		5/18/2017		8/16/2017		9/29/2017		10/12/2017		4/13/2018		7/12/2018		10/4/2018	
			Baseline Events															Assessment		Re-sample		Assessment				
Boron	0.08		0.241	JB	0.165	JB	0.277	J	0.203	JB	0.293	J	0.232	JB	0.263	J	0.28	J	0.245	J			0.324	J	0.395	JB
Calcium	0.5		364		241		287		251		262	B	273	B	268		269		259	B			297		271	
Chloride	3		3.47	B	5.31	B	5.67	B	5.65	B	6.15		6.91	B	7.91	B	7.54	B	7.77				17.1	B	21.9	B
Fluoride	1		ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	JB	ND	J	1.43				ND	J	ND	J
Sulfate	5		759		784		813	B	822		850		877		940	B	1780	B	910	B			837		888	B
pH (Field Measurement)	0.10		6.53		6.29		6.60		7.33		5.60		6.55		6.49		6.32		6.50		6.26		6.18		6.23	
Total Dissolved Solids	10		1450		1450		1520		1560		1540		1550		1600		1590		1610				1720		1750	
<b>APPENDIX IV CONSTITUENTS</b>																										
Antimony	0.002	0.006 mg/L	ND		ND		ND	J	ND	JB	ND		ND	JB	ND	JB	ND	JB			ND	JB	ND	J	NA	
Arsenic	0.005	0.01 mg/L	ND		ND	J	ND	JB	ND	J	ND	J	ND	JB	ND	J	ND	J			ND	J	ND	J	ND	J
Barium	0.2	2 mg/L	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J			ND	J	ND	J	NA	
Beryllium	0.002	0.004 mg/L	ND		ND		ND		ND		ND		ND		ND		ND				ND		NA		NA	
Cadmium	0.001	0.005 mg/L	ND		ND		ND		ND		ND		ND		ND		ND				ND		NA		NA	
Chromium	0.003	0.1 mg/L	ND		ND	J	0.00304	B	ND		ND		ND		ND		ND				ND	J	ND		NA	
Cobalt	0.005	0.006 mg/L	0.0084	J	0.0058		0.0062		0.00483	J	0.00531		0.00358	J	0.00395	J	0.00454	J			0.00468	J	0.00365	J	0.00346	J
Fluoride	1	4 mg/L	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	JB	ND	J			ND	J	ND	J	ND	J
Lead	0.005	0.015 mg/L	ND		ND		ND		ND	J	ND		ND		ND		ND				ND		ND	J	NA	
Lithium	0.05	0.040 mg/L	0.0241	J	0.0241	J	0.0305	J	0.0263	J	0.0318	J	0.0277	J	0.0291	J	0.0278				0.0261	J	0.0271	J	0.0273	J
Mercury	0.0002	0.002 mg/L	ND		ND		ND		ND		ND		ND		ND		ND				ND		NA		NA	
Molybdenum	0.01	0.1 mg/L	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J			ND	J	ND	J	ND	J
Radium 226	1	5 pCi/L	0.727		0.558		0.613		0.66		ND	0.817	0.852		0.779					0.572	0.697		0.935			
Radium 228																										
Selenium	0.01	0.05 mg/L	ND		ND		ND		ND		ND		ND		ND		ND				ND		ND		NA	
Thallium	0.001	0.002 mg/L	ND		ND		ND		ND		ND		ND		ND		ND				ND		ND		NA	

\*All results listed in milligrams per liter (mg/L) unless otherwise noted by the Maximum Contaminant Level (MCL)  
 GWPS = Groundwater Protection Standard  
 NA = Not Analyzed  
 NC = Not Collected  
 ND = Not Detected at or above Method Detection Limit  
 pCi/L = picoCuries per Liter  
 J = Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.  
 B = Compound was found in the blank and sample.

**WILSON LANDFILL - CCR ANALYTICAL SUMMARY  
MW-8**

APPENDIX III CONSTITUENTS	Detection Limit	GWPS	DATE												4/13/2018	7/12/2018	10/3/2018										
			4/4/2016		5/19/2016		8/25/2016		10/3/2016		2/15/2017		5/17/2017					8/15/2017		9/28/2017		10/12/2017					
			Baseline Events															Assessment	Re-sample	Assessment							
Boron	0.08		ND	JB	ND	JB	ND	J	ND	JB	ND	J	ND	JB	ND	J	ND	J			ND	J	0.0388	JB			
Calcium	0.5		329		242		237		226		213	B	225	B	230		214		216	B			245		207		
Chloride	3		4.12	B	5.48	B	4.38	B	4.69		4.7		4.19	B	4.68	B	4.82	B	4.44				3.83	B	4.80	B	
Fluoride	1		ND	J	ND	J	ND	J	ND	JB	ND	J	ND	J	ND	JB	ND	J	1.210				ND	J	ND	J	
Sulfate	5		876		910		872	B	854	B	779	B	877		964	B	900	B	894	B			887		799	B	
pH (Field Measurement)	0.10		6.47		6.34		6.64		6.63		4.91		6.47		6.44		6.35		6.50		6.28		6.08		6.25		
Total Dissolved Solids	10		1530		1590		1550		1520		1450		1560		1590		1520		1560				1690		1560		
<b>APPENDIX IV CONSTITUENTS</b>																											
Antimony	0.002	0.006 mg/L	ND		ND		ND	J	ND	JB	ND		ND	JB	ND	JB	ND	J				ND	JB	ND	J	NA	
Arsenic	0.005	0.01 mg/L	0.00931	J	0.00698		0.00709	B	0.00581		0.00799		0.0072	B	0.00548		0.00515				0.00525		0.00558		0.00757		
Barium	0.2	2 mg/L	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J				ND	J	ND	J	NA	
Beryllium	0.002	0.004 mg/L	ND		ND		ND		ND		ND		ND		ND		ND					ND		NA		NA	
Cadmium	0.001	0.005 mg/L	ND		ND		ND		ND		ND		ND		ND		ND					ND		NA		NA	
Chromium	0.003	0.1 mg/L	ND		ND	J	ND	JB	ND		ND		ND		ND		ND					ND	J	ND	J	NA	
Cobalt	0.005	0.006 mg/L	ND		0.00156	J	0.00118	J	0.0015	J	0.0011	J	0.000739	J	0.000943	J	0.00102	J			0.000800	J	0.00113	J	0.000849	J	
Fluoride	1	4 mg/L	ND	J	ND	J	ND	J	ND	JB	ND	J	ND	J	ND	JB	ND	J				ND	J	ND	J	ND	J
Lead	0.005	0.015 mg/L	ND		ND		ND		ND		ND		ND		ND		ND					ND		ND	J	NA	
Lithium	0.05	0.040 mg/L	ND		ND		0.0116	J	0.012	J	0.0142	J	0.0103	J	0.0137	J	ND					ND		0.0125	J	0.0129	J
Mercury	0.0002	0.002 mg/L	ND		ND		ND		ND		ND		ND		ND		ND					ND		NA		NA	
Molybdenum	0.01	0.1 mg/L	0.0187	J	0.0142		0.0145		0.0151		0.0185		0.0137		0.0166		0.0153				0.0123		0.0129		0.0137		
Radium 226	1	5 pCi/L	1.12		1.31		0.741		1.12		0.854		1.07		1.04		0.901				0.802		1.29		1.69		
Radium 228																											
Selenium	0.01	0.05 mg/L	ND		ND		ND		ND		ND		ND		ND	J	ND					ND		ND	J	NA	
Thallium	0.001	0.002 mg/L	ND		ND		ND		ND		ND		ND		ND		ND					ND		ND		NA	

\*All results listed in milligrams per liter (mg/L) unless otherwise noted by the Maximum Contaminant Level (MCL)  
 GWPS = Groundwater Protection Standard  
 NA = Not Analyzed  
 NC = Not Collected  
 ND = Not Detected at or above Method Detection Limit  
 pCi/L = picoCuries per Liter  
 J = Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.  
 B = Compound was found in the blank and sample.

**WILSON LANDFILL - CCR ANALYTICAL SUMMARY**  
MW-10

APPENDIX III CONSTITUENTS	Detection Limit	GWPS	DATE																							
			4/5/2016		5/18/2016		8/25/2016		10/6/2016		2/17/2017		5/18/2017		8/18/2017		10/2/2017		10/13/2017		4/14/2018		7/13/2018		10/5/2018	
			Baseline Events															Assessment		Re-sample		Assessment				
Boron	0.08		0.291	JB	0.217	JB	0.205	J	0.166	JB	0.229	J	0.163	JB	0.196	J	0.181	J	0.251	J			0.144	J	0.286	JB
Calcium	0.5		497		390		404		369		440	B	390	B	368		379	B	347	B			378	J	334	
Chloride	3		53.7	B	85.7	JB	53		44	B	44	B	47.4	B	43.5	B	63.3		83				48.2	B	59.2	B
Fluoride	1		ND	JB	ND	J	ND		ND	J	ND	J	ND	J	ND	JB	ND	J	2.8				ND	J	ND	J
Sulfate	5		2090		2210		2000	B	2030		1980	B	2070		2320	B	2250	B	2080	B			2010		1850	B
pH (Field Measurement)	0.10		6.03		5.82		6.05		6.91		4.62		5.88		5.83		5.84		6.00		5.90		5.68			
Total Dissolved Solids	10		2980		3300		3240		3230		3050		3240		3200		3300		3120				3270		3120	
<b>APPENDIX IV CONSTITUENTS</b>																										
Antimony	0.002	0.006 mg/L	ND		ND		ND	J	ND	JB	ND		ND	JB	0.00396	B	ND	JB			ND	JB	ND	J	NA	
Arsenic	0.005	0.01 mg/L	ND	J	ND	J	ND	JB	ND	J	ND	J	ND	JB	ND	J	ND	JB			ND	J	ND	J	ND	J
Barium	0.2	2 mg/L	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J	ND	J			ND	J	ND	J	NA	
Beryllium	0.002	0.004 mg/L	ND		ND	J	ND		ND		ND		ND		ND		ND				ND		NA		NA	
Cadmium	0.001	0.005 mg/L	ND		ND		ND		ND	J	ND	J	ND	J	ND		ND				ND		NA		NA	
Chromium	0.003	0.1 mg/L	ND		ND	J	ND	JB	ND		ND		ND		ND		ND	J			ND	J	ND		NA	
Cobalt	0.005	0.006 mg/L	0.158		0.113		0.126		0.108		0.0836		0.0602		0.121		0.139				0.0412		0.0704		0.114	
Fluoride	1	4 mg/L	ND	J	ND	J	ND		ND	J	ND	J	ND	J	ND	JB	ND	J			ND	J	ND	J	ND	J
Lead	0.005	0.015 mg/L	ND		ND	J	ND	J	ND	J	ND	J	ND		ND		ND	J			ND	J	ND	J	NA	
Lithium	0.05	0.040 mg/L	ND		ND		0.0141	J	0.0149	J	0.0133	J	0.0109	J	0.0129	J	0.0124	J			ND		0.0102	J	0.0147	J
Mercury	0.0002	0.002 mg/L	ND		ND		ND		ND		ND		ND		ND		ND				ND		NA		NA	
Molybdenum	0.01	0.1 mg/L	ND		ND		ND		ND		ND		ND		ND	J	ND				ND		ND		ND	
Radium 226	1	5 pCi/L	ND		ND		ND		ND		ND		0.384		0.372		0.506				0.721		0.472		0.625	
Radium 228																										
Selenium	0.01	0.05 mg/L	ND		ND		ND		ND		ND		ND		ND	J	ND	JB			ND		ND		NA	
Thallium	0.001	0.002 mg/L	ND		ND	J	ND	J	ND		ND		ND		ND	J	ND				ND		ND		NA	

\*All results listed in milligrams per liter (mg/L) unless otherwise noted by the Maximum Contaminant Level (MCL)  
 GWPS = Groundwater Protection Standard  
 NA = Not Analyzed  
 NC = Not Collected  
 ND = Not Detected at or above Method Detection Limit  
 pCi/L = picoCuries per Liter  
 J = Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.  
 B = Compound was found in the blank and sample.

**WILSON LANDFILL - CCR ANALYTICAL SUMMARY  
MW-4D**

APPENDIX III CONSTITUENTS	Detection Limit	GWPS	DATE	
			11/2/2018	
			Characterization	
Boron	0.08		6.60	
Calcium	0.5		607	
Chloride	3		676	B
Fluoride	1		ND	J
Sulfate	5		1720	B
pH (Field Measurement)	0.10		6.05	
Total Dissolved Solids	10		4180	
<b>APPENDIX IV CONSTITUENTS</b>				
Antimony	0.002	0.006 mg/L	ND	JB
Arsenic	0.005	0.01 mg/L	ND	JB
Barium	0.2	2 mg/L	ND	J
Beryllium	0.002	0.004 mg/L	ND	J
Cadmium	0.001	0.005 mg/L	ND	
Chromium	0.003	0.1 mg/L	0.00591	B
Cobalt	0.005	0.006 mg/L	0.0122	
Fluoride	1	4 mg/L	ND	J
Lead	0.005	0.015 mg/L	ND	J
Lithium	0.05	0.040 mg/L	0.181	
Mercury	0.0002	0.002 mg/L	ND	
Molybdenum	0.01	0.1 mg/L	0.0185	
Radium 226	1	5 pCi/L	1.58	
Radium 228				
Selenium	0.01	0.05 mg/L	ND	J
Thallium	0.001	0.002 mg/L	ND	J

\*All results listed in milligrams per liter (mg/L) unless otherwise noted by the Maximum Contaminant Level (MCL)

GWPS = Groundwater Protection Standard

NA = Not Analyzed

NC = Not Collected

ND = Not Detected at or above Method Detection Limit

pCi/L = picoCuries per Liter

J = Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.

B = Compound was found in the blank and sample.

**WILSON LANDFILL - CCR ANALYTICAL SUMMARY  
MW-102**

APPENDIX III CONSTITUENTS	Detection Limit	GWPS	DATE	
			11/2/2018	
			Characterization	
Boron	0.08		ND	J
Calcium	0.5		81.3	
Chloride	3		33.3	B
Fluoride	1		ND	J
Sulfate	5		265	B
pH (Field Measurement)	0.10		6.58	
Total Dissolved Solids	10		781	
<b>APPENDIX IV CONSTITUENTS</b>				
Antimony	0.002	0.006 mg/L	ND	JB
Arsenic	0.005	0.01 mg/L	ND	JB
Barium	0.2	2 mg/L	ND	J
Beryllium	0.002	0.004 mg/L	ND	
Cadmium	0.001	0.005 mg/L	ND	
Chromium	0.003	0.1 mg/L	0.00321	B
Cobalt	0.005	0.006 mg/L	0.00263	J
Fluoride	1	4 mg/L	ND	J
Lead	0.005	0.015 mg/L	ND	J
Lithium	0.05	0.040 mg/L	ND	
Mercury	0.0002	0.002 mg/L	ND	
Molybdenum	0.01	0.1 mg/L	0.0111	
Radium 226	1	5 pCi/L	1.22	
Radium 228				
Selenium	0.01	0.05 mg/L	ND	
Thallium	0.001	0.002 mg/L	ND	

\*All results listed in milligrams per liter (mg/L) unless otherwise noted by the Maximum Contaminant Level (MCL)

GWPS = Groundwater Protection Standard

NA = Not Analyzed

NC = Not Collected

ND = Not Detected at or above Method Detection Limit

pCi/L = picoCuries per Liter

J = Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.

B = Compound was found in the blank and sample.

**WILSON LANDFILL - CCR ANALYTICAL SUMMARY  
MW-104**

APPENDIX III CONSTITUENTS	Detection Limit	GWPS	DATE	
			11/2/2018	
			Characterization	
Boron	0.08		ND	J
Calcium	0.5		227	
Chloride	3		11.8	B
Fluoride	1		ND	J
Sulfate	5		639	JB
pH (Field Measurement)	0.10		6.43	
Total Dissolved Solids	10		1410	
<b>APPENDIX IV CONSTITUENTS</b>				
Antimony	0.002	0.006 mg/L	ND	JB
Arsenic	0.005	0.01 mg/L	ND	JB
Barium	0.2	2 mg/L	ND	J
Beryllium	0.002	0.004 mg/L	ND	J
Cadmium	0.001	0.005 mg/L	ND	
Chromium	0.003	0.1 mg/L	0.00361	B
Cobalt	0.005	0.006 mg/L	0.00388	J
Fluoride	1	4 mg/L	ND	J
Lead	0.005	0.015 mg/L	ND	J
Lithium	0.05	0.040 mg/L	0.0326	J
Mercury	0.0002	0.002 mg/L	ND	
Molybdenum	0.01	0.1 mg/L	0.0124	
Radium 226	1	5 pCi/L	2.16	
Radium 228				
Selenium	0.01	0.05 mg/L	ND	
Thallium	0.001	0.002 mg/L	ND	

\*All results listed in milligrams per liter (mg/L) unless otherwise noted by the Maximum Contaminant Level (MCL)

GWPS = Groundwater Protection Standard

NA = Not Analyzed

NC = Not Collected

ND = Not Detected at or above Method Detection Limit

pCi/L = picoCuries per Liter

J = Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.

B = Compound was found in the blank and sample.



**WILSON LANDFILL - CCR ANALYTICAL SUMMARY  
MW-105**

APPENDIX III CONSTITUENTS	Detection Limit	GWPS	DATE	
			11/2/2018	
			Characterization	
Boron	0.08		ND	J
Calcium	0.5		124	
Chloride	3		10.5	B
Fluoride	1		ND	J
Sulfate	5		216	JB
pH (Field Measurement)	0.10		6.75	
Total Dissolved Solids	10		747	
<b>APPENDIX IV CONSTITUENTS</b>				
Antimony	0.002	0.006 mg/L	ND	JB
Arsenic	0.005	0.01 mg/L	ND	JB
Barium	0.2	2 mg/L	0.207	
Beryllium	0.002	0.004 mg/L	ND	J
Cadmium	0.001	0.005 mg/L	ND	
Chromium	0.003	0.1 mg/L	0.00388	B
Cobalt	0.005	0.006 mg/L	0.00488	J
Fluoride	1	4 mg/L	ND	J
Lead	0.005	0.015 mg/L	ND	J
Lithium	0.05	0.040 mg/L	0.0141	J
Mercury	0.0002	0.002 mg/L	ND	
Molybdenum	0.01	0.1 mg/L	0.0131	
Radium 226	1	5 pCi/L	1.08	
Radium 228				
Selenium	0.01	0.05 mg/L	ND	
Thallium	0.001	0.002 mg/L	ND	

\*All results listed in milligrams per liter (mg/L) unless otherwise noted by the Maximum Contaminant Level (MCL)

GWPS = Groundwater Protection Standard

NA = Not Analyzed

NC = Not Collected

ND = Not Detected at or above Method Detection Limit

pCi/L = picoCuries per Liter

J = Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.

B = Compound was found in the blank and sample.

**WILSON LANDFILL - CCR ANALYTICAL SUMMARY  
MW-110**

APPENDIX III CONSTITUENTS	Detection Limit	GWPS	DATE	
			11/2/2018	
			Characterization	
Boron	0.08		ND	J
Calcium	0.5		33.8	
Chloride	3		14.4	B
Fluoride	1		ND	J
Sulfate	5		102	B
pH (Field Measurement)	0.10		6.93	
Total Dissolved Solids	10		333	
<b>APPENDIX IV CONSTITUENTS</b>				
Antimony	0.002	0.006 mg/L	ND	JB
Arsenic	0.005	0.01 mg/L	ND	JB
Barium	0.2	2 mg/L	ND	J
Beryllium	0.002	0.004 mg/L	ND	
Cadmium	0.001	0.005 mg/L	ND	
Chromium	0.003	0.1 mg/L	0.00967	B
Cobalt	0.005	0.006 mg/L	0.00240	J
Fluoride	1	4 mg/L	ND	J
Lead	0.005	0.015 mg/L	ND	J
Lithium	0.05	0.040 mg/L	0.0122	J
Mercury	0.0002	0.002 mg/L	ND	
Molybdenum	0.01	0.1 mg/L	ND	J
Radium 226	1	5 pCi/L	1.19	
Radium 228				
Selenium	0.01	0.05 mg/L	ND	
Thallium	0.001	0.002 mg/L	ND	

\*All results listed in milligrams per liter (mg/L) unless otherwise noted by the Maximum Contaminant Level (MCL)

GWPS = Groundwater Protection Standard

NA = Not Analyzed

NC = Not Collected

ND = Not Detected at or above Method Detection Limit

pCi/L = picoCuries per Liter

J = Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.

B = Compound was found in the blank and sample.

**Attachment B**  
**Analytical Laboratory Reports**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

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

TestAmerica Job ID: 490-150153-3

TestAmerica Sample Delivery Group: Wilson Landfill Phase II  
Client Project/Site: Wilson Landfill CCR Event  
Sampling Event: Big Rivers CCR/SemiAnnual GW

For:

Big Rivers Electric Corporation  
PO BOX 24  
Henderson, Kentucky 42419

Attn: Greg Dick

*Roxanne Cisneros*

Authorized for release by:  
5/17/2018 1:37:52 PM

Roxanne Cisneros, Senior Project Manager  
(615)301-5761  
[roxanne.cisneros@testamericainc.com](mailto:roxanne.cisneros@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



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

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Sample Summary . . . . .	3
Case Narrative . . . . .	4
Definitions . . . . .	5
Client Sample Results . . . . .	6
QC Sample Results . . . . .	11
QC Association . . . . .	14
Chronicle . . . . .	16
Method Summary . . . . .	18
Certification Summary . . . . .	19
Chain of Custody . . . . .	21
Receipt Checklists . . . . .	34
Tracer Carrier Summary . . . . .	36

# Sample Summary

Client: Big Rivers Electric Corporation  
Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
SDG: Wilson Landfill Phase II

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-150153-5	MW-5	Water	04/13/18 12:00	04/17/18 09:35
490-150153-6	MW-6	Water	04/13/18 13:45	04/17/18 09:35
490-150153-7	MW-7	Water	04/13/18 15:35	04/17/18 09:35
490-150153-8	MW-8	Water	04/13/18 10:45	04/17/18 09:35
490-150153-9	MW-10	Water	04/14/18 08:55	04/17/18 09:35

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Case Narrative

Client: Big Rivers Electric Corporation  
Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
SDG: Wilson Landfill Phase II

**Job ID: 490-150153-3**

**Laboratory: TestAmerica Nashville**

## Narrative

**Job Narrative  
490-150153-3**

## Comments

No additional comments.

## Receipt

The samples were received on 4/17/2018 9:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 1.2° C, 1.3° C, 1.6° C, 1.9° C, 2.3° C and 3.9° C.

## HPLC/IC

Method(s) 9056A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 490-509181 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 9056A: The method blank for analytical batch 490-509181 contained Fluoride above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

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

## RAD

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

## Metals

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

# Definitions/Glossary

Client: Big Rivers Electric Corporation  
Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
SDG: Wilson Landfill Phase II

## Qualifiers

### HPLC/IC

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

### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Rad

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

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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)



# Client Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
SDG: Wilson Landfill Phase II

**Client Sample ID: MW-5**  
**Date Collected: 04/13/18 12:00**  
**Date Received: 04/17/18 09:35**

**Lab Sample ID: 490-150153-5**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.135	J	1.00	0.0100	mg/L			04/18/18 22:00	1

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0370	J	0.0500	0.00959	mg/L		05/03/18 14:16	05/10/18 18:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000567	J B	0.00200	0.0000213	mg/L		05/03/18 14:12	05/04/18 16:58	1
Arsenic	0.00295	J	0.00500	0.000118	mg/L		05/03/18 14:12	05/04/18 16:58	1
Barium	0.0159	J	0.200	0.000270	mg/L		05/03/18 14:12	05/04/18 16:58	1
Beryllium	ND		0.00200	0.000102	mg/L		05/03/18 14:12	05/04/18 16:58	1
Cadmium	ND		0.00100	0.000152	mg/L		05/03/18 14:12	05/04/18 16:58	1
Chromium	0.00196	J	0.00300	0.000339	mg/L		05/03/18 14:12	05/04/18 16:58	1
Cobalt	0.00873		0.00500	0.0000218	mg/L		05/03/18 14:12	05/04/18 16:58	1
Lead	0.000835	J	0.00500	0.0000675	mg/L		05/03/18 14:12	05/04/18 16:58	1
Molybdenum	0.00416	J	0.0100	0.000873	mg/L		05/03/18 14:12	05/04/18 16:58	1
Selenium	0.000380	J	0.0100	0.000348	mg/L		05/03/18 14:12	05/04/18 16:58	1
Thallium	ND		0.00100	0.0000360	mg/L		05/03/18 14:12	05/04/18 16:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000100	mg/L		05/10/18 11:37	05/10/18 18:02	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.181		0.0736	0.0754	1.00	0.0689	pCi/L	04/19/18 09:27	05/11/18 05:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					04/19/18 09:27	05/11/18 05:53	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	0.602		0.248	0.254	1.00	0.347	pCi/L	04/19/18 10:03	04/26/18 08:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					04/19/18 10:03	04/26/18 08:29	1
Y Carrier	87.5		40 - 110					04/19/18 10:03	04/26/18 08:29	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	0.783		0.259	0.265	5.00	0.347	pCi/L		05/16/18 19:24	1

# Client Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
SDG: Wilson Landfill Phase II

**Client Sample ID: MW-6**  
**Date Collected: 04/13/18 13:45**  
**Date Received: 04/17/18 09:35**

**Lab Sample ID: 490-150153-6**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.167	J	1.00	0.0100	mg/L			04/18/18 22:15	1

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0470	J	0.0500	0.00959	mg/L		05/03/18 14:16	05/10/18 18:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000401	J B	0.00200	0.0000213	mg/L		05/03/18 14:12	05/04/18 17:01	1
Arsenic	0.00474	J	0.00500	0.000118	mg/L		05/03/18 14:12	05/04/18 17:01	1
Barium	0.0125	J	0.200	0.000270	mg/L		05/03/18 14:12	05/04/18 17:01	1
Beryllium	ND		0.00200	0.000102	mg/L		05/03/18 14:12	05/04/18 17:01	1
Cadmium	ND		0.00100	0.000152	mg/L		05/03/18 14:12	05/04/18 17:01	1
Chromium	0.000721	J	0.00300	0.000339	mg/L		05/03/18 14:12	05/04/18 17:01	1
Cobalt	0.00742		0.00500	0.0000218	mg/L		05/03/18 14:12	05/04/18 17:01	1
Lead	0.000121	J	0.00500	0.0000675	mg/L		05/03/18 14:12	05/04/18 17:01	1
Molybdenum	0.00718	J	0.0100	0.000873	mg/L		05/03/18 14:12	05/04/18 17:01	1
Selenium	ND		0.0100	0.000348	mg/L		05/03/18 14:12	05/04/18 17:01	1
Thallium	0.0000440	J	0.00100	0.0000360	mg/L		05/03/18 14:12	05/04/18 17:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000100	mg/L		05/10/18 11:37	05/10/18 18:05	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.236		0.0807	0.0834	1.00	0.0677	pCi/L	04/19/18 09:27	05/11/18 05:53	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	102		40 - 110					04/19/18 09:27	05/11/18 05:53	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	0.664		0.233	0.241	1.00	0.307	pCi/L	04/19/18 10:03	04/26/18 08:30	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	102		40 - 110					04/19/18 10:03	04/26/18 08:30	1
Y Carrier	88.2		40 - 110					04/19/18 10:03	04/26/18 08:30	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	0.900		0.247	0.255	5.00	0.307	pCi/L		05/16/18 19:24	1

# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
 SDG: Wilson Landfill Phase II

**Client Sample ID: MW-7**  
**Date Collected: 04/13/18 15:35**  
**Date Received: 04/17/18 09:35**

**Lab Sample ID: 490-150153-7**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.247	J	1.00	0.0100	mg/L			04/18/18 22:30	1

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0261	J	0.0500	0.00959	mg/L		05/03/18 14:16	05/10/18 18:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000385	J B	0.00200	0.0000213	mg/L		05/03/18 14:12	05/04/18 17:04	1
Arsenic	0.00188	J	0.00500	0.000118	mg/L		05/03/18 14:12	05/04/18 17:04	1
Barium	0.0147	J	0.200	0.000270	mg/L		05/03/18 14:12	05/04/18 17:04	1
Beryllium	ND		0.00200	0.000102	mg/L		05/03/18 14:12	05/04/18 17:04	1
Cadmium	ND		0.00100	0.000152	mg/L		05/03/18 14:12	05/04/18 17:04	1
Chromium	0.000818	J	0.00300	0.000339	mg/L		05/03/18 14:12	05/04/18 17:04	1
Cobalt	0.00468	J	0.00500	0.0000218	mg/L		05/03/18 14:12	05/04/18 17:04	1
Lead	ND		0.00500	0.0000675	mg/L		05/03/18 14:12	05/04/18 17:04	1
Molybdenum	0.00372	J	0.0100	0.000873	mg/L		05/03/18 14:12	05/04/18 17:04	1
Selenium	ND		0.0100	0.000348	mg/L		05/03/18 14:12	05/04/18 17:04	1
Thallium	ND		0.00100	0.0000360	mg/L		05/03/18 14:12	05/04/18 17:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000100	mg/L		05/10/18 11:37	05/10/18 18:08	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.140		0.0663	0.0675	1.00	0.0698	pCi/L	04/19/18 09:27	05/11/18 05:53	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	97.3		40 - 110					04/19/18 09:27	05/11/18 05:53	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	0.432		0.209	0.213	1.00	0.299	pCi/L	04/19/18 10:03	04/26/18 08:30	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	97.3		40 - 110					04/19/18 10:03	04/26/18 08:30	1
Y Carrier	92.7		40 - 110					04/19/18 10:03	04/26/18 08:30	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	0.572		0.219	0.223	5.00	0.299	pCi/L		05/16/18 19:24	1

# Client Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
SDG: Wilson Landfill Phase II

**Client Sample ID: MW-8**  
**Date Collected: 04/13/18 10:45**  
**Date Received: 04/17/18 09:35**

**Lab Sample ID: 490-150153-8**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.256	J	1.00	0.0100	mg/L			04/18/18 22:45	1

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.0500	0.00959	mg/L		05/03/18 14:16	05/10/18 19:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000346	J B	0.00200	0.0000213	mg/L		05/03/18 14:12	05/04/18 17:07	1
Arsenic	0.00525		0.00500	0.000118	mg/L		05/03/18 14:12	05/04/18 17:07	1
Barium	0.0254	J	0.200	0.000270	mg/L		05/03/18 14:12	05/04/18 17:07	1
Beryllium	ND		0.00200	0.000102	mg/L		05/03/18 14:12	05/04/18 17:07	1
Cadmium	ND		0.00100	0.000152	mg/L		05/03/18 14:12	05/04/18 17:07	1
Chromium	0.000867	J	0.00300	0.000339	mg/L		05/03/18 14:12	05/04/18 17:07	1
Cobalt	0.000800	J	0.00500	0.0000218	mg/L		05/03/18 14:12	05/04/18 17:07	1
Lead	ND		0.00500	0.0000675	mg/L		05/03/18 14:12	05/04/18 17:07	1
Molybdenum	0.0123		0.0100	0.000873	mg/L		05/03/18 14:12	05/04/18 17:07	1
Selenium	ND		0.0100	0.000348	mg/L		05/03/18 14:12	05/04/18 17:07	1
Thallium	ND		0.00100	0.0000360	mg/L		05/03/18 14:12	05/04/18 17:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000100	mg/L		05/10/18 11:37	05/10/18 18:15	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.592		0.125	0.136	1.00	0.0598	pCi/L	04/19/18 09:27	05/11/18 05:53	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	100		40 - 110					04/19/18 09:27	05/11/18 05:53	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	0.211	U	0.239	0.239	1.00	0.392	pCi/L	04/19/18 10:03	04/26/18 08:30	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	100		40 - 110					04/19/18 10:03	04/26/18 08:30	1
Y Carrier	81.5		40 - 110					04/19/18 10:03	04/26/18 08:30	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	0.802		0.270	0.275	5.00	0.392	pCi/L		05/16/18 19:24	1

# Client Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
SDG: Wilson Landfill Phase II

**Client Sample ID: MW-10**  
**Date Collected: 04/14/18 08:55**  
**Date Received: 04/17/18 09:35**

**Lab Sample ID: 490-150153-9**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.130	J	1.00	0.0100	mg/L			04/18/18 23:00	1

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.0500	0.00959	mg/L		05/03/18 14:16	05/10/18 19:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000366	J B	0.00200	0.0000213	mg/L		05/03/18 14:12	05/04/18 17:10	1
Arsenic	0.000486	J	0.00500	0.000118	mg/L		05/03/18 14:12	05/04/18 17:10	1
Barium	0.00719	J	0.200	0.000270	mg/L		05/03/18 14:12	05/04/18 17:10	1
Beryllium	ND		0.00200	0.000102	mg/L		05/03/18 14:12	05/04/18 17:10	1
Cadmium	ND		0.00100	0.000152	mg/L		05/03/18 14:12	05/04/18 17:10	1
Chromium	0.000800	J	0.00300	0.000339	mg/L		05/03/18 14:12	05/04/18 17:10	1
Cobalt	0.0412		0.00500	0.0000218	mg/L		05/03/18 14:12	05/04/18 17:10	1
Lead	0.000133	J	0.00500	0.0000675	mg/L		05/03/18 14:12	05/04/18 17:10	1
Molybdenum	ND		0.0100	0.000873	mg/L		05/03/18 14:12	05/04/18 17:10	1
Selenium	ND		0.0100	0.000348	mg/L		05/03/18 14:12	05/04/18 17:10	1
Thallium	ND		0.00100	0.0000360	mg/L		05/03/18 14:12	05/04/18 17:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000100	mg/L		05/10/18 11:37	05/10/18 18:18	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0903		0.0581	0.0587	1.00	0.0729	pCi/L	04/19/18 09:27	05/11/18 05:53	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	98.5		40 - 110					04/19/18 09:27	05/11/18 05:53	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	0.631		0.245	0.252	1.00	0.337	pCi/L	04/19/18 10:03	04/26/18 08:30	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	98.5		40 - 110					04/19/18 10:03	04/26/18 08:30	1
Y Carrier	88.6		40 - 110					04/19/18 10:03	04/26/18 08:30	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	0.721		0.252	0.259	5.00	0.337	pCi/L		05/16/18 19:24	1

# QC Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
SDG: Wilson Landfill Phase II

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 490-509181/3**  
**Matrix: Water**  
**Analysis Batch: 509181**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00	0.0100	mg/L			04/18/18 19:47	1

**Lab Sample ID: LCS 490-509181/4**  
**Matrix: Water**  
**Analysis Batch: 509181**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	0.9011	J	mg/L		90	80 - 120

**Lab Sample ID: LCSD 490-509181/5**  
**Matrix: Water**  
**Analysis Batch: 509181**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	1.00	0.9088	J	mg/L		91	80 - 120	1	20

## Method: 6010C - Metals (ICP)

**Lab Sample ID: MB 180-243911/1-A**  
**Matrix: Water**  
**Analysis Batch: 244603**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 243911**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.0500	0.00959	mg/L		05/03/18 14:16	05/10/18 17:21	1

**Lab Sample ID: LCS 180-243911/2-A**  
**Matrix: Water**  
**Analysis Batch: 244603**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 243911**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	0.9683		mg/L		97	80 - 120

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

**Lab Sample ID: MB 180-243909/1-A**  
**Matrix: Water**  
**Analysis Batch: 244048**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 243909**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00008000	J	0.00200	0.0000213	mg/L		05/03/18 14:12	05/04/18 16:01	1
Arsenic	ND		0.00500	0.000118	mg/L		05/03/18 14:12	05/04/18 16:01	1
Barium	ND		0.200	0.000270	mg/L		05/03/18 14:12	05/04/18 16:01	1
Beryllium	ND		0.00200	0.000102	mg/L		05/03/18 14:12	05/04/18 16:01	1
Cadmium	ND		0.00100	0.000152	mg/L		05/03/18 14:12	05/04/18 16:01	1
Chromium	ND		0.00300	0.000339	mg/L		05/03/18 14:12	05/04/18 16:01	1
Cobalt	ND		0.00500	0.0000218	mg/L		05/03/18 14:12	05/04/18 16:01	1
Lead	ND		0.00500	0.0000675	mg/L		05/03/18 14:12	05/04/18 16:01	1
Molybdenum	ND		0.0100	0.000873	mg/L		05/03/18 14:12	05/04/18 16:01	1
Selenium	ND		0.0100	0.000348	mg/L		05/03/18 14:12	05/04/18 16:01	1

TestAmerica Nashville

# QC Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
SDG: Wilson Landfill Phase II

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

Lab Sample ID: MB 180-243909/1-A  
Matrix: Water  
Analysis Batch: 244048

Client Sample ID: Method Blank  
Prep Type: Total Recoverable  
Prep Batch: 243909

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.00100	0.0000360	mg/L		05/03/18 14:12	05/04/18 16:01	1

Lab Sample ID: LCS 180-243909/2-A  
Matrix: Water  
Analysis Batch: 244048

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 243909

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.5425		mg/L		108	80 - 120
Arsenic	0.0400	0.03786		mg/L		95	80 - 120
Barium	2.00	2.122		mg/L		106	80 - 120
Beryllium	0.0500	0.04860		mg/L		97	80 - 120
Cadmium	0.0500	0.05500		mg/L		110	80 - 120
Chromium	0.200	0.2204		mg/L		110	80 - 120
Cobalt	0.500	0.4669		mg/L		93	80 - 120
Lead	0.0200	0.02185		mg/L		109	80 - 120
Molybdenum	1.00	1.015		mg/L		101	80 - 120
Selenium	0.0100	0.01017		mg/L		102	80 - 120
Thallium	0.0500	0.05423		mg/L		108	80 - 120

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 490-514005/1-A  
Matrix: Water  
Analysis Batch: 514175

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 514005

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000100	mg/L		05/10/18 11:37	05/10/18 17:29	1

Lab Sample ID: LCS 490-514005/2-A  
Matrix: Water  
Analysis Batch: 514175

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 514005

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00100	0.0009708		mg/L		97	80 - 120

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

Lab Sample ID: MB 160-361709/21-A  
Matrix: Water  
Analysis Batch: 365335

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 361709

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.07480	U	0.0648	0.0651	1.00	0.0970	pCi/L	04/19/18 09:27	05/11/18 07:59	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					04/19/18 09:27	05/11/18 07:59	1

TestAmerica Nashville

# QC Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
 SDG: Wilson Landfill Phase II

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

Lab Sample ID: LCS 160-361709/1-A  
 Matrix: Water  
 Analysis Batch: 365216

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 361709

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.8	12.44		1.27	1.00	0.0957	pCi/L	105	68 - 137
<b>Carrier</b>	<b>LCS %Yield</b>	<b>LCS Qualifier</b>	<b>Limits</b>						
Ba Carrier	100		40 - 110						

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

Lab Sample ID: MB 160-361711/21-A  
 Matrix: Water  
 Analysis Batch: 362813

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 361711

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.03196	U	0.174	0.174	1.00	0.309	pCi/L	04/19/18 10:03	04/26/18 08:31	1
<b>Carrier</b>	<b>MB %Yield</b>	<b>MB Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	103		40 - 110					04/19/18 10:03	04/26/18 08:31	1
Y Carrier	90.1		40 - 110					04/19/18 10:03	04/26/18 08:31	1

Lab Sample ID: LCS 160-361711/1-A  
 Matrix: Water  
 Analysis Batch: 362813

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 361711

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	8.36	9.026		1.05	1.00	0.388	pCi/L	108	56 - 140
<b>Carrier</b>	<b>LCS %Yield</b>	<b>LCS Qualifier</b>	<b>Limits</b>						
Ba Carrier	100		40 - 110						
Y Carrier	84.1		40 - 110						



# QC Association Summary

Client: Big Rivers Electric Corporation  
Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
SDG: Wilson Landfill Phase II

## HPLC/IC

### Analysis Batch: 509181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-150153-5	MW-5	Total/NA	Water	9056A	
490-150153-6	MW-6	Total/NA	Water	9056A	
490-150153-7	MW-7	Total/NA	Water	9056A	
490-150153-8	MW-8	Total/NA	Water	9056A	
490-150153-9	MW-10	Total/NA	Water	9056A	
MB 490-509181/3	Method Blank	Total/NA	Water	9056A	
LCS 490-509181/4	Lab Control Sample	Total/NA	Water	9056A	
LCS 490-509181/5	Lab Control Sample Dup	Total/NA	Water	9056A	

## Metals

### Prep Batch: 243909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-150153-5	MW-5	Total Recoverable	Water	3005A	
490-150153-6	MW-6	Total Recoverable	Water	3005A	
490-150153-7	MW-7	Total Recoverable	Water	3005A	
490-150153-8	MW-8	Total Recoverable	Water	3005A	
490-150153-9	MW-10	Total Recoverable	Water	3005A	
MB 180-243909/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-243909/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

### Prep Batch: 243911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-150153-5	MW-5	Total Recoverable	Water	3005A	
490-150153-6	MW-6	Total Recoverable	Water	3005A	
490-150153-7	MW-7	Total Recoverable	Water	3005A	
490-150153-8	MW-8	Total Recoverable	Water	3005A	
490-150153-9	MW-10	Total Recoverable	Water	3005A	
MB 180-243911/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-243911/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

### Analysis Batch: 244048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-150153-5	MW-5	Total Recoverable	Water	6020A	243909
490-150153-6	MW-6	Total Recoverable	Water	6020A	243909
490-150153-7	MW-7	Total Recoverable	Water	6020A	243909
490-150153-8	MW-8	Total Recoverable	Water	6020A	243909
490-150153-9	MW-10	Total Recoverable	Water	6020A	243909
MB 180-243909/1-A	Method Blank	Total Recoverable	Water	6020A	243909
LCS 180-243909/2-A	Lab Control Sample	Total Recoverable	Water	6020A	243909

### Analysis Batch: 244603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-150153-5	MW-5	Total Recoverable	Water	6010C	243911
490-150153-6	MW-6	Total Recoverable	Water	6010C	243911
490-150153-7	MW-7	Total Recoverable	Water	6010C	243911
490-150153-8	MW-8	Total Recoverable	Water	6010C	243911
490-150153-9	MW-10	Total Recoverable	Water	6010C	243911
MB 180-243911/1-A	Method Blank	Total Recoverable	Water	6010C	243911
LCS 180-243911/2-A	Lab Control Sample	Total Recoverable	Water	6010C	243911

TestAmerica Nashville

# QC Association Summary

Client: Big Rivers Electric Corporation  
 Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
 SDG: Wilson Landfill Phase II

## Metals (Continued)

### Prep Batch: 514005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-150153-5	MW-5	Total/NA	Water	7470A	
490-150153-6	MW-6	Total/NA	Water	7470A	
490-150153-7	MW-7	Total/NA	Water	7470A	
490-150153-8	MW-8	Total/NA	Water	7470A	
490-150153-9	MW-10	Total/NA	Water	7470A	
MB 490-514005/1-A	Method Blank	Total/NA	Water	7470A	
LCS 490-514005/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Analysis Batch: 514175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-150153-5	MW-5	Total/NA	Water	7470A	514005
490-150153-6	MW-6	Total/NA	Water	7470A	514005
490-150153-7	MW-7	Total/NA	Water	7470A	514005
490-150153-8	MW-8	Total/NA	Water	7470A	514005
490-150153-9	MW-10	Total/NA	Water	7470A	514005
MB 490-514005/1-A	Method Blank	Total/NA	Water	7470A	514005
LCS 490-514005/2-A	Lab Control Sample	Total/NA	Water	7470A	514005

## Rad

### Prep Batch: 361709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-150153-5	MW-5	Total/NA	Water	PrecSep-21	
490-150153-6	MW-6	Total/NA	Water	PrecSep-21	
490-150153-7	MW-7	Total/NA	Water	PrecSep-21	
490-150153-8	MW-8	Total/NA	Water	PrecSep-21	
490-150153-9	MW-10	Total/NA	Water	PrecSep-21	
MB 160-361709/21-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-361709/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

### Prep Batch: 361711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-150153-5	MW-5	Total/NA	Water	PrecSep_0	
490-150153-6	MW-6	Total/NA	Water	PrecSep_0	
490-150153-7	MW-7	Total/NA	Water	PrecSep_0	
490-150153-8	MW-8	Total/NA	Water	PrecSep_0	
490-150153-9	MW-10	Total/NA	Water	PrecSep_0	
MB 160-361711/21-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-361711/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

# Lab Chronicle

Client: Big Rivers Electric Corporation  
 Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
 SDG: Wilson Landfill Phase II

**Client Sample ID: MW-5**  
**Date Collected: 04/13/18 12:00**  
**Date Received: 04/17/18 09:35**

**Lab Sample ID: 490-150153-5**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			509181	04/18/18 22:00	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	243911	05/03/18 14:16	KA	TAL PIT
Total Recoverable	Analysis	6010C		1			244603	05/10/18 18:47	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	243909	05/03/18 14:12	KA	TAL PIT
Total Recoverable	Analysis	6020A		1			244048	05/04/18 16:58	RSK	TAL PIT
Total/NA	Prep	7470A			30 mL	30 mL	514005	05/10/18 11:37	RDH	TAL NSH
Total/NA	Analysis	7470A		1			514175	05/10/18 18:02	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.87 mL	1.0 g	361709	04/19/18 09:27	TJT	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	365222	05/11/18 05:53	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.87 mL	1.0 g	361711	04/19/18 10:03	TJT	TAL SL
Total/NA	Analysis	904.0		1			362813	04/26/18 08:29	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			366080	05/16/18 19:24	RTM	TAL SL

**Client Sample ID: MW-6**  
**Date Collected: 04/13/18 13:45**  
**Date Received: 04/17/18 09:35**

**Lab Sample ID: 490-150153-6**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			509181	04/18/18 22:15	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	243911	05/03/18 14:16	KA	TAL PIT
Total Recoverable	Analysis	6010C		1			244603	05/10/18 18:53	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	243909	05/03/18 14:12	KA	TAL PIT
Total Recoverable	Analysis	6020A		1			244048	05/04/18 17:01	RSK	TAL PIT
Total/NA	Prep	7470A			30 mL	30 mL	514005	05/10/18 11:37	RDH	TAL NSH
Total/NA	Analysis	7470A		1			514175	05/10/18 18:05	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			999.22 mL	1.0 g	361709	04/19/18 09:27	TJT	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	365222	05/11/18 05:53	RTM	TAL SL
Total/NA	Prep	PrecSep_0			999.22 mL	1.0 g	361711	04/19/18 10:03	TJT	TAL SL
Total/NA	Analysis	904.0		1			362813	04/26/18 08:30	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			366080	05/16/18 19:24	RTM	TAL SL

**Client Sample ID: MW-7**  
**Date Collected: 04/13/18 15:35**  
**Date Received: 04/17/18 09:35**

**Lab Sample ID: 490-150153-7**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			509181	04/18/18 22:30	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	243911	05/03/18 14:16	KA	TAL PIT
Total Recoverable	Analysis	6010C		1			244603	05/10/18 18:58	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	243909	05/03/18 14:12	KA	TAL PIT
Total Recoverable	Analysis	6020A		1			244048	05/04/18 17:04	RSK	TAL PIT
Total/NA	Prep	7470A			30 mL	30 mL	514005	05/10/18 11:37	RDH	TAL NSH
Total/NA	Analysis	7470A		1			514175	05/10/18 18:08	RDH	TAL NSH

TestAmerica Nashville

# Lab Chronicle

Client: Big Rivers Electric Corporation  
 Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
 SDG: Wilson Landfill Phase II

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			1000.88 mL	1.0 g	361709	04/19/18 09:27	TJT	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	365222	05/11/18 05:53	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.88 mL	1.0 g	361711	04/19/18 10:03	TJT	TAL SL
Total/NA	Analysis	904.0		1			362813	04/26/18 08:30	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			366080	05/16/18 19:24	RTM	TAL SL

**Client Sample ID: MW-8**

**Lab Sample ID: 490-150153-8**

**Date Collected: 04/13/18 10:45**

**Matrix: Water**

**Date Received: 04/17/18 09:35**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			509181	04/18/18 22:45	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	243911	05/03/18 14:16	KA	TAL PIT
Total Recoverable	Analysis	6010C		1			244603	05/10/18 19:03	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	243909	05/03/18 14:12	KA	TAL PIT
Total Recoverable	Analysis	6020A		1			244048	05/04/18 17:07	RSK	TAL PIT
Total/NA	Prep	7470A			30 mL	30 mL	514005	05/10/18 11:37	RDH	TAL NSH
Total/NA	Analysis	7470A		1			514175	05/10/18 18:15	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			999.38 mL	1.0 g	361709	04/19/18 09:27	TJT	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	365222	05/11/18 05:53	RTM	TAL SL
Total/NA	Prep	PrecSep_0			999.38 mL	1.0 g	361711	04/19/18 10:03	TJT	TAL SL
Total/NA	Analysis	904.0		1			362813	04/26/18 08:30	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			366080	05/16/18 19:24	RTM	TAL SL

**Client Sample ID: MW-10**

**Lab Sample ID: 490-150153-9**

**Date Collected: 04/14/18 08:55**

**Matrix: Water**

**Date Received: 04/17/18 09:35**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			509181	04/18/18 23:00	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	243911	05/03/18 14:16	KA	TAL PIT
Total Recoverable	Analysis	6010C		1			244603	05/10/18 19:18	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	243909	05/03/18 14:12	KA	TAL PIT
Total Recoverable	Analysis	6020A		1			244048	05/04/18 17:10	RSK	TAL PIT
Total/NA	Prep	7470A			30 mL	30 mL	514005	05/10/18 11:37	RDH	TAL NSH
Total/NA	Analysis	7470A		1			514175	05/10/18 18:18	RDH	TAL NSH
Total/NA	Prep	PrecSep-21			1000.82 mL	1.0 g	361709	04/19/18 09:27	TJT	TAL SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	365222	05/11/18 05:53	RTM	TAL SL
Total/NA	Prep	PrecSep_0			1000.82 mL	1.0 g	361711	04/19/18 10:03	TJT	TAL SL
Total/NA	Analysis	904.0		1			362813	04/26/18 08:30	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			366080	05/16/18 19:24	RTM	TAL SL

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177  
 TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058  
 TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Method Summary

Client: Big Rivers Electric Corporation  
Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
SDG: Wilson Landfill Phase II

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL NSH
6010C	Metals (ICP)	SW846	TAL PIT
6020A	Metals (ICP/MS)	SW846	TAL PIT
7470A	Mercury (CVAA)	SW846	TAL NSH
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
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL NSH
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

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

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

#### Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

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

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

# Accreditation/Certification Summary

Client: Big Rivers Electric Corporation  
 Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
 SDG: Wilson Landfill Phase II

## Laboratory: TestAmerica Nashville

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Kentucky (UST)	State Program	4	19	06-30-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
9056A		Water	Fluoride

## Laboratory: TestAmerica Pittsburgh

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-18
California	State Program	9	2891	04-30-19
Connecticut	State Program	1	PH-0688	09-30-18
Florida	NELAP	4	E871008	06-30-18
Illinois	NELAP	5	200005	06-30-18
Kansas	NELAP	7	E-10350	01-31-19
Louisiana	NELAP	6	04041	06-30-18
Nevada	State Program	9	PA00164	07-31-18
New Hampshire	NELAP	1	2030	04-04-19
New Jersey	NELAP	2	PA005	06-30-18
New York	NELAP	2	11182	03-31-19
North Carolina (WW/SW)	State Program	4	434	12-31-18
Oregon	NELAP Secondary AB	10	PA-2151	01-28-19
Pennsylvania	NELAP	3	02-00416	04-30-19
South Carolina	State Program	4	89014	04-30-18 *
Texas	NELAP	6	T104704528-15-2	03-31-19
US Fish & Wildlife	Federal		LE94312A-1	07-31-18
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-18
Virginia	NELAP	3	460189	09-14-18
West Virginia DEP	State Program	3	142	01-31-19
Wisconsin	State Program	5	998027800	08-31-18

## Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-18 *
Arizona	State Program	9	AZ0813	12-08-18
California	State Program	9	2886	06-30-18 *
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-18 *
Illinois	NELAP	5	200023	11-30-18
Iowa	State Program	7	373	12-01-18
Kansas	NELAP	7	E-10236	10-31-18
Kentucky (DW)	State Program	4	90125	12-31-18
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana (DW)	NELAP	6	LA180017	12-31-18
Maryland	State Program	3	310	09-30-18
Michigan	State Program	5	9005	06-30-18
Missouri	State Program	7	780	06-30-18

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

## Accreditation/Certification Summary

Client: Big Rivers Electric Corporation  
 Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
 SDG: Wilson Landfill Phase II

### Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Nevada	State Program	9	MO000542018-1	07-31-18
New Jersey	NELAP	2	MO002	06-30-18 *
New York	NELAP	2	11616	03-31-19
North Dakota	State Program	8	R207	06-30-18
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-18
Pennsylvania	NELAP	3	68-00540	02-28-19
South Carolina	State Program	4	85002001	06-30-18
Texas	NELAP	6	T104704193-17-11	07-31-18
US Fish & Wildlife	Federal		058448	08-31-18
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-18
Virginia	NELAP	3	460230	06-14-18 *
Washington	State Program	10	C592	08-30-18
West Virginia DEP	State Program	3	381	08-31-18 *

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



COOLER RECEIPT FORM

Cooler Received/Opened On 04-17-2018 @ 09:35

Time Samples Removed From Cooler 1145 Time Samples Placed In Storage 1238 (2 Hour Window)

1. Tracking # 0710 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960358 pH Strip Lot H041784 Chlorine Strip Lot 07617F

2. Temperature of rep. sample or temp blank when opened: 1.2 Degrees Celsius

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

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

If yes, how many and where: 2 (front)

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) KD

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA



14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) an

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used? YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) an

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) an

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

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# \_\_\_\_\_



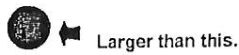


**COOLER RECEIPT FORM**

Cooler Received/Opened On 4/17/2018 @ 0935

Time Samples Removed From Cooler 1145 Time Samples Placed In Storage 1238 (2 Hour Window)

1. Tracking # 5354 (last 4 digits, FedEx) Courier: FedEx  
 IR Gun ID 160406069 pH Strip Lot HC687784 Chlorine Strip Lot 072617F
2. Temperature of rep. sample or temp blank when opened: 1.9 Degrees Celsius
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA
4. Were custody seals on outside of cooler? YES...NO...NA  
 If yes, how many and where: 2 (Front)
5. Were the seals intact, signed, and dated correctly? YES...NO...NA
6. Were custody papers inside cooler? YES...NO...NA  
 I certify that I opened the cooler and answered questions 1-6 (initial) J.J.
7. Were custody seals on containers: YES NO and Intact YES...NO...NA  
 Were these signed and dated correctly? YES...NO...NA
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None
9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)? YES...NO...NA
11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA
12. Did all container labels and tags agree with custody papers? YES...NO...NA
- 13a. Were VOA vials received? YES...NO...NA  
 b. Was there any observable headspace present in any VOA vial? YES...NO...NA



14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) on

- 15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA
- b. Did the bottle labels indicate that the correct preservatives were used? YES...NO...NA
16. Was residual chlorine present? YES...NO...NA  
 I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) on
17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA
18. Did you sign the custody papers in the appropriate place? YES...NO...NA
19. Were correct containers used for the analysis requested? YES...NO...NA
20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) on

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

21. Were there Non-Conformance issues at login? YES...NO...NA Was a NCM generated? YES...NO...NA



**COOLER RECEIPT FORM**

Cooler Received/Opened On 4/17/2018 @ 0935

Time Samples Removed From Cooler 1145 Time Samples Placed In Storage 1238 (2 Hour Window)

1. Tracking # 5376 (last 4 digits, FedEx) Courier: FedEx  
 IR Gun ID 160406069 pH Strip Lot 4669784 Chlorine Strip Lot 072617F

2. Temperature of rep. sample or temp blank when opened: 3.9 Degrees Celsius  
 3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA  
 If yes, how many and where: 2 (Front)

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) JJ.

7. Were custody seals on containers: YES NO and intact YES...NO...NA  
 Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA



14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) JJ.

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) JJ.

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) JJ.

I certify that I attached a label with the unique LIMS number to each container (initial) JJ.

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# \_\_\_\_\_



**COOLER RECEIPT FORM**

Cooler Received/Opened On 04-17-2018 @ 09:35

Time Samples Removed From Cooler 1145 Time Samples Placed In Storage 1238 (2 Hour Window)

1. Tracking # 1101 (last 4 digits, FedEx) Courier: FedEx  
 IR Gun ID 17960358 pH Strip Lot HCC-97954 Chlorine Strip Lot 07617F

2. Temperature of rep. sample or temp blank when opened: 1.3 Degrees Celsius

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

4. Were custody seals on outside of cooler? YES...NO...NA  
 If yes, how many and where: 2 (front)

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) KA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA



14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) KA

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) KA

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) KA

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

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# \_\_\_\_\_

## COOLER RECEIPT FORM

Cooler Received/Opened On 04-17-2018 @ 09:35

Time Samples Removed From Cooler 1115 Time Samples Placed In Storage 1238 (2 Hour Window)

1. Tracking # 5365 (last 4 digits, FedEx) Courier: FedEx  
IR Gun ID 17960358 pH Strip Lot HCL65985 Chlorine Strip Lot 072617K

2. Temperature of rep. sample or temp blank when opened: 11.6 Degrees Celsius

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

4. Were custody seals on outside of cooler? YES...NO...NA YES...NO...NA  
If yes, how many and where: 2 (front)

5. Were the seals intact, signed, and dated correctly? YES...NO...NA YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) KAD

7. Were custody seals on containers: YES NO and Intact YES...NO...NA YES...NO...NA  
Were these signed and dated correctly? YES...NO...NA YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA YES...NO...NA

13a. Were VOA vials received? YES...NO...NA YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA YES...NO...NA



14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) [Signature]

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA YES...NO...NA

16. Was residual chlorine present? YES...NO...NA YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) [Signature]

17. Were custody papers properly filled out (lnk, signed, etc)? YES...NO...NA YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) [Signature]

I certify that I attached a label with the unique LIMS number to each container (initial) [Signature]

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# \_\_\_\_\_

## COOLER RECEIPT FORM

Cooler Received/Opened On 04-17-2018 @ 09:35

Time Samples Removed From Cooler 1145 Time Samples Placed In Storage 1238 (2 Hour Window)

1. Tracking # 9152 (last 4 digits, FedEx) Courier: FedEx  
IR Gun ID 17960358 pH Strip Lot HCL69754 Chlorine Strip Lot 272617F
2. Temperature of rep. sample or temp blank when opened: 2.3 Degrees Celsius
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA
4. Were custody seals on outside of cooler? YES...NO...NA  
If yes, how many and where: 2 (Front)
5. Were the seals intact, signed, and dated correctly? YES...NO...NA
6. Were custody papers inside cooler? YES...NO...NA  
KD
- I certify that I opened the cooler and answered questions 1-6 (initial) \_\_\_\_\_
7. Were custody seals on containers: YES NO and Intact YES...NO...NA  
Were these signed and dated correctly? YES...NO...NA
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None  
Bubblewrap
9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)? YES...NO...NA
11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA
12. Did all container labels and tags agree with custody papers? YES...NO...NA
- 13a. Were VOA vials received? YES...NO...NA
- b. Was there any observable headspace present in any VOA vial? YES...NO...NA



Larger than this.

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) JW

- 15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA
- b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA
16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) JW

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA
18. Did you sign the custody papers in the appropriate place? YES...NO...NA
19. Were correct containers used for the analysis requested? YES...NO...NA
20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) \_\_\_\_\_

I certify that I attached a label with the unique LIMS number to each container (Initial) \_\_\_\_\_

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# \_\_\_\_\_



**TestAmerica Nashville**  
2960 Foster Creighton Drive

**Chain of Custody Record**



Nashville, TN 37204-3719  
phone 615.726.0177 fax 615.726.3404

Regulatory Program:  DW  NPDES  RCRA  Other:

TestAmerica Laboratories, Inc.  
COC No: 490-83038-24276.3

**Client Contact**  
Big Rivers Electric Corporation  
PO Box 24  
Henderson, KY 42420  
(270) 844-6010 Phone  
(xxx) xxx-xxxx FAX  
Project Name: Wilson Landfill CCR Event  
Site: Wilson Landfill - Phase II  
P O # Purchase Order Requested

**Project Manager: Greg Dick**  
Tel/Fax: (270) 844-6010  
Analysis Turnaround Time  
 CALENDAR DAYS  WORKING DAYS  
TAT if different from Below  
 2 weeks  
 1 week  
 2 days  
 1 day

**Site Contact: Greg Dick**  
Lab Contact: Cisneros, Roxanne  
Carrier: FedEx  
Date: 4/16/2018

Sample Specific Notes:  
Job / SDG No.:  
Sampler: Greg Dick  
For Lab Use Only:  
Walk-in Client:  
Lab Sampling:  
COCs of 2  
Therm ID No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)			Perform MS / MSD (Y / N)		
						903.0, 904.0	6010C, 6020A, 7470A	9056A_ORGFM_28D			
MMW-5	4/13/18	1200	G	Water	5	N	N	N	X	X	X
MMW-6	4/13/18	1345	G	Water	5	N	N	N	X	X	X
MMW-7	4/13/18	1535	G	Water	5	N	N	N	X	X	X
MMW-8	4/13/18	1045	G	Water	5	N	N	N	X	X	X
MMW-10	4/14/18	0855	G	Water	5	N	N	N	X	X	X



**Preservation Used:** 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other \_\_\_\_\_

**Possible Hazard Identification:**  
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

**Special Instructions/QC Requirements & Comments:** Run samples listed per protocol/methodology prescribed in 40 CFR Part 257, Appendix IV (Federal CCR Regulations). See attached constituent list for analysis.

Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months

**Custody Seals Intact:**  Yes  No

**Custody Seal No.:** \_\_\_\_\_

**Received by:** \_\_\_\_\_ **Company:** \_\_\_\_\_ **Date/Time:** \_\_\_\_\_

**Received In Laboratory by:** \_\_\_\_\_ **Company:** \_\_\_\_\_ **Date/Time:** \_\_\_\_\_

**Relinquished by:** \_\_\_\_\_ **Company:** \_\_\_\_\_ **Date/Time:** \_\_\_\_\_

**Relinquished by:** \_\_\_\_\_ **Company:** \_\_\_\_\_ **Date/Time:** \_\_\_\_\_

**Wilson Landfill:**

**40 CFR PART 257 Constituent List:**

**Appendix IV to Part 257**

- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Cobalt
- Fluoride
- Lead
- Lithium
- Mercury
- Molybdenum
- Selenium
- Thallium
- Radium 226 & 228 combined

BREC  
 Meg Quil  
 4/16/2018  
 1605

Loc: 490  
 150153

1
2
3
4
5
6
7
8
9
10
11
12
13
14

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ORIGIN ID:RNCA (615) 726-0177  
SHIPPING  
TEST AMERICA  
2960 FOSTER CREIGHTON DR

NASHVILLE, TN 37204  
UNITED STATES US

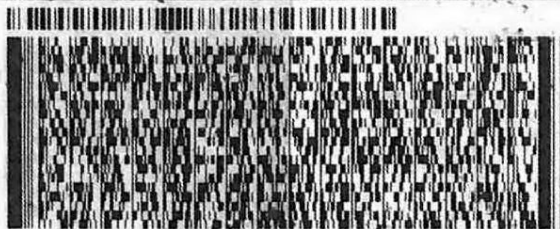
SHIP DATE: 17APR18  
ACTWGT: 10.00 LB MAN  
CAD: 820425/CAFE3111

BILL RECIPIENT

TO SHIPPING/RECEIVING  
TESTAMERICA LABORATORIES, INC.  
301 ALPHA DRIVE  
RIDC PARK  
PITTSBURGH PA 15238

(412) 963-7058  
PO: YES

REF: S490-83801



FedEx  
Express



JT71016102001 BY



TRK# 4263 5392 1110  
0201

WED - 18 APR 10:30A  
PRIORITY OVERNIGHT

**E AGCA**

15238  
PIT

PA-US

Uncd  
Therm  
CF    Initials     
temp 12.8/12.8 °C  
r ID     
No Ice

PT-WI-SR-001 effective 7/26/13



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Lab PM: Cisneros, Roxanne	Carrier Tracking No(s)	COC No: 490-71661.1
Client Contact: Shipping/Receiving		E-Mail: roxanne.cisneros@testamericainc.com	State of Origin: Kentucky	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Kentucky (UST)		
Address: 13715 Rider Trail North,		Job #: 490-150153-1		
City: Earth City		<b>Analysis Requested</b>		
State, Zip: MO, 63045		Perform MS/MSD (Yes or No)		
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		903.0/PrecSep_21 Standard Target List		
E-mail:		904.0/PrecSep_0 Standard Target List		
Project Name: Big Rivers Electric Corp - CCR & SemiAnn		Field Filtered Sample (Yes or No)		
Site: Big Rivers CCR		Preservation Code:		
Due Date Requested: 4/27/2018		Total Number of Containers		
TAT Requested (days):		Special Instructions/Note:		
Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)	Special Instructions/Note:
4/13/18	08:38 Central		Water	run once, upload together
4/13/18	17:10 Central		Water	run once, upload together
4/14/18	11:15 Central		Water	run once, upload together
4/14/18	12:59 Central		Water	run once, upload together
4/13/18	12:00 Central		Water	run once, upload together
4/13/18	13:45 Central		Water	run once, upload together
4/13/18	15:35 Central		Water	run once, upload together
4/13/18	10:45 Central		Water	run once, upload together
4/14/18	08:55 Central		Water	run once, upload together

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

**Possible Hazard Identification**

Unconfirmed  
Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_  
Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
Custody Seals Intact: \_\_\_\_\_ 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)**  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months  
 Special Instructions/QC Requirements: \_\_\_\_\_

Received by: *Kristine Taylor* Date/Time: 4/18/18 0915 Company: *AST*  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_







<b>Client Information (Sub Contract Lab)</b>		Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 490-71660.1
Company: TestAmerica Laboratories, Inc.		E-Mail: roxanne.cisneros@testamericainc.com	State of Origin: Kentucky	Page: Page 1 of 2
Address: 301 Alpha Drive, RIDC Park, Pittsburgh, PA, 15238		Phone: 412-963-7058(Tel) 412-963-2468(Fax)	Job #: 490-150153-1	Preservation Codes: A - HCL M - Hexane B - NaOH N - None O - AshNaO2 C - Zn Acetate P - Na2CO3 D - Nitric Acid Q - Na2SO3 E - NaHSO4 F - MeOH R - Na2SO4 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice
Due Date Requested: 4/27/2018		Analysis Requested		
TAT Requested (days):		Field Filtered Sample (Yes or No)		
PO #:		Perform MS/MSD (Yes or No)		
WO #:		6010C/3005A (MOD) Lithium		
Project #: 49010431		6020A/3005A (MOD) ICP/MS Metals		
Site: Big Rivers CCR		Special Instructions/Note:		
<b>Sample Identification - Client ID (Lab ID)</b>		Total		
MW-1 (490-150153-1)	Sample Date: 4/13/18	Sample Time: 08:38 Central	Sample Type: (C=Comp, G=grab)	Matrix: Water
MW-2 (490-150153-2)	Sample Date: 4/13/18	Sample Time: 17:10 Central	Sample Type: (C=Comp, G=grab)	Matrix: Water
MW-3 (490-150153-3)	Sample Date: 4/14/18	Sample Time: 11:15 Central	Sample Type: (C=Comp, G=grab)	Matrix: Water
MW-4 (490-150153-4)	Sample Date: 4/14/18	Sample Time: 12:59 Central	Sample Type: (C=Comp, G=grab)	Matrix: Water
MW-5 (490-150153-5)	Sample Date: 4/13/18	Sample Time: 12:00 Central	Sample Type: (C=Comp, G=grab)	Matrix: Water
MW-6 (490-150153-6)	Sample Date: 4/13/18	Sample Time: 13:45 Central	Sample Type: (C=Comp, G=grab)	Matrix: Water
MW-7 (490-150153-7)	Sample Date: 4/13/18	Sample Time: 15:35 Central	Sample Type: (C=Comp, G=grab)	Matrix: Water
MW-8 (490-150153-8)	Sample Date: 4/13/18	Sample Time: 10:45 Central	Sample Type: (C=Comp, G=grab)	Matrix: Water
MW-10 (490-150153-9)	Sample Date: 4/14/18	Sample Time: 08:55 Central	Sample Type: (C=Comp, G=grab)	Matrix: Water

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

**Possible Hazard Identification**  
 Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

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:	Time:	Method of Shipment:
Relinquished by: <i>MW-3</i>	Date/Time: 4-17-18 @ 1530	Company: TANAS	Received by: <i>DW Watson</i>
Relinquished by:	Date/Time:	Company:	Received by:
Relinquished by:	Date/Time:	Company:	Received by:
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: Big Rivers Electric Corporation

Job Number: 490-150153-3  
SDG Number: Wilson Landfill Phase II

**Login Number: 150153**  
**List Number: 3**  
**Creator: Watson, Debbie**

**List Source: TestAmerica Pittsburgh**  
**List Creation: 04/18/18 02:42 PM**

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: Big Rivers Electric Corporation

Job Number: 490-150153-3  
SDG Number: Wilson Landfill Phase II

**Login Number: 150153**  
**List Number: 2**  
**Creator: Taylor, Kristene N**

**List Source: TestAmerica St. Louis**  
**List Creation: 04/18/18 01:10 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	20.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Tracer/Carrier Summary

Client: Big Rivers Electric Corporation  
Project/Site: Wilson Landfill CCR Event

TestAmerica Job ID: 490-150153-3  
SDG: Wilson Landfill Phase II

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

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba Carrier (40-110)
490-150153-5	MW-5	98.2
490-150153-6	MW-6	102
490-150153-7	MW-7	97.3
490-150153-8	MW-8	100
490-150153-9	MW-10	98.5
LCS 160-361709/1-A	Lab Control Sample	100
MB 160-361709/21-A	Method Blank	103

#### Tracer/Carrier Legend

Ba Carrier = Ba Carrier

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

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba Carrier (40-110)	Y Carrier (40-110)
490-150153-5	MW-5	98.2	87.5
490-150153-6	MW-6	102	88.2
490-150153-7	MW-7	97.3	92.7
490-150153-8	MW-8	100	81.5
490-150153-9	MW-10	98.5	88.6
LCS 160-361711/1-A	Lab Control Sample	100	84.1
MB 160-361711/21-A	Method Blank	103	90.1

#### Tracer/Carrier Legend

Ba Carrier = Ba Carrier

Y Carrier = Y Carrier

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

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

TestAmerica Job ID: 490-155654-1  
TestAmerica Sample Delivery Group: Wilson Phase II  
Client Project/Site: WL CCR Groundwater-Round  
Sampling Event: Big Rivers CCR/SemiAnnual GW  
Revision: 1

For:  
Big Rivers Electric Corporation  
PO BOX 24  
Henderson, Kentucky 42419

Attn: Greg Dick

Roxanne Cisneros

Authorized for release by:  
8/3/2018 11:51:16 AM

Roxanne Cisneros, Senior Project Manager  
(615)301-5761  
[roxanne.cisneros@testamericainc.com](mailto:roxanne.cisneros@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



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

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

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

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

1

2

3

4

5

6

7

8

9

10

11

12

13





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Sample Summary . . . . .	3
Case Narrative . . . . .	4
Definitions . . . . .	5
Client Sample Results . . . . .	6
QC Sample Results . . . . .	13
QC Association . . . . .	18
Chronicle . . . . .	21
Method Summary . . . . .	24
Certification Summary . . . . .	25
Chain of Custody . . . . .	26
Receipt Checklists . . . . .	31

# Sample Summary

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
SDG: Wilson Phase II

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-155654-1	MW-5	Water	07/12/18 13:40	07/14/18 10:50
490-155654-2	MW-6	Water	07/12/18 14:55	07/14/18 10:50
490-155654-3	MW-7	Water	07/12/18 15:55	07/14/18 10:50
490-155654-4	MW-8	Water	07/12/18 12:30	07/14/18 10:50
490-155654-5	MW-10	Water	07/13/18 09:00	07/14/18 10:50
490-155654-6	DUPE	Water	07/12/18 16:15	07/14/18 10:50
490-155654-7	FIELD BLANK	Water	07/13/18 09:28	07/14/18 10:50

# Case Narrative

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
SDG: Wilson Phase II

**Job ID: 490-155654-1**

**Laboratory: TestAmerica Nashville**

## Narrative

### Job Narrative 490-155654-1

#### Comments

Revised Report 8/03/2018 to report Total Alkalinity.

#### Receipt

The samples were received on 7/14/2018 10:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.7° C and 1.7° C.

#### HPLC/IC

Method(s) 9056A: The method blank for analytical batch 490-530118 contained Chloride above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method(s) 9056A: Due to the high concentration of Chloride and Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 490-530118 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method(s) 9056A: The following samples were diluted due to the nature of the sample matrix: MW-5 (490-155654-1), MW-6 (490-155654-2), MW-7 (490-155654-3), MW-8 (490-155654-4), MW-10 (490-155654-5) and DUPE (490-155654-6). Elevated reporting limits (RLs) are provided.

Method(s) 9056A: Due to the nature of the sample matrix, a matrix spike / matrix spike duplicate (MS/MSD) was not analyzed with 490-531239. However, the laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries were within the acceptance limits.

Method(s) 9056A: The following samples were diluted due to the nature of the sample matrix: MW-5 (490-155654-1) and MW-10 (490-155654-5). 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.

#### General Chemistry

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

#### Organic Prep

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

# Definitions/Glossary

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
SDG: Wilson Phase II

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

### Metals

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

### General Chemistry

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

## 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)

# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

**Client Sample ID: MW-5**  
**Date Collected: 07/12/18 13:40**  
**Date Received: 07/14/18 10:50**

**Lab Sample ID: 490-155654-1**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69.3	B	15.0	1.00	mg/L			07/25/18 17:38	5
Fluoride	0.146	J	1.00	0.0100	mg/L			07/20/18 02:51	1
Sulfate	1520		1000	6.00	mg/L			07/24/18 14:57	200

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0375	J	0.0500	0.00959	mg/L		07/18/18 12:37	07/24/18 12:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00189	J	0.00200	0.0000213	mg/L		07/18/18 12:39	07/24/18 23:37	1
Arsenic	0.00227	J	0.00500	0.000118	mg/L		07/18/18 12:39	07/24/18 23:37	1
Barium	0.0106	J	0.200	0.000270	mg/L		07/18/18 12:39	07/24/18 23:37	1
Boron	0.667	J	1.00	0.00339	mg/L		07/18/18 12:39	07/24/18 23:37	1
Calcium	504		1.00	0.0412	mg/L		07/18/18 12:39	07/24/18 23:37	1
Chromium	ND		0.00300	0.000339	mg/L		07/18/18 12:39	07/24/18 23:37	1
Cobalt	0.00672		0.00500	0.0000218	mg/L		07/18/18 12:39	07/24/18 23:37	1
Iron	4.96		0.0500	0.0141	mg/L		07/18/18 12:39	07/24/18 23:37	1
Lead	0.000183	J	0.00500	0.0000675	mg/L		07/18/18 12:39	07/24/18 23:37	1
Magnesium	205		1.00	0.0152	mg/L		07/18/18 12:39	07/24/18 23:37	1
Molybdenum	0.00511	J	0.0100	0.000873	mg/L		07/18/18 12:39	07/24/18 23:37	1
Potassium	7.05		1.00	0.136	mg/L		07/18/18 12:39	07/24/18 23:37	1
Selenium	0.000389	J	0.0100	0.000348	mg/L		07/18/18 12:39	07/24/18 23:37	1
Sodium	67.4		1.00	0.251	mg/L		07/18/18 12:39	07/24/18 23:37	1
Thallium	ND		0.00100	0.0000360	mg/L		07/18/18 12:39	07/24/18 23:37	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.81		0.100	0.100	SU			07/23/18 18:50	1
Temperature	22.2		0.100	0.100	Degrees C			07/23/18 18:50	1
Alkalinity	497		10.0	5.00	mg/L			07/24/18 18:34	1
Total Dissolved Solids	3210		20.0	14.0	mg/L			07/17/18 14:55	1

# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

**Client Sample ID: MW-6**  
**Date Collected: 07/12/18 14:55**  
**Date Received: 07/14/18 10:50**

**Lab Sample ID: 490-155654-2**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.79	B	3.00	0.200	mg/L			07/20/18 03:45	1
Fluoride	0.198	J	1.00	0.0100	mg/L			07/20/18 03:45	1
Sulfate	1730		500	3.00	mg/L			07/24/18 15:15	100

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0496	J	0.0500	0.00959	mg/L		07/18/18 12:37	07/24/18 12:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000780	J	0.00200	0.0000213	mg/L		07/18/18 12:39	07/24/18 23:41	1
Arsenic	0.00683		0.00500	0.000118	mg/L		07/18/18 12:39	07/24/18 23:41	1
Barium	0.0112	J	0.200	0.000270	mg/L		07/18/18 12:39	07/24/18 23:41	1
Boron	0.250	J	1.00	0.00339	mg/L		07/18/18 12:39	07/24/18 23:41	1
Calcium	478		1.00	0.0412	mg/L		07/18/18 12:39	07/24/18 23:41	1
Chromium	ND		0.00300	0.000339	mg/L		07/18/18 12:39	07/24/18 23:41	1
Cobalt	0.00672		0.00500	0.0000218	mg/L		07/18/18 12:39	07/24/18 23:41	1
Iron	5.24		0.0500	0.0141	mg/L		07/18/18 12:39	07/24/18 23:41	1
Lead	0.000759	J	0.00500	0.0000675	mg/L		07/18/18 12:39	07/24/18 23:41	1
Magnesium	210		1.00	0.0152	mg/L		07/18/18 12:39	07/24/18 23:41	1
Molybdenum	0.00707	J	0.0100	0.000873	mg/L		07/18/18 12:39	07/24/18 23:41	1
Potassium	6.81		1.00	0.136	mg/L		07/18/18 12:39	07/24/18 23:41	1
Selenium	ND		0.0100	0.000348	mg/L		07/18/18 12:39	07/24/18 23:41	1
Sodium	35.7		1.00	0.251	mg/L		07/18/18 12:39	07/24/18 23:41	1
Thallium	ND		0.00100	0.0000360	mg/L		07/18/18 12:39	07/24/18 23:41	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.71		0.100	0.100	SU			07/23/18 18:50	1
Temperature	22.1		0.100	0.100	Degrees C			07/23/18 18:50	1
Alkalinity	511		10.0	5.00	mg/L			07/24/18 18:40	1
Total Dissolved Solids	2920		20.0	14.0	mg/L			07/17/18 14:55	1

# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

**Client Sample ID: MW-7**  
**Date Collected: 07/12/18 15:55**  
**Date Received: 07/14/18 10:50**

**Lab Sample ID: 490-155654-3**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17.1	B	3.00	0.200	mg/L			07/20/18 04:03	1
Fluoride	0.282	J	1.00	0.0100	mg/L			07/20/18 04:03	1
Sulfate	837		500	3.00	mg/L			07/24/18 15:51	100

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0271	J	0.0500	0.00959	mg/L		07/18/18 12:37	07/24/18 12:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000179	J	0.00200	0.0000213	mg/L		07/18/18 12:39	07/24/18 23:46	1
Arsenic	0.00177	J	0.00500	0.000118	mg/L		07/18/18 12:39	07/24/18 23:46	1
Barium	0.0128	J	0.200	0.000270	mg/L		07/18/18 12:39	07/24/18 23:46	1
Boron	0.324	J	1.00	0.00339	mg/L		07/18/18 12:39	07/24/18 23:46	1
Calcium	297		1.00	0.0412	mg/L		07/18/18 12:39	07/24/18 23:46	1
Chromium	ND		0.00300	0.000339	mg/L		07/18/18 12:39	07/24/18 23:46	1
Cobalt	0.00365	J	0.00500	0.0000218	mg/L		07/18/18 12:39	07/24/18 23:46	1
Iron	2.62		0.0500	0.0141	mg/L		07/18/18 12:39	07/24/18 23:46	1
Lead	0.000104	J	0.00500	0.0000675	mg/L		07/18/18 12:39	07/24/18 23:46	1
Magnesium	101		1.00	0.0152	mg/L		07/18/18 12:39	07/24/18 23:46	1
Molybdenum	0.00324	J	0.0100	0.000873	mg/L		07/18/18 12:39	07/24/18 23:46	1
Potassium	4.38		1.00	0.136	mg/L		07/18/18 12:39	07/24/18 23:46	1
Selenium	ND		0.0100	0.000348	mg/L		07/18/18 12:39	07/24/18 23:46	1
Sodium	26.9		1.00	0.251	mg/L		07/18/18 12:39	07/24/18 23:46	1
Thallium	ND		0.00100	0.0000360	mg/L		07/18/18 12:39	07/24/18 23:46	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.00		0.100	0.100	SU			07/23/18 18:50	1
Temperature	22.1		0.100	0.100	Degrees C			07/23/18 18:50	1
Alkalinity	308		10.0	5.00	mg/L			07/24/18 18:47	1
Total Dissolved Solids	1720		10.0	7.00	mg/L			07/17/18 14:55	1

# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

**Client Sample ID: MW-8**  
**Date Collected: 07/12/18 12:30**  
**Date Received: 07/14/18 10:50**

**Lab Sample ID: 490-155654-4**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.83	B	3.00	0.200	mg/L			07/20/18 04:21	1
Fluoride	0.287	J	1.00	0.0100	mg/L			07/20/18 04:21	1
Sulfate	887		500	3.00	mg/L			07/24/18 16:27	100

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0125	J	0.0500	0.00959	mg/L		07/18/18 12:37	07/24/18 12:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000222	J	0.00200	0.0000213	mg/L		07/18/18 12:39	07/24/18 23:51	1
Arsenic	0.00558		0.00500	0.000118	mg/L		07/18/18 12:39	07/24/18 23:51	1
Barium	0.0238	J	0.200	0.000270	mg/L		07/18/18 12:39	07/24/18 23:51	1
Boron	0.0362	J	1.00	0.00339	mg/L		07/18/18 12:39	07/24/18 23:51	1
Calcium	245		1.00	0.0412	mg/L		07/18/18 12:39	07/24/18 23:51	1
Chromium	0.000659	J	0.00300	0.000339	mg/L		07/18/18 12:39	07/24/18 23:51	1
Cobalt	0.00113	J	0.00500	0.0000218	mg/L		07/18/18 12:39	07/24/18 23:51	1
Iron	27.7		0.0500	0.0141	mg/L		07/18/18 12:39	07/24/18 23:51	1
Lead	0.000486	J	0.00500	0.0000675	mg/L		07/18/18 12:39	07/24/18 23:51	1
Magnesium	127		1.00	0.0152	mg/L		07/18/18 12:39	07/24/18 23:51	1
Molybdenum	0.0129		0.0100	0.000873	mg/L		07/18/18 12:39	07/24/18 23:51	1
Potassium	2.31		1.00	0.136	mg/L		07/18/18 12:39	07/24/18 23:51	1
Selenium	0.000476	J	0.0100	0.000348	mg/L		07/18/18 12:39	07/24/18 23:51	1
Sodium	33.6		1.00	0.251	mg/L		07/18/18 12:39	07/24/18 23:51	1
Thallium	ND		0.00100	0.0000360	mg/L		07/18/18 12:39	07/24/18 23:51	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.66		0.100	0.100	SU			07/23/18 18:50	1
Temperature	22.2		0.100	0.100	Degrees C			07/23/18 18:50	1
Alkalinity	279		10.0	5.00	mg/L			07/24/18 18:54	1
Total Dissolved Solids	1690		10.0	7.00	mg/L			07/17/18 14:55	1



# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

**Client Sample ID: MW-10**  
**Date Collected: 07/13/18 09:00**  
**Date Received: 07/14/18 10:50**

**Lab Sample ID: 490-155654-5**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48.2	B	15.0	1.00	mg/L			07/25/18 17:56	5
Fluoride	0.176	J	1.00	0.0100	mg/L			07/20/18 04:39	1
Sulfate	2010		1000	6.00	mg/L			07/24/18 17:21	200

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0102	J	0.0500	0.00959	mg/L		07/18/18 12:37	07/24/18 12:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0000510	J	0.00200	0.0000213	mg/L		07/18/18 12:39	07/24/18 23:55	1
Arsenic	0.000967	J	0.00500	0.000118	mg/L		07/18/18 12:39	07/24/18 23:55	1
Barium	0.00854	J	0.200	0.000270	mg/L		07/18/18 12:39	07/24/18 23:55	1
Boron	0.144	J	1.00	0.00339	mg/L		07/18/18 12:39	07/24/18 23:55	1
Calcium	378		1.00	0.0412	mg/L		07/18/18 12:39	07/24/18 23:55	1
Chromium	ND		0.00300	0.000339	mg/L		07/18/18 12:39	07/24/18 23:55	1
Cobalt	0.0704		0.00500	0.0000218	mg/L		07/18/18 12:39	07/24/18 23:55	1
Iron	9.26		0.0500	0.0141	mg/L		07/18/18 12:39	07/24/18 23:55	1
Lead	0.000159	J	0.00500	0.0000675	mg/L		07/18/18 12:39	07/24/18 23:55	1
Magnesium	213		1.00	0.0152	mg/L		07/18/18 12:39	07/24/18 23:55	1
Molybdenum	ND		0.0100	0.000873	mg/L		07/18/18 12:39	07/24/18 23:55	1
Potassium	2.63		1.00	0.136	mg/L		07/18/18 12:39	07/24/18 23:55	1
Selenium	ND		0.0100	0.000348	mg/L		07/18/18 12:39	07/24/18 23:55	1
Sodium	164		1.00	0.251	mg/L		07/18/18 12:39	07/24/18 23:55	1
Thallium	ND		0.00100	0.0000360	mg/L		07/18/18 12:39	07/24/18 23:55	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.17		0.100	0.100	SU			07/23/18 18:50	1
Temperature	22.1		0.100	0.100	Degrees C			07/23/18 18:50	1
Alkalinity	161		10.0	5.00	mg/L			07/24/18 19:06	1
Total Dissolved Solids	3270		20.0	14.0	mg/L			07/17/18 14:55	1

# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

**Client Sample ID: DUPE**  
**Date Collected: 07/12/18 16:15**  
**Date Received: 07/14/18 10:50**

**Lab Sample ID: 490-155654-6**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17.4	B	3.00	0.200	mg/L			07/20/18 04:58	1
Fluoride	0.252	J	1.00	0.0100	mg/L			07/20/18 04:58	1
Sulfate	868		500	3.00	mg/L			07/24/18 18:15	100

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0274	J	0.0500	0.00959	mg/L		07/18/18 12:37	07/24/18 12:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0000500	J	0.00200	0.0000213	mg/L		07/18/18 12:39	07/25/18 00:00	1
Arsenic	0.00157	J	0.00500	0.000118	mg/L		07/18/18 12:39	07/25/18 00:00	1
Barium	0.0123	J	0.200	0.000270	mg/L		07/18/18 12:39	07/25/18 00:00	1
Boron	0.338	J	1.00	0.00339	mg/L		07/18/18 12:39	07/25/18 00:00	1
Calcium	292		1.00	0.0412	mg/L		07/18/18 12:39	07/25/18 00:00	1
Chromium	ND		0.00300	0.000339	mg/L		07/18/18 12:39	07/25/18 00:00	1
Cobalt	0.00347	J	0.00500	0.0000218	mg/L		07/18/18 12:39	07/25/18 00:00	1
Iron	2.46		0.0500	0.0141	mg/L		07/18/18 12:39	07/25/18 00:00	1
Lead	0.0000940	J	0.00500	0.0000675	mg/L		07/18/18 12:39	07/25/18 00:00	1
Magnesium	103		1.00	0.0152	mg/L		07/18/18 12:39	07/25/18 00:00	1
Molybdenum	0.00315	J	0.0100	0.000873	mg/L		07/18/18 12:39	07/25/18 00:00	1
Potassium	4.37		1.00	0.136	mg/L		07/18/18 12:39	07/25/18 00:00	1
Selenium	ND		0.0100	0.000348	mg/L		07/18/18 12:39	07/25/18 00:00	1
Sodium	27.3		1.00	0.251	mg/L		07/18/18 12:39	07/25/18 00:00	1
Thallium	ND		0.00100	0.0000360	mg/L		07/18/18 12:39	07/25/18 00:00	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.90		0.100	0.100	SU			07/23/18 18:50	1
Temperature	22.0		0.100	0.100	Degrees C			07/23/18 18:50	1
Alkalinity	309		10.0	5.00	mg/L			07/24/18 19:12	1
Total Dissolved Solids	1690		10.0	7.00	mg/L			07/17/18 14:55	1

# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

**Client Sample ID: FIELD BLANK**

**Lab Sample ID: 490-155654-7**

**Date Collected: 07/13/18 09:28**

**Matrix: Water**

**Date Received: 07/14/18 10:50**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>0.354</b>	<b>J B</b>	3.00	0.200	mg/L			07/20/18 05:16	1
Fluoride	ND		1.00	0.0100	mg/L			07/20/18 05:16	1
Sulfate	ND		5.00	0.0300	mg/L			07/20/18 05:16	1

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.0500	0.00959	mg/L		07/18/18 12:37	07/24/18 12:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.0000880</b>	<b>J</b>	0.00200	0.0000213	mg/L		07/18/18 12:39	07/25/18 00:04	1
Arsenic	ND		0.00500	0.000118	mg/L		07/18/18 12:39	07/25/18 00:04	1
Barium	ND		0.200	0.000270	mg/L		07/18/18 12:39	07/25/18 00:04	1
<b>Boron</b>	<b>0.00556</b>	<b>J</b>	1.00	0.00339	mg/L		07/18/18 12:39	07/25/18 00:04	1
Calcium	ND		1.00	0.0412	mg/L		07/18/18 12:39	07/25/18 00:04	1
Chromium	ND		0.00300	0.000339	mg/L		07/18/18 12:39	07/25/18 00:04	1
Cobalt	ND		0.00500	0.0000218	mg/L		07/18/18 12:39	07/25/18 00:04	1
Iron	ND		0.0500	0.0141	mg/L		07/18/18 12:39	07/25/18 00:04	1
<b>Lead</b>	<b>0.0000720</b>	<b>J</b>	0.00500	0.0000675	mg/L		07/18/18 12:39	07/25/18 00:04	1
Magnesium	ND		1.00	0.0152	mg/L		07/18/18 12:39	07/25/18 00:04	1
Molybdenum	ND		0.0100	0.000873	mg/L		07/18/18 12:39	07/25/18 00:04	1
Potassium	ND		1.00	0.136	mg/L		07/18/18 12:39	07/25/18 00:04	1
Selenium	ND		0.0100	0.000348	mg/L		07/18/18 12:39	07/25/18 00:04	1
Sodium	ND		1.00	0.251	mg/L		07/18/18 12:39	07/25/18 00:04	1
Thallium	ND		0.00100	0.0000360	mg/L		07/18/18 12:39	07/25/18 00:04	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>5.62</b>		0.100	0.100	SU			07/23/18 18:50	1
<b>Temperature</b>	<b>22.1</b>		0.100	0.100	Degrees C			07/23/18 18:50	1
Alkalinity	ND		10.0	5.00	mg/L			07/24/18 19:18	1
<b>Total Dissolved Solids</b>	<b>7.00</b>	<b>J</b>	10.0	7.00	mg/L			07/17/18 14:55	1

# QC Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 490-530118/3**  
**Matrix: Water**  
**Analysis Batch: 530118**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.3956	J	3.00	0.200	mg/L			07/20/18 01:39	1
Fluoride	ND		1.00	0.0100	mg/L			07/20/18 01:39	1
Sulfate	ND		5.00	0.0300	mg/L			07/20/18 01:39	1

**Lab Sample ID: LCS 490-530118/4**  
**Matrix: Water**  
**Analysis Batch: 530118**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.504		mg/L		95	80 - 120
Fluoride	1.00	0.9475	J	mg/L		95	80 - 120
Sulfate	10.0	9.198		mg/L		92	80 - 120

**Lab Sample ID: LCSD 490-530118/5**  
**Matrix: Water**  
**Analysis Batch: 530118**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.277		mg/L		93	80 - 120	2	20
Fluoride	1.00	0.9401	J	mg/L		94	80 - 120	1	20
Sulfate	10.0	9.132		mg/L		91	80 - 120	1	20

**Lab Sample ID: 490-155654-1 MS**  
**Matrix: Water**  
**Analysis Batch: 530118**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.146	J	1.00	1.081		mg/L		93	80 - 120

**Lab Sample ID: 490-155654-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 530118**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.146	J	1.00	1.137		mg/L		99	80 - 120	5	20

**Lab Sample ID: MB 490-531239/3**  
**Matrix: Water**  
**Analysis Batch: 531239**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		1.00	0.0100	mg/L			07/24/18 13:44	1
Sulfate	ND		5.00	0.0300	mg/L			07/24/18 13:44	1

TestAmerica Nashville

# QC Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

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

**Lab Sample ID: LCS 490-531239/4**  
**Matrix: Water**  
**Analysis Batch: 531239**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	0.9021	J	mg/L		90	80 - 120
Sulfate	10.0	9.047		mg/L		90	80 - 120

**Lab Sample ID: LCSD 490-531239/5**  
**Matrix: Water**  
**Analysis Batch: 531239**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	1.00	0.9639	J	mg/L		96	80 - 120	7	20
Sulfate	10.0	9.648		mg/L		96	80 - 120	6	20

**Lab Sample ID: MB 490-531402/3**  
**Matrix: Water**  
**Analysis Batch: 531402**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.2637	J	3.00	0.200	mg/L			07/25/18 16:26	1
Fluoride	ND		1.00	0.0100	mg/L			07/25/18 16:26	1
Sulfate	ND		5.00	0.0300	mg/L			07/25/18 16:26	1

**Lab Sample ID: LCS 490-531402/5**  
**Matrix: Water**  
**Analysis Batch: 531402**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.325		mg/L		93	80 - 120
Fluoride	1.00	0.9597	J	mg/L		96	80 - 120
Sulfate	10.0	9.548		mg/L		95	80 - 120

**Lab Sample ID: LCSD 490-531402/6**  
**Matrix: Water**  
**Analysis Batch: 531402**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.348		mg/L		93	80 - 120	0	20
Fluoride	1.00	0.9796	J	mg/L		98	80 - 120	2	20
Sulfate	10.0	9.668		mg/L		96	80 - 120	1	20

## Method: 6010C - Metals (ICP)

**Lab Sample ID: MB 180-250898/1-A**  
**Matrix: Water**  
**Analysis Batch: 251527**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 250898**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.0500	0.00959	mg/L		07/18/18 12:37	07/24/18 11:09	1

TestAmerica Nashville

# QC Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

## Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 180-250898/2-A  
 Matrix: Water  
 Analysis Batch: 251527

Client Sample ID: Lab Control Sample  
 Prep Type: Total Recoverable  
 Prep Batch: 250898

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lithium	1.00	1.003		mg/L		100	80 - 120

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

Lab Sample ID: MB 180-250900/1-A  
 Matrix: Water  
 Analysis Batch: 251631

Client Sample ID: Method Blank  
 Prep Type: Total Recoverable  
 Prep Batch: 250900

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.0000213	mg/L		07/18/18 12:39	07/24/18 22:51	1
Arsenic	ND		0.00500	0.000118	mg/L		07/18/18 12:39	07/24/18 22:51	1
Barium	ND		0.200	0.000270	mg/L		07/18/18 12:39	07/24/18 22:51	1
Boron	ND		1.00	0.00339	mg/L		07/18/18 12:39	07/24/18 22:51	1
Calcium	ND		1.00	0.0412	mg/L		07/18/18 12:39	07/24/18 22:51	1
Chromium	ND		0.00300	0.000339	mg/L		07/18/18 12:39	07/24/18 22:51	1
Cobalt	ND		0.00500	0.0000218	mg/L		07/18/18 12:39	07/24/18 22:51	1
Iron	ND		0.0500	0.0141	mg/L		07/18/18 12:39	07/24/18 22:51	1
Lead	ND		0.00500	0.0000675	mg/L		07/18/18 12:39	07/24/18 22:51	1
Magnesium	ND		1.00	0.0152	mg/L		07/18/18 12:39	07/24/18 22:51	1
Molybdenum	ND		0.0100	0.000873	mg/L		07/18/18 12:39	07/24/18 22:51	1
Potassium	ND		1.00	0.136	mg/L		07/18/18 12:39	07/24/18 22:51	1
Selenium	ND		0.0100	0.000348	mg/L		07/18/18 12:39	07/24/18 22:51	1
Sodium	ND		1.00	0.251	mg/L		07/18/18 12:39	07/24/18 22:51	1
Thallium	ND		0.00100	0.0000360	mg/L		07/18/18 12:39	07/24/18 22:51	1

Lab Sample ID: LCS 180-250900/2-A  
 Matrix: Water  
 Analysis Batch: 251631

Client Sample ID: Lab Control Sample  
 Prep Type: Total Recoverable  
 Prep Batch: 250900

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	0.500	0.5010		mg/L		100	80 - 120
Arsenic	0.0400	0.03674		mg/L		92	80 - 120
Barium	2.00	1.944		mg/L		97	80 - 120
Boron	1.00	0.8576	J	mg/L		86	80 - 120
Calcium	50.0	45.49		mg/L		91	80 - 120
Chromium	0.200	0.1774		mg/L		89	80 - 120
Cobalt	0.500	0.4710		mg/L		94	80 - 120
Iron	1.00	0.8765		mg/L		88	80 - 120
Lead	0.0200	0.02109		mg/L		105	80 - 120
Magnesium	50.0	45.68		mg/L		91	80 - 120
Molybdenum	1.00	0.9925		mg/L		99	80 - 120
Potassium	50.0	45.92		mg/L		92	80 - 120
Selenium	0.0100	0.009186	J	mg/L		92	80 - 120
Sodium	50.0	44.81		mg/L		90	80 - 120
Thallium	0.0500	0.05028		mg/L		101	80 - 120

TestAmerica Nashville

# QC Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

## Method: 9040C - pH

Lab Sample ID: LCS 490-530922/1  
 Matrix: Water  
 Analysis Batch: 530922

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.000		SU		100	98 - 103

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 490-531384/49  
 Matrix: Water  
 Analysis Batch: 531384

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		10.0	5.00	mg/L			07/24/18 17:32	1

Lab Sample ID: LCS 490-531384/50  
 Matrix: Water  
 Analysis Batch: 531384

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	100	93.48		mg/L		93	90 - 110

Lab Sample ID: LCSD 490-531384/72  
 Matrix: Water  
 Analysis Batch: 531384

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	100	96.58		mg/L		97	90 - 110	3	20

Lab Sample ID: 490-155654-4 DU  
 Matrix: Water  
 Analysis Batch: 531384

Client Sample ID: MW-8  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	279		276.3		mg/L		1	20

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

Lab Sample ID: MB 490-529396/1  
 Matrix: Water  
 Analysis Batch: 529396

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	7.00	mg/L			07/17/18 14:55	1

Lab Sample ID: LCS 490-529396/2  
 Matrix: Water  
 Analysis Batch: 529396

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	100	91.00		mg/L		91	90 - 110

TestAmerica Nashville

# QC Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
SDG: Wilson Phase II

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

Lab Sample ID: 490-155654-2 DU  
Matrix: Water  
Analysis Batch: 529396

Client Sample ID: MW-6  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	2920		2950		mg/L		0.9	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13



# QC Association Summary

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
SDG: Wilson Phase II

## HPLC/IC

### Analysis Batch: 530118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-155654-1	MW-5	Total/NA	Water	9056A	
490-155654-2	MW-6	Total/NA	Water	9056A	
490-155654-3	MW-7	Total/NA	Water	9056A	
490-155654-4	MW-8	Total/NA	Water	9056A	
490-155654-5	MW-10	Total/NA	Water	9056A	
490-155654-6	DUPE	Total/NA	Water	9056A	
490-155654-7	FIELD BLANK	Total/NA	Water	9056A	
MB 490-530118/3	Method Blank	Total/NA	Water	9056A	
LCS 490-530118/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-530118/5	Lab Control Sample Dup	Total/NA	Water	9056A	
490-155654-1 MS	MW-5	Total/NA	Water	9056A	
490-155654-1 MSD	MW-5	Total/NA	Water	9056A	

### Analysis Batch: 531239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-155654-1	MW-5	Total/NA	Water	9056A	
490-155654-2	MW-6	Total/NA	Water	9056A	
490-155654-3	MW-7	Total/NA	Water	9056A	
490-155654-4	MW-8	Total/NA	Water	9056A	
490-155654-5	MW-10	Total/NA	Water	9056A	
490-155654-6	DUPE	Total/NA	Water	9056A	
MB 490-531239/3	Method Blank	Total/NA	Water	9056A	
LCS 490-531239/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-531239/5	Lab Control Sample Dup	Total/NA	Water	9056A	

### Analysis Batch: 531402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-155654-1	MW-5	Total/NA	Water	9056A	
490-155654-5	MW-10	Total/NA	Water	9056A	
MB 490-531402/3	Method Blank	Total/NA	Water	9056A	
LCS 490-531402/5	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-531402/6	Lab Control Sample Dup	Total/NA	Water	9056A	

## Metals

### Prep Batch: 250898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-155654-1	MW-5	Total Recoverable	Water	3005A	
490-155654-2	MW-6	Total Recoverable	Water	3005A	
490-155654-3	MW-7	Total Recoverable	Water	3005A	
490-155654-4	MW-8	Total Recoverable	Water	3005A	
490-155654-5	MW-10	Total Recoverable	Water	3005A	
490-155654-6	DUPE	Total Recoverable	Water	3005A	
490-155654-7	FIELD BLANK	Total Recoverable	Water	3005A	
MB 180-250898/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-250898/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

### Prep Batch: 250900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-155654-1	MW-5	Total Recoverable	Water	3005A	

TestAmerica Nashville

# QC Association Summary

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

## Metals (Continued)

### Prep Batch: 250900 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-155654-2	MW-6	Total Recoverable	Water	3005A	
490-155654-3	MW-7	Total Recoverable	Water	3005A	
490-155654-4	MW-8	Total Recoverable	Water	3005A	
490-155654-5	MW-10	Total Recoverable	Water	3005A	
490-155654-6	DUPE	Total Recoverable	Water	3005A	
490-155654-7	FIELD BLANK	Total Recoverable	Water	3005A	
MB 180-250900/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-250900/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

### Analysis Batch: 251527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-155654-1	MW-5	Total Recoverable	Water	6010C	250898
490-155654-2	MW-6	Total Recoverable	Water	6010C	250898
490-155654-3	MW-7	Total Recoverable	Water	6010C	250898
490-155654-4	MW-8	Total Recoverable	Water	6010C	250898
490-155654-5	MW-10	Total Recoverable	Water	6010C	250898
490-155654-6	DUPE	Total Recoverable	Water	6010C	250898
490-155654-7	FIELD BLANK	Total Recoverable	Water	6010C	250898
MB 180-250898/1-A	Method Blank	Total Recoverable	Water	6010C	250898
LCS 180-250898/2-A	Lab Control Sample	Total Recoverable	Water	6010C	250898

### Analysis Batch: 251631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-155654-1	MW-5	Total Recoverable	Water	6020A	250900
490-155654-2	MW-6	Total Recoverable	Water	6020A	250900
490-155654-3	MW-7	Total Recoverable	Water	6020A	250900
490-155654-4	MW-8	Total Recoverable	Water	6020A	250900
490-155654-5	MW-10	Total Recoverable	Water	6020A	250900
490-155654-6	DUPE	Total Recoverable	Water	6020A	250900
490-155654-7	FIELD BLANK	Total Recoverable	Water	6020A	250900
MB 180-250900/1-A	Method Blank	Total Recoverable	Water	6020A	250900
LCS 180-250900/2-A	Lab Control Sample	Total Recoverable	Water	6020A	250900

## General Chemistry

### Analysis Batch: 529396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-155654-1	MW-5	Total/NA	Water	SM 2540C	
490-155654-2	MW-6	Total/NA	Water	SM 2540C	
490-155654-3	MW-7	Total/NA	Water	SM 2540C	
490-155654-4	MW-8	Total/NA	Water	SM 2540C	
490-155654-5	MW-10	Total/NA	Water	SM 2540C	
490-155654-6	DUPE	Total/NA	Water	SM 2540C	
490-155654-7	FIELD BLANK	Total/NA	Water	SM 2540C	
MB 490-529396/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 490-529396/2	Lab Control Sample	Total/NA	Water	SM 2540C	
490-155654-2 DU	MW-6	Total/NA	Water	SM 2540C	

# QC Association Summary

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
SDG: Wilson Phase II

## General Chemistry (Continued)

### Analysis Batch: 530922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-155654-1	MW-5	Total/NA	Water	9040C	
490-155654-2	MW-6	Total/NA	Water	9040C	
490-155654-3	MW-7	Total/NA	Water	9040C	
490-155654-4	MW-8	Total/NA	Water	9040C	
490-155654-5	MW-10	Total/NA	Water	9040C	
490-155654-6	DUPE	Total/NA	Water	9040C	
490-155654-7	FIELD BLANK	Total/NA	Water	9040C	
LCS 490-530922/1	Lab Control Sample	Total/NA	Water	9040C	

### Analysis Batch: 531384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-155654-1	MW-5	Total/NA	Water	SM 2320B	
490-155654-2	MW-6	Total/NA	Water	SM 2320B	
490-155654-3	MW-7	Total/NA	Water	SM 2320B	
490-155654-4	MW-8	Total/NA	Water	SM 2320B	
490-155654-5	MW-10	Total/NA	Water	SM 2320B	
490-155654-6	DUPE	Total/NA	Water	SM 2320B	
490-155654-7	FIELD BLANK	Total/NA	Water	SM 2320B	
MB 490-531384/49	Method Blank	Total/NA	Water	SM 2320B	
LCS 490-531384/50	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 490-531384/72	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
490-155654-4 DU	MW-8	Total/NA	Water	SM 2320B	

# Lab Chronicle

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

**Client Sample ID: MW-5**  
**Date Collected: 07/12/18 13:40**  
**Date Received: 07/14/18 10:50**

**Lab Sample ID: 490-155654-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			530118	07/20/18 02:51	SW1	TAL NSH
Total/NA	Analysis	9056A		200			531239	07/24/18 14:57	SW1	TAL NSH
Total/NA	Analysis	9056A		5			531402	07/25/18 17:38	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	250898	07/18/18 12:37	NAM	TAL PIT
Total Recoverable	Analysis	6010C		1			251527	07/24/18 12:12	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	250900	07/18/18 12:39	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1			251631	07/24/18 23:37	WTR	TAL PIT
Total/NA	Analysis	9040C		1			530922	07/23/18 18:50	JDG	TAL NSH
Total/NA	Analysis	SM 2320B		1	35 mL	35 mL	531384	07/24/18 18:34	BMC	TAL NSH
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	529396	07/17/18 14:55	BMC	TAL NSH

**Client Sample ID: MW-6**  
**Date Collected: 07/12/18 14:55**  
**Date Received: 07/14/18 10:50**

**Lab Sample ID: 490-155654-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			530118	07/20/18 03:45	SW1	TAL NSH
Total/NA	Analysis	9056A		100			531239	07/24/18 15:15	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	250898	07/18/18 12:37	NAM	TAL PIT
Total Recoverable	Analysis	6010C		1			251527	07/24/18 12:17	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	250900	07/18/18 12:39	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1			251631	07/24/18 23:41	WTR	TAL PIT
Total/NA	Analysis	9040C		1			530922	07/23/18 18:50	JDG	TAL NSH
Total/NA	Analysis	SM 2320B		1	35 mL	35 mL	531384	07/24/18 18:40	BMC	TAL NSH
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	529396	07/17/18 14:55	BMC	TAL NSH

**Client Sample ID: MW-7**  
**Date Collected: 07/12/18 15:55**  
**Date Received: 07/14/18 10:50**

**Lab Sample ID: 490-155654-3**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			530118	07/20/18 04:03	SW1	TAL NSH
Total/NA	Analysis	9056A		100			531239	07/24/18 15:51	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	250898	07/18/18 12:37	NAM	TAL PIT
Total Recoverable	Analysis	6010C		1			251527	07/24/18 12:22	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	250900	07/18/18 12:39	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1			251631	07/24/18 23:46	WTR	TAL PIT
Total/NA	Analysis	9040C		1			530922	07/23/18 18:50	JDG	TAL NSH
Total/NA	Analysis	SM 2320B		1	35 mL	35 mL	531384	07/24/18 18:47	BMC	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	529396	07/17/18 14:55	BMC	TAL NSH

# Lab Chronicle

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

**Client Sample ID: MW-8**  
**Date Collected: 07/12/18 12:30**  
**Date Received: 07/14/18 10:50**

**Lab Sample ID: 490-155654-4**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			530118	07/20/18 04:21	SW1	TAL NSH
Total/NA	Analysis	9056A		100			531239	07/24/18 16:27	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	250898	07/18/18 12:37	NAM	TAL PIT
Total Recoverable	Analysis	6010C		1			251527	07/24/18 12:28	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	250900	07/18/18 12:39	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1			251631	07/24/18 23:51	WTR	TAL PIT
Total/NA	Analysis	9040C		1			530922	07/23/18 18:50	JDG	TAL NSH
Total/NA	Analysis	SM 2320B		1	35 mL	35 mL	531384	07/24/18 18:54	BMC	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	529396	07/17/18 14:55	BMC	TAL NSH

**Client Sample ID: MW-10**  
**Date Collected: 07/13/18 09:00**  
**Date Received: 07/14/18 10:50**

**Lab Sample ID: 490-155654-5**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			530118	07/20/18 04:39	SW1	TAL NSH
Total/NA	Analysis	9056A		200			531239	07/24/18 17:21	SW1	TAL NSH
Total/NA	Analysis	9056A		5			531402	07/25/18 17:56	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	250898	07/18/18 12:37	NAM	TAL PIT
Total Recoverable	Analysis	6010C		1			251527	07/24/18 12:33	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	250900	07/18/18 12:39	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1			251631	07/24/18 23:55	WTR	TAL PIT
Total/NA	Analysis	9040C		1			530922	07/23/18 18:50	JDG	TAL NSH
Total/NA	Analysis	SM 2320B		1	35 mL	35 mL	531384	07/24/18 19:06	BMC	TAL NSH
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	529396	07/17/18 14:55	BMC	TAL NSH

**Client Sample ID: DUPE**  
**Date Collected: 07/12/18 16:15**  
**Date Received: 07/14/18 10:50**

**Lab Sample ID: 490-155654-6**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			530118	07/20/18 04:58	SW1	TAL NSH
Total/NA	Analysis	9056A		100			531239	07/24/18 18:15	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	250898	07/18/18 12:37	NAM	TAL PIT
Total Recoverable	Analysis	6010C		1			251527	07/24/18 12:39	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	250900	07/18/18 12:39	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1			251631	07/25/18 00:00	WTR	TAL PIT
Total/NA	Analysis	9040C		1			530922	07/23/18 18:50	JDG	TAL NSH
Total/NA	Analysis	SM 2320B		1	35 mL	35 mL	531384	07/24/18 19:12	BMC	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	529396	07/17/18 14:55	BMC	TAL NSH

# Lab Chronicle

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

**Client Sample ID: FIELD BLANK**

**Lab Sample ID: 490-155654-7**

**Date Collected: 07/13/18 09:28**

**Matrix: Water**

**Date Received: 07/14/18 10:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			530118	07/20/18 05:16	SW1	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	250898	07/18/18 12:37	NAM	TAL PIT
Total Recoverable	Analysis	6010C		1			251527	07/24/18 12:44	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	250900	07/18/18 12:39	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1			251631	07/25/18 00:04	WTR	TAL PIT
Total/NA	Analysis	9040C		1			530922	07/23/18 18:50	JDG	TAL NSH
Total/NA	Analysis	SM 2320B		1	35 mL	35 mL	531384	07/24/18 19:18	BMC	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	529396	07/17/18 14:55	BMC	TAL NSH

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

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

# Method Summary

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
SDG: Wilson Phase II

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL NSH
6010C	Metals (ICP)	SW846	TAL PIT
6020A	Metals (ICP/MS)	SW846	TAL PIT
9040C	pH	SW846	TAL NSH
SM 2320B	Alkalinity	SM	TAL NSH
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL NSH
3005A	Preparation, Total Recoverable or Dissolved Metals	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 NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

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

# Accreditation/Certification Summary

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater-Round

TestAmerica Job ID: 490-155654-1  
 SDG: Wilson Phase II

## Laboratory: TestAmerica Nashville

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Kentucky (UST)	State Program	4	19	06-30-19
The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:				
Analysis Method	Prep Method	Matrix	Analyte	
9040C		Water	pH	
9040C		Water	Temperature	
9056A		Water	Chloride	
9056A		Water	Fluoride	
9056A		Water	Sulfate	
SM 2320B		Water	Alkalinity	
SM 2540C		Water	Total Dissolved Solids	

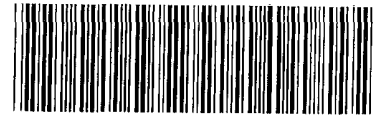
## Laboratory: TestAmerica Pittsburgh

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-19
California	State Program	9	2891	04-30-19
Connecticut	State Program	1	PH-0688	09-30-18
Florida	NELAP	4	E871008	06-30-19
Illinois	NELAP	5	200005	06-30-19
Kansas	NELAP	7	E-10350	01-31-19
Louisiana	NELAP	6	04041	06-30-19
Nevada	State Program	9	PA00164	07-31-19
New Hampshire	NELAP	1	2030	04-04-19
New Jersey	NELAP	2	PA005	06-30-19
New York	NELAP	2	11182	03-31-19
North Carolina (WW/SW)	State Program	4	434	12-31-18
Oregon	NELAP	10	PA-2151	01-28-19
Pennsylvania	NELAP	3	02-00416	04-30-19
South Carolina	State Program	4	89014	04-30-18 *
Texas	NELAP	6	T104704528-15-2	03-31-19
US Fish & Wildlife	Federal		LE94312A-1	07-31-19
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-19
Virginia	NELAP	3	460189	09-14-18 *
West Virginia DEP	State Program	3	142	01-31-19
Wisconsin	State Program	5	998027800	08-31-18

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





## COOLER RECEIPT FORM

Cooler Received/Opened On 7/14/2018 @ 10:50

Time Samples Removed From Cooler 1228 Time Samples Placed In Storage 1241 (2 Hour Window)

1. Tracking # 8478 (last 4 digits, FedEx) Courier: FedEx  
IR Gun ID 17960353 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 17 Degrees Celsius

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

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

If yes, how many and where: 2 front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES..NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) KCF

7. Were custody seals on containers: YES NO and intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES..NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES..NO...NA

12. Did all container labels and tags agree with custody papers? YES..NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA



14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) GH

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES..NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) GH

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES..NO...NA

20. Was sufficient amount of sample sent in each container? YES..NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) GH

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

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# \_\_\_\_\_

**COOLER RECEIPT FORM**

Cooler Received/Opened On 7/14/2018 @1050

Time Samples Removed From Cooler 1228 Time Samples Placed In Storage 1241 (2 Hour Window)

1. Tracking # 5564 (last 4 digits, FedEx) Courier: FedEx  
IR Gun ID 14740456 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 8.7 Degrees Celsius

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

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

If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) [Signature]

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other . None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA



14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) GA

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) GA

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) GA

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

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO..# \_\_\_\_\_





2 of 2

**Wilson Phase II Landfill Constituent List:**

**Appendix III**

- Boron
- Calcium
- Chloride
- Fluoride
- pH
- Sulfate
- Total Dissolved Solids (TDS)

*Jay Dick*

**Appendix IV**

- Antimony
- Arsenic
- Barium
- Chromium
- Cobalt
- Lead
- Lithium
- Molybdenum
- Radium 226 & 228 combined
- Selenium
- Thallium

BREC

7/13/2018

1715

**Additional Constituents**

- Total Alkalinity
- Iron
- Magnesium
- Potassium
- Sodium





## Login Sample Receipt Checklist

Client: Big Rivers Electric Corporation

Job Number: 490-155654-1  
SDG Number: Wilson Phase II

**Login Number: 155654**

**List Number: 2**

**Creator: DiNardo, Nicholas J**

**List Source: TestAmerica Pittsburgh**

**List Creation: 07/17/18 12:54 PM**

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?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <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	



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

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

TestAmerica Job ID: 490-160702-5

TestAmerica SDG: Wilson Station, Wilson Phase II - Landfill  
Client Project/Site: WL CCR Groundwater  
Sampling Event: Big Rivers CCR/SemiAnnual GW

For:

Big Rivers Electric Corporation  
PO BOX 24  
Henderson, Kentucky 42419

Attn: Greg Dick

*Roxanne Cisneros*

Authorized for release by:  
11/9/2018 1:46:43 PM

Roxanne Cisneros, Senior Project Manager  
(615)301-5761  
[roxanne.cisneros@testamericainc.com](mailto:roxanne.cisneros@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



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

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Sample Summary . . . . .	3
Case Narrative . . . . .	4
Definitions . . . . .	5
Client Sample Results . . . . .	6
QC Sample Results . . . . .	20
QC Association . . . . .	28
Chronicle . . . . .	32
Method Summary . . . . .	36
Certification Summary . . . . .	37
Chain of Custody . . . . .	39
Receipt Checklists . . . . .	49
Tracer Carrier Summary . . . . .	50



# Sample Summary

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-160702-5	MW-5	Water	10/03/18 15:23	10/08/18 14:48
490-160702-6	MW-6	Water	10/04/18 11:05	10/08/18 14:48
490-160702-7	MW-7	Water	10/04/18 12:53	10/08/18 14:48
490-160702-8	MW-8	Water	10/03/18 13:20	10/08/18 14:48
490-160702-9	MW-10	Water	10/05/18 09:12	10/08/18 14:48
490-160702-10	DUPE	Water	10/04/18 13:28	10/08/18 14:48
490-160702-11	FIELD BLANK	Water	10/05/18 10:17	10/08/18 14:48



# Case Narrative

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

## Job ID: 490-160702-5

### Laboratory: TestAmerica Nashville

#### Narrative

#### Job Narrative 490-160702-5

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/8/2018 2:48 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.2° C, 2.1° C, 3.2° C, 3.3° C and 4.2° C.

#### HPLC/IC

Method(s) 9056A: The following samples were diluted due to the nature of the sample matrix: MW-5 (490-160702-5), MW-6 (490-160702-6), MW-7 (490-160702-7) and MW-8 (490-160702-8). Elevated reporting limits (RLs) are provided.

Method(s) 9056A: The method blank for analytical batch 490-549981 contained chloride and sulfate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 9056A: The following samples were diluted due to the nature of the sample matrix: MW-10 (490-160702-9) and DUPE (490-160702-10). 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

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

#### General Chemistry

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

#### Organic Prep

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

#### Narrative

#### Job Narrative 490-160702-6

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/8/2018 2:48 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.2° C, 2.1° C, 3.2° C, 3.3° C and 4.2° C.

#### RAD

Method(s) PrecSep\_0: Radium 228 Prep Batch 160-394403: The following samples were prepared at a reduced aliquot due to limited sample volume. MW-5 (490-160702-5), MW-6 (490-160702-6), MW-7 (490-160702-7), MW-8 (490-160702-8) and MW-10 (490-160702-9)

Method(s) PrecSep-21: Radium 226 Prep Batch 160-394396: The following samples were prepared at a reduced aliquot due to limited sample volume. MW-5 (490-160702-5), MW-6 (490-160702-6), MW-7 (490-160702-7), MW-8 (490-160702-8) and MW-10 (490-160702-9)

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

# Definitions/Glossary

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
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.

### Rad

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

## Glossary

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

# Client Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: MW-5**  
**Date Collected: 10/03/18 15:23**  
**Date Received: 10/08/18 14:48**

**Lab Sample ID: 490-160702-5**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	94.0	B	15.0	1.00	mg/L			10/14/18 14:44	5
Fluoride	0.126	J	1.00	0.0100	mg/L			10/13/18 22:42	1
Sulfate	1640	B	250	1.50	mg/L			10/14/18 14:56	50

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0382	J	0.0500	0.00959	mg/L		10/11/18 12:22	10/15/18 20:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00280	J	0.00500	0.000118	mg/L		10/11/18 12:25	10/12/18 15:47	1
Boron	0.755	J B	1.00	0.00339	mg/L		10/11/18 12:25	10/15/18 23:50	1
Calcium	471		1.00	0.0412	mg/L		10/11/18 12:25	10/12/18 15:47	1
Cobalt	0.00660		0.00500	0.0000218	mg/L		10/11/18 12:25	10/12/18 15:47	1
Iron	6.50		0.0500	0.0141	mg/L		10/11/18 12:25	10/12/18 15:47	1
Magnesium	232		1.00	0.0152	mg/L		10/11/18 12:25	10/12/18 15:47	1
Molybdenum	0.00389	J	0.0100	0.000873	mg/L		10/11/18 12:25	10/12/18 15:47	1
Potassium	7530		1000	136	ug/L		10/11/18 12:25	10/12/18 15:47	1
Sodium	78.9		1.00	0.251	mg/L		10/11/18 12:25	10/12/18 15:47	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.25		0.100	0.100	SU			10/12/18 18:17	1
Temperature	20.5		0.100	0.100	Degrees C			10/12/18 18:17	1
Bicarbonate Alkalinity as CaCO3	500		10.0	5.00	mg/L			10/09/18 17:22	1
Carbonate Alkalinity as CaCO3	ND		10.0	5.00	mg/L			10/09/18 17:22	1
Alkalinity	500		10.0	5.00	mg/L			10/09/18 17:22	1
Total Dissolved Solids	3200		20.0	14.0	mg/L			10/09/18 21:20	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.386		0.153	0.157	1.00	0.151	pCi/L	10/11/18 11:13	11/04/18 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					10/11/18 11:13	11/04/18 09:36	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	0.846		0.396	0.403	1.00	0.582	pCi/L	10/11/18 11:43	10/31/18 10:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					10/11/18 11:43	10/31/18 10:05	1
Y Carrier	80.4		40 - 110					10/11/18 11:43	10/31/18 10:05	1

# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: MW-5**  
**Date Collected: 10/03/18 15:23**  
**Date Received: 10/08/18 14:48**

**Lab Sample ID: 490-160702-5**  
**Matrix: Water**

**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	1.23		0.425	0.433	5.00	0.582	pCi/L		11/08/18 16:41	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Client Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: MW-6**  
**Date Collected: 10/04/18 11:05**  
**Date Received: 10/08/18 14:48**

**Lab Sample ID: 490-160702-6**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.16	B	3.00	0.200	mg/L			10/13/18 22:53	1
Fluoride	0.163	J	1.00	0.0100	mg/L			10/13/18 22:53	1
Sulfate	1590	B	250	1.50	mg/L			10/14/18 15:19	50

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0463	J	0.0500	0.00959	mg/L		10/11/18 12:22	10/15/18 20:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00592		0.00500	0.000118	mg/L		10/11/18 12:25	10/12/18 15:50	1
Boron	0.272	J B	1.00	0.00339	mg/L		10/11/18 12:25	10/16/18 00:04	1
Calcium	426		1.00	0.0412	mg/L		10/11/18 12:25	10/12/18 15:50	1
Cobalt	0.00666		0.00500	0.0000218	mg/L		10/11/18 12:25	10/12/18 15:50	1
Iron	6.44		0.0500	0.0141	mg/L		10/11/18 12:25	10/12/18 15:50	1
Magnesium	226		1.00	0.0152	mg/L		10/11/18 12:25	10/12/18 15:50	1
Molybdenum	0.00724	J	0.0100	0.000873	mg/L		10/11/18 12:25	10/12/18 15:50	1
Potassium	7140		1000	136	ug/L		10/11/18 12:25	10/12/18 15:50	1
Sodium	42.7		1.00	0.251	mg/L		10/11/18 12:25	10/12/18 15:50	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.93		0.100	0.100	SU			10/12/18 18:17	1
Temperature	20.5		0.100	0.100	Degrees C			10/12/18 18:17	1
Bicarbonate Alkalinity as CaCO3	520		10.0	5.00	mg/L			10/09/18 17:30	1
Carbonate Alkalinity as CaCO3	ND		10.0	5.00	mg/L			10/09/18 17:30	1
Alkalinity	520		10.0	5.00	mg/L			10/09/18 17:30	1
Total Dissolved Solids	3050		20.0	14.0	mg/L			10/11/18 21:59	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.596		0.176	0.184	1.00	0.131	pCi/L	10/11/18 11:13	11/04/18 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					10/11/18 11:13	11/04/18 09:36	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	0.839		0.382	0.390	1.00	0.561	pCi/L	10/11/18 11:43	10/31/18 10:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					10/11/18 11:43	10/31/18 10:05	1
Y Carrier	81.1		40 - 110					10/11/18 11:43	10/31/18 10:05	1

# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: MW-6**  
**Date Collected: 10/04/18 11:05**  
**Date Received: 10/08/18 14:48**

**Lab Sample ID: 490-160702-6**  
**Matrix: Water**

**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	1.44		0.421	0.431	5.00	0.561	pCi/L		11/08/18 16:41	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Client Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: MW-7**  
**Date Collected: 10/04/18 12:53**  
**Date Received: 10/08/18 14:48**

**Lab Sample ID: 490-160702-7**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21.9	B	3.00	0.200	mg/L			10/13/18 23:05	1
Fluoride	0.234	J	1.00	0.0100	mg/L			10/13/18 23:05	1
Sulfate	888	B	250	1.50	mg/L			10/14/18 15:54	50

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0273	J	0.0500	0.00959	mg/L		10/11/18 12:22	10/15/18 20:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00235	J	0.00500	0.000118	mg/L		10/11/18 12:25	10/12/18 15:53	1
Boron	0.395	J B	1.00	0.00339	mg/L		10/11/18 12:25	10/16/18 00:09	1
Calcium	271		1.00	0.0412	mg/L		10/11/18 12:25	10/12/18 15:53	1
Cobalt	0.00346	J	0.00500	0.0000218	mg/L		10/11/18 12:25	10/12/18 15:53	1
Iron	3.11		0.0500	0.0141	mg/L		10/11/18 12:25	10/12/18 15:53	1
Magnesium	113		1.00	0.0152	mg/L		10/11/18 12:25	10/12/18 15:53	1
Molybdenum	0.00358	J	0.0100	0.000873	mg/L		10/11/18 12:25	10/12/18 15:53	1
Potassium	4490		1000	136	ug/L		10/11/18 12:25	10/12/18 15:53	1
Sodium	29.1		1.00	0.251	mg/L		10/11/18 12:25	10/12/18 15:53	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.30		0.100	0.100	SU			10/12/18 18:17	1
Temperature	20.6		0.100	0.100	Degrees C			10/12/18 18:17	1
Bicarbonate Alkalinity as CaCO3	308		10.0	5.00	mg/L			10/09/18 17:36	1
Carbonate Alkalinity as CaCO3	ND		10.0	5.00	mg/L			10/09/18 17:36	1
Alkalinity	308		10.0	5.00	mg/L			10/09/18 17:36	1
Total Dissolved Solids	1750		20.0	14.0	mg/L			10/11/18 21:59	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.416		0.152	0.157	1.00	0.153	pCi/L	10/11/18 11:13	11/04/18 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					10/11/18 11:13	11/04/18 09:36	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	0.519		0.324	0.327	1.00	0.496	pCi/L	10/11/18 11:43	10/31/18 10:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					10/11/18 11:43	10/31/18 10:05	1
Y Carrier	83.4		40 - 110					10/11/18 11:43	10/31/18 10:05	1



# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: MW-7**

**Lab Sample ID: 490-160702-7**

**Date Collected: 10/04/18 12:53**

**Matrix: Water**

**Date Received: 10/08/18 14:48**

**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	0.935		0.358	0.363	5.00	0.496	pCi/L		11/08/18 16:41	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Client Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: MW-8**  
**Date Collected: 10/03/18 13:20**  
**Date Received: 10/08/18 14:48**

**Lab Sample ID: 490-160702-8**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.80	B	3.00	0.200	mg/L			10/13/18 23:16	1
Fluoride	0.246	J	1.00	0.0100	mg/L			10/13/18 23:16	1
Sulfate	799	B	100	0.600	mg/L			10/14/18 16:05	20

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0129	J	0.0500	0.00959	mg/L		10/11/18 12:22	10/15/18 21:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00757		0.00500	0.000118	mg/L		10/11/18 12:25	10/12/18 15:56	1
Boron	0.0388	J B	1.00	0.00339	mg/L		10/11/18 12:25	10/16/18 00:13	1
Calcium	207		1.00	0.0412	mg/L		10/11/18 12:25	10/12/18 15:56	1
Cobalt	0.000849	J	0.00500	0.0000218	mg/L		10/11/18 12:25	10/12/18 15:56	1
Iron	26.4		0.0500	0.0141	mg/L		10/11/18 12:25	10/12/18 15:56	1
Magnesium	127		1.00	0.0152	mg/L		10/11/18 12:25	10/12/18 15:56	1
Molybdenum	0.0137		0.0100	0.000873	mg/L		10/11/18 12:25	10/12/18 15:56	1
Potassium	2260		1000	136	ug/L		10/11/18 12:25	10/12/18 15:56	1
Sodium	42.2		1.00	0.251	mg/L		10/11/18 12:25	10/12/18 15:56	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.02		0.100	0.100	SU			10/12/18 18:17	1
Temperature	20.6		0.100	0.100	Degrees C			10/12/18 18:17	1
Bicarbonate Alkalinity as CaCO3	308		10.0	5.00	mg/L			10/09/18 17:43	1
Carbonate Alkalinity as CaCO3	ND		10.0	5.00	mg/L			10/09/18 17:43	1
Alkalinity	308		10.0	5.00	mg/L			10/09/18 17:43	1
Total Dissolved Solids	1560		10.0	7.00	mg/L			10/09/18 21:20	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.785		0.201	0.213	1.00	0.137	pCi/L	10/11/18 11:13	11/04/18 09:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.4		40 - 110					10/11/18 11:13	11/04/18 09:37	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	0.900		0.382	0.391	1.00	0.549	pCi/L	10/11/18 11:43	10/31/18 10:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.4		40 - 110					10/11/18 11:43	10/31/18 10:05	1
Y Carrier	83.4		40 - 110					10/11/18 11:43	10/31/18 10:05	1

# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: MW-8**  
**Date Collected: 10/03/18 13:20**  
**Date Received: 10/08/18 14:48**

**Lab Sample ID: 490-160702-8**  
**Matrix: Water**

**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	1.69		0.432	0.445	5.00	0.549	pCi/L		11/08/18 16:41	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: MW-10**  
**Date Collected: 10/05/18 09:12**  
**Date Received: 10/08/18 14:48**

**Lab Sample ID: 490-160702-9**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	59.2	B	15.0	1.00	mg/L			10/14/18 19:11	5
Fluoride	0.146	J	1.00	0.0100	mg/L			10/13/18 23:28	1
Sulfate	1850	B	250	1.50	mg/L			10/14/18 19:22	50

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0147	J	0.0500	0.00959	mg/L		10/11/18 12:22	10/15/18 21:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00102	J	0.00500	0.000118	mg/L		10/11/18 12:25	10/12/18 15:59	1
Boron	0.286	J B	1.00	0.00339	mg/L		10/11/18 12:25	10/16/18 00:18	1
Calcium	334		1.00	0.0412	mg/L		10/11/18 12:25	10/12/18 15:59	1
Cobalt	0.114		0.00500	0.0000218	mg/L		10/11/18 12:25	10/12/18 15:59	1
Iron	23.4		0.0500	0.0141	mg/L		10/11/18 12:25	10/12/18 15:59	1
Magnesium	226		1.00	0.0152	mg/L		10/11/18 12:25	10/12/18 15:59	1
Molybdenum	ND		0.0100	0.000873	mg/L		10/11/18 12:25	10/12/18 15:59	1
Potassium	3430		1000	136	ug/L		10/11/18 12:25	10/12/18 15:59	1
Sodium	135		1.00	0.251	mg/L		10/11/18 12:25	10/12/18 15:59	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.64		0.100	0.100	SU			10/12/18 18:17	1
Temperature	20.7		0.100	0.100	Degrees C			10/12/18 18:17	1
Bicarbonate Alkalinity as CaCO3	177		10.0	5.00	mg/L			10/09/18 17:55	1
Carbonate Alkalinity as CaCO3	ND		10.0	5.00	mg/L			10/09/18 17:55	1
Alkalinity	177		10.0	5.00	mg/L			10/09/18 17:55	1
Total Dissolved Solids	3120		20.0	14.0	mg/L			10/11/18 21:59	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.454		0.164	0.169	1.00	0.149	pCi/L	10/11/18 11:13	11/04/18 09:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					10/11/18 11:13	11/04/18 09:37	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	0.171	U	0.341	0.341	1.00	0.580	pCi/L	10/11/18 11:43	10/31/18 10:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					10/11/18 11:43	10/31/18 10:05	1
Y Carrier	80.0		40 - 110					10/11/18 11:43	10/31/18 10:05	1

# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: MW-10**  
**Date Collected: 10/05/18 09:12**  
**Date Received: 10/08/18 14:48**

**Lab Sample ID: 490-160702-9**  
**Matrix: Water**

**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	0.625		0.378	0.381	5.00	0.580	pCi/L		11/08/18 16:41	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Client Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: DUPE**  
**Date Collected: 10/04/18 13:28**  
**Date Received: 10/08/18 14:48**

**Lab Sample ID: 490-160702-10**  
**Matrix: Water**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18.7	B	3.00	0.200	mg/L			10/13/18 23:40	1
Fluoride	0.235	J	1.00	0.0100	mg/L			10/13/18 23:40	1
Sulfate	890	B	250	1.50	mg/L			10/14/18 19:57	50

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0274	J	0.0500	0.00959	mg/L		10/11/18 12:22	10/15/18 21:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00227	J	0.00500	0.000118	mg/L		10/11/18 12:25	10/12/18 16:02	1
Boron	0.393	J B	1.00	0.00339	mg/L		10/11/18 12:25	10/16/18 00:23	1
Calcium	271		1.00	0.0412	mg/L		10/11/18 12:25	10/12/18 16:02	1
Cobalt	0.00343	J	0.00500	0.0000218	mg/L		10/11/18 12:25	10/12/18 16:02	1
Iron	3.14		0.0500	0.0141	mg/L		10/11/18 12:25	10/12/18 16:02	1
Magnesium	112		1.00	0.0152	mg/L		10/11/18 12:25	10/12/18 16:02	1
Molybdenum	0.00371	J	0.0100	0.000873	mg/L		10/11/18 12:25	10/12/18 16:02	1
Potassium	4510		1000	136	ug/L		10/11/18 12:25	10/12/18 16:02	1
Sodium	28.6		1.00	0.251	mg/L		10/11/18 12:25	10/12/18 16:02	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.45		0.100	0.100	SU			10/12/18 18:17	1
Temperature	20.9		0.100	0.100	Degrees C			10/12/18 18:17	1
Bicarbonate Alkalinity as CaCO3	310		10.0	5.00	mg/L			10/09/18 18:02	1
Carbonate Alkalinity as CaCO3	ND		10.0	5.00	mg/L			10/09/18 18:02	1
Alkalinity	310		10.0	5.00	mg/L			10/09/18 18:02	1
Total Dissolved Solids	1710		20.0	14.0	mg/L			10/11/18 21:59	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.335		0.120	0.124	1.00	0.113	pCi/L	10/11/18 11:13	11/04/18 09:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					10/11/18 11:13	11/04/18 09:37	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	0.606		0.245	0.251	1.00	0.342	pCi/L	10/11/18 11:43	10/31/18 10:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					10/11/18 11:43	10/31/18 10:05	1
Y Carrier	84.9		40 - 110					10/11/18 11:43	10/31/18 10:05	1

# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: DUPE**

**Lab Sample ID: 490-160702-10**

**Date Collected: 10/04/18 13:28**

**Matrix: Water**

**Date Received: 10/08/18 14:48**

**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	0.941		0.273	0.280	5.00	0.342	pCi/L		11/08/18 16:41	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: FIELD BLANK**

**Lab Sample ID: 490-160702-11**

**Date Collected: 10/05/18 10:17**

**Matrix: Water**

**Date Received: 10/08/18 14:48**

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.386	J B	3.00	0.200	mg/L			10/14/18 00:14	1
Fluoride	ND		1.00	0.0100	mg/L			10/14/18 00:14	1
Sulfate	0.451	J B	5.00	0.0300	mg/L			10/14/18 00:14	1

### Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.0500	0.00959	mg/L		10/11/18 12:22	10/15/18 21:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.000165	J	0.00500	0.000118	mg/L		10/11/18 12:25	10/12/18 16:05	1
Boron	0.00448	J B	1.00	0.00339	mg/L		10/11/18 12:25	10/16/18 00:27	1
Calcium	0.108	J	1.00	0.0412	mg/L		10/11/18 12:25	10/12/18 16:05	1
Cobalt	ND		0.00500	0.0000218	mg/L		10/11/18 12:25	10/12/18 16:05	1
Iron	ND		0.0500	0.0141	mg/L		10/11/18 12:25	10/12/18 16:05	1
Magnesium	0.0322	J	1.00	0.0152	mg/L		10/11/18 12:25	10/12/18 16:05	1
Molybdenum	ND		0.0100	0.000873	mg/L		10/11/18 12:25	10/12/18 16:05	1
Potassium	ND		1000	136	ug/L		10/11/18 12:25	10/12/18 16:05	1
Sodium	ND		1.00	0.251	mg/L		10/11/18 12:25	10/12/18 16:05	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.02		0.100	0.100	SU			10/12/18 18:28	1
Temperature	20.9		0.100	0.100	Degrees C			10/12/18 18:28	1
Bicarbonate Alkalinity as CaCO3	ND		10.0	5.00	mg/L			10/09/18 18:07	1
Carbonate Alkalinity as CaCO3	ND		10.0	5.00	mg/L			10/09/18 18:07	1
Alkalinity	ND		10.0	5.00	mg/L			10/09/18 18:07	1
Total Dissolved Solids	13.0		10.0	7.00	mg/L			10/11/18 21:59	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.269		0.106	0.108	1.00	0.0930	pCi/L	10/11/18 11:13	11/04/18 09:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					10/11/18 11:13	11/04/18 09:37	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	0.414		0.229	0.232	1.00	0.341	pCi/L	10/11/18 11:43	10/31/18 10:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					10/11/18 11:43	10/31/18 10:05	1
Y Carrier	82.6		40 - 110					10/11/18 11:43	10/31/18 10:05	1



# Client Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: FIELD BLANK**

**Lab Sample ID: 490-160702-11**

Date Collected: 10/05/18 10:17

Matrix: Water

Date Received: 10/08/18 14:48

**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	0.683		0.252	0.256	5.00	0.341	pCi/L		11/08/18 16:41	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# QC Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 490-549904/3**  
**Matrix: Water**  
**Analysis Batch: 549904**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.3653	J	3.00	0.200	mg/L			10/13/18 20:57	1
Fluoride	ND		1.00	0.0100	mg/L			10/13/18 20:57	1
Sulfate	0.4182	J	5.00	0.0300	mg/L			10/13/18 20:57	1

**Lab Sample ID: LCS 490-549904/4**  
**Matrix: Water**  
**Analysis Batch: 549904**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.47		mg/L		105	80 - 120
Fluoride	1.00	0.9370	J	mg/L		94	80 - 120
Sulfate	10.0	9.512		mg/L		95	80 - 120

**Lab Sample ID: LCSD 490-549904/5**  
**Matrix: Water**  
**Analysis Batch: 549904**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.900		mg/L		99	80 - 120	6	20
Fluoride	1.00	0.9385	J	mg/L		94	80 - 120	0	20
Sulfate	10.0	9.507		mg/L		95	80 - 120	0	20

**Lab Sample ID: MB 490-549981/3**  
**Matrix: Water**  
**Analysis Batch: 549981**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.3083	J	3.00	0.200	mg/L			10/14/18 11:34	1
Fluoride	ND		1.00	0.0100	mg/L			10/14/18 11:34	1
Sulfate	0.4375	J	5.00	0.0300	mg/L			10/14/18 11:34	1

**Lab Sample ID: LCS 490-549981/4**  
**Matrix: Water**  
**Analysis Batch: 549981**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.705		mg/L		97	80 - 120
Fluoride	1.00	0.9103	J	mg/L		91	80 - 120
Sulfate	10.0	9.502		mg/L		95	80 - 120

**Lab Sample ID: LCSD 490-549981/5**  
**Matrix: Water**  
**Analysis Batch: 549981**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.703		mg/L		97	80 - 120	0	20
Fluoride	1.00	0.9176	J	mg/L		92	80 - 120	1	20
Sulfate	10.0	9.550		mg/L		95	80 - 120	0	20

TestAmerica Nashville

# QC Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

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

**Lab Sample ID: MB 490-549982/3**  
**Matrix: Water**  
**Analysis Batch: 549982**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.3001	J	3.00	0.200	mg/L			10/14/18 17:15	1
Fluoride	ND		1.00	0.0100	mg/L			10/14/18 17:15	1
Sulfate	0.4385	J	5.00	0.0300	mg/L			10/14/18 17:15	1

**Lab Sample ID: LCS 490-549982/5**  
**Matrix: Water**  
**Analysis Batch: 549982**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.785		mg/L		98	80 - 120
Fluoride	1.00	0.9130	J	mg/L		91	80 - 120
Sulfate	10.0	9.574		mg/L		96	80 - 120

**Lab Sample ID: LCSD 490-549982/6**  
**Matrix: Water**  
**Analysis Batch: 549982**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.700		mg/L		97	80 - 120	1	20
Fluoride	1.00	0.9195	J	mg/L		92	80 - 120	1	20
Sulfate	10.0	9.565		mg/L		95	80 - 120	0	20

## Method: 6010C - Metals (ICP)

**Lab Sample ID: MB 180-259529/1-A**  
**Matrix: Water**  
**Analysis Batch: 259893**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 259529**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.0500	0.00959	mg/L		10/11/18 12:22	10/15/18 19:40	1

**Lab Sample ID: LCS 180-259529/2-A**  
**Matrix: Water**  
**Analysis Batch: 259893**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 259529**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	0.9399		mg/L		94	80 - 120

**Lab Sample ID: 490-160702-B-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 259893**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 259529**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.167		1.00	1.105		mg/L		94	75 - 125

# QC Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

## Method: 6010C - Metals (ICP) (Continued)

**Lab Sample ID: 490-160702-B-1-C MSD**  
**Matrix: Water**  
**Analysis Batch: 259893**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total Recoverable**  
**Prep Batch: 259529**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.167		1.00	1.118		mg/L		95	75 - 125	1	20

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

**Lab Sample ID: MB 180-259530/1-A**  
**Matrix: Water**  
**Analysis Batch: 259729**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 259530**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00500	0.000118	mg/L		10/11/18 12:25	10/12/18 15:06	1
Calcium	ND		1.00	0.0412	mg/L		10/11/18 12:25	10/12/18 15:06	1
Cobalt	ND		0.00500	0.0000218	mg/L		10/11/18 12:25	10/12/18 15:06	1
Iron	ND		0.0500	0.0141	mg/L		10/11/18 12:25	10/12/18 15:06	1
Magnesium	ND		1.00	0.0152	mg/L		10/11/18 12:25	10/12/18 15:06	1
Molybdenum	ND		0.0100	0.000873	mg/L		10/11/18 12:25	10/12/18 15:06	1
Potassium	ND		1000	136	ug/L		10/11/18 12:25	10/12/18 15:06	1
Sodium	ND		1.00	0.251	mg/L		10/11/18 12:25	10/12/18 15:06	1

**Lab Sample ID: MB 180-259530/1-A**  
**Matrix: Water**  
**Analysis Batch: 259998**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 259530**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.005538	J	1.00	0.00339	mg/L		10/11/18 12:25	10/15/18 22:45	1

**Lab Sample ID: LCS 180-259530/2-A**  
**Matrix: Water**  
**Analysis Batch: 259729**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 259530**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0400	0.04126		mg/L		103	80 - 120
Calcium	50.0	51.82		mg/L		104	80 - 120
Cobalt	0.500	0.4856		mg/L		97	80 - 120
Iron	11.0	11.63		mg/L		106	80 - 120
Magnesium	50.0	55.30		mg/L		111	80 - 120
Molybdenum	1.00	1.081		mg/L		108	80 - 120
Potassium	50000	49470		ug/L		99	80 - 120
Sodium	50.0	56.29		mg/L		113	80 - 120

**Lab Sample ID: LCS 180-259530/2-A**  
**Matrix: Water**  
**Analysis Batch: 259998**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 259530**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.9249	J	mg/L		92	80 - 120

# QC Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

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

**Lab Sample ID: 490-160702-B-2-C MS**  
**Matrix: Water**  
**Analysis Batch: 259729**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 259530**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Arsenic	0.00216	J	0.0400	0.04270		mg/L		101	75 - 125
Calcium	232		50.0	276.7	4	mg/L		89	75 - 125
Cobalt	0.00763		0.500	0.4490		mg/L		88	75 - 125
Iron	8.65		11.0	19.48		mg/L		98	75 - 125
Magnesium	75.0		50.0	121.8		mg/L		94	75 - 125
Molybdenum	0.00423	J	1.00	1.039		mg/L		104	75 - 125
Potassium	5220		50000	51850		ug/L		93	75 - 125
Sodium	43.5		50.0	93.76		mg/L		100	75 - 125

**Lab Sample ID: 490-160702-B-2-C MS**  
**Matrix: Water**  
**Analysis Batch: 259998**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 259530**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Boron	0.702	J B	1.00	1.621		mg/L		92	75 - 125

**Lab Sample ID: 490-160702-B-2-D MSD**  
**Matrix: Water**  
**Analysis Batch: 259729**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total Recoverable**  
**Prep Batch: 259530**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Arsenic	0.00216	J	0.0400	0.04199		mg/L		100	75 - 125	2	20
Calcium	232		50.0	276.5	4	mg/L		88	75 - 125	0	20
Cobalt	0.00763		0.500	0.4461		mg/L		88	75 - 125	1	20
Iron	8.65		11.0	19.91		mg/L		102	75 - 125	2	20
Magnesium	75.0		50.0	126.4		mg/L		103	75 - 125	4	20
Molybdenum	0.00423	J	1.00	1.039		mg/L		104	75 - 125	0	20
Potassium	5220		50000	51480		ug/L		93	75 - 125	1	20
Sodium	43.5		50.0	96.89		mg/L		107	75 - 125	3	20

**Lab Sample ID: 490-160702-B-2-D MSD**  
**Matrix: Water**  
**Analysis Batch: 259998**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total Recoverable**  
**Prep Batch: 259530**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Boron	0.702	J B	1.00	1.636		mg/L		93	75 - 125	1	20

## Method: 9040C - pH

**Lab Sample ID: LCS 490-549726/1**  
**Matrix: Water**  
**Analysis Batch: 549726**

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

Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits
		Added	Result				
pH	7.00	7.020		SU		100	98 - 103

# QC Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

## Method: 9040C - pH (Continued)

**Lab Sample ID: 490-160702-F-1 DU**  
**Matrix: Water**  
**Analysis Batch: 549726**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	RPD	
			Result	Qualifier				RPD	Limit
pH	5.30		5.300		SU		0	20	
Temperature	20.9		20.90		Degrees C		0	20	

**Lab Sample ID: LCS 490-549727/1**  
**Matrix: Water**  
**Analysis Batch: 549727**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
							Limit	Limit
pH	7.00	7.010		SU		100	98	103

**Lab Sample ID: 490-160702-11 DU**  
**Matrix: Water**  
**Analysis Batch: 549727**

**Client Sample ID: FIELD BLANK**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	RPD	
			Result	Qualifier				RPD	Limit
pH	6.02		6.000		SU		0.3	20	
Temperature	20.9		20.90		Degrees C		0	20	

## Method: SM 2320B - Alkalinity

**Lab Sample ID: MB 490-549239/5**  
**Matrix: Water**  
**Analysis Batch: 549239**

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

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bicarbonate Alkalinity as CaCO3	ND		10.0	5.00	mg/L		10/09/18 16:29	1	
Carbonate Alkalinity as CaCO3	ND		10.0	5.00	mg/L		10/09/18 16:29	1	
Alkalinity	ND		10.0	5.00	mg/L		10/09/18 16:29	1	

**Lab Sample ID: LCS 490-549239/6**  
**Matrix: Water**  
**Analysis Batch: 549239**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
							Limit	Limit
Alkalinity	100	93.05		mg/L		93	90	110

**Lab Sample ID: LCSD 490-549239/21**  
**Matrix: Water**  
**Analysis Batch: 549239**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
							Limit	Limit		
Alkalinity	100	93.45		mg/L		93	90	110	0	20

**Lab Sample ID: 490-160702-8 DU**  
**Matrix: Water**  
**Analysis Batch: 549239**

**Client Sample ID: MW-8**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	RPD	
			Result	Qualifier				RPD	Limit
Bicarbonate Alkalinity as CaCO3	308		307.2		mg/L		0.2	20	

TestAmerica Nashville

# QC Sample Results

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

## Method: SM 2320B - Alkalinity (Continued)

**Lab Sample ID: 490-160702-8 DU**  
**Matrix: Water**  
**Analysis Batch: 549239**

**Client Sample ID: MW-8**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Alkalinity	308		307.2		mg/L		0.2	20

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

**Lab Sample ID: MB 490-548691/1**  
**Matrix: Water**  
**Analysis Batch: 548691**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Dissolved Solids	ND		10.0	7.00	mg/L			10/11/18 21:59	1

**Lab Sample ID: LCS 490-548691/2**  
**Matrix: Water**  
**Analysis Batch: 548691**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

**Lab Sample ID: 490-160557-E-1 DU**  
**Matrix: Water**  
**Analysis Batch: 548691**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Total Dissolved Solids	1900		1938		mg/L		2	20

**Lab Sample ID: 490-160702-9 DU**  
**Matrix: Water**  
**Analysis Batch: 548691**

**Client Sample ID: MW-10**  
**Prep Type: Total/NA**

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Total Dissolved Solids	3120		3182		mg/L		2	20

**Lab Sample ID: MB 490-548839/1**  
**Matrix: Water**  
**Analysis Batch: 548839**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Dissolved Solids	ND		10.0	7.00	mg/L			10/09/18 21:20	1

**Lab Sample ID: LCS 490-548839/2**  
**Matrix: Water**  
**Analysis Batch: 548839**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits

# QC Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

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

**Lab Sample ID: 490-160702-F-1 DU**  
**Matrix: Water**  
**Analysis Batch: 548839**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	3560		3426		mg/L	-	4	20

**Lab Sample ID: 590-9580-C-1 DU**  
**Matrix: Water**  
**Analysis Batch: 548839**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	1520		1376		mg/L	-	10	20

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

**Lab Sample ID: MB 160-394396/23-A**  
**Matrix: Water**  
**Analysis Batch: 399193**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 394396**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1648		0.115	0.115	1.00	0.148	pCi/L	10/11/18 11:13	11/04/18 09:46	1
<b>Carrier</b>	<b>MB %Yield</b>	<b>MB Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	102		40 - 110					10/11/18 11:13	11/04/18 09:46	1

**Lab Sample ID: LCS 160-394396/1-A**  
**Matrix: Water**  
**Analysis Batch: 399190**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 394396**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	13.95		1.48	1.00	0.148	pCi/L	92	68 - 137
<b>Carrier</b>	<b>LCS %Yield</b>	<b>LCS Qualifier</b>	<b>Limits</b>						
Ba Carrier	103		40 - 110						

**Lab Sample ID: 600-174075-A-1-B DU**  
**Matrix: Water**  
**Analysis Batch: 399193**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 394396**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	Limit
Radium-226	0.701		0.5996		0.177	1.00	0.146	pCi/L	0.27	1
<b>Carrier</b>	<b>DU %Yield</b>	<b>DU Qualifier</b>	<b>Limits</b>							
Ba Carrier	110		40 - 110							



# QC Sample Results

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

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

**Lab Sample ID: MB 160-394403/23-A**  
**Matrix: Water**  
**Analysis Batch: 398411**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 394403**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2625	U	0.295	0.296	1.00	0.484	pCi/L	10/11/18 11:43	10/31/18 10:06	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					10/11/18 11:43	10/31/18 10:06	1
Y Carrier	81.5		40 - 110					10/11/18 11:43	10/31/18 10:06	1

**Lab Sample ID: LCS 160-394403/1-A**  
**Matrix: Water**  
**Analysis Batch: 398411**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 394403**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	14.4	15.33		1.70	1.00	0.469	pCi/L	106	56 - 140
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	103		40 - 110						
Y Carrier	81.9		40 - 110						

**Lab Sample ID: 600-174075-A-1-D DU**  
**Matrix: Water**  
**Analysis Batch: 398411**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 394403**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	1.26		0.9130		0.271	1.00	0.320	pCi/L	0.60	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	110		40 - 110							
Y Carrier	82.6		40 - 110							

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

**Lab Sample ID: 240-102353-A-1 DU**  
**Matrix: Water**  
**Analysis Batch: 400041**

**Client Sample ID: Duplicate**  
**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	0.388	U	0.5098		0.273	5.00	0.415	pCi/L	0.23	

# QC Association Summary

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

## HPLC/IC

### Analysis Batch: 549904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-5	MW-5	Total/NA	Water	9056A	
490-160702-6	MW-6	Total/NA	Water	9056A	
490-160702-7	MW-7	Total/NA	Water	9056A	
490-160702-8	MW-8	Total/NA	Water	9056A	
490-160702-9	MW-10	Total/NA	Water	9056A	
490-160702-10	DUPE	Total/NA	Water	9056A	
490-160702-11	FIELD BLANK	Total/NA	Water	9056A	
MB 490-549904/3	Method Blank	Total/NA	Water	9056A	
LCS 490-549904/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-549904/5	Lab Control Sample Dup	Total/NA	Water	9056A	

### Analysis Batch: 549981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-5	MW-5	Total/NA	Water	9056A	
490-160702-5	MW-5	Total/NA	Water	9056A	
490-160702-6	MW-6	Total/NA	Water	9056A	
490-160702-7	MW-7	Total/NA	Water	9056A	
490-160702-8	MW-8	Total/NA	Water	9056A	
MB 490-549981/3	Method Blank	Total/NA	Water	9056A	
LCS 490-549981/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-549981/5	Lab Control Sample Dup	Total/NA	Water	9056A	

### Analysis Batch: 549982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-9	MW-10	Total/NA	Water	9056A	
490-160702-9	MW-10	Total/NA	Water	9056A	
490-160702-10	DUPE	Total/NA	Water	9056A	
MB 490-549982/3	Method Blank	Total/NA	Water	9056A	
LCS 490-549982/5	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-549982/6	Lab Control Sample Dup	Total/NA	Water	9056A	

## Metals

### Prep Batch: 259529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-5	MW-5	Total Recoverable	Water	3005A	
490-160702-6	MW-6	Total Recoverable	Water	3005A	
490-160702-7	MW-7	Total Recoverable	Water	3005A	
490-160702-8	MW-8	Total Recoverable	Water	3005A	
490-160702-9	MW-10	Total Recoverable	Water	3005A	
490-160702-10	DUPE	Total Recoverable	Water	3005A	
490-160702-11	FIELD BLANK	Total Recoverable	Water	3005A	
MB 180-259529/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-259529/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
490-160702-B-1-B MS	Matrix Spike	Total Recoverable	Water	3005A	
490-160702-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

### Prep Batch: 259530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-5	MW-5	Total Recoverable	Water	3005A	

TestAmerica Nashville

# QC Association Summary

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

## Metals (Continued)

### Prep Batch: 259530 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-6	MW-6	Total Recoverable	Water	3005A	
490-160702-7	MW-7	Total Recoverable	Water	3005A	
490-160702-8	MW-8	Total Recoverable	Water	3005A	
490-160702-9	MW-10	Total Recoverable	Water	3005A	
490-160702-10	DUPE	Total Recoverable	Water	3005A	
490-160702-11	FIELD BLANK	Total Recoverable	Water	3005A	
MB 180-259530/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-259530/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
490-160702-B-2-C MS	Matrix Spike	Total Recoverable	Water	3005A	
490-160702-B-2-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

### Analysis Batch: 259729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-5	MW-5	Total Recoverable	Water	6020A	259530
490-160702-6	MW-6	Total Recoverable	Water	6020A	259530
490-160702-7	MW-7	Total Recoverable	Water	6020A	259530
490-160702-8	MW-8	Total Recoverable	Water	6020A	259530
490-160702-9	MW-10	Total Recoverable	Water	6020A	259530
490-160702-10	DUPE	Total Recoverable	Water	6020A	259530
490-160702-11	FIELD BLANK	Total Recoverable	Water	6020A	259530
MB 180-259530/1-A	Method Blank	Total Recoverable	Water	6020A	259530
LCS 180-259530/2-A	Lab Control Sample	Total Recoverable	Water	6020A	259530
490-160702-B-2-C MS	Matrix Spike	Total Recoverable	Water	6020A	259530
490-160702-B-2-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	6020A	259530

### Analysis Batch: 259893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-5	MW-5	Total Recoverable	Water	6010C	259529
490-160702-6	MW-6	Total Recoverable	Water	6010C	259529
490-160702-7	MW-7	Total Recoverable	Water	6010C	259529
490-160702-8	MW-8	Total Recoverable	Water	6010C	259529
490-160702-9	MW-10	Total Recoverable	Water	6010C	259529
490-160702-10	DUPE	Total Recoverable	Water	6010C	259529
490-160702-11	FIELD BLANK	Total Recoverable	Water	6010C	259529
MB 180-259529/1-A	Method Blank	Total Recoverable	Water	6010C	259529
LCS 180-259529/2-A	Lab Control Sample	Total Recoverable	Water	6010C	259529
490-160702-B-1-B MS	Matrix Spike	Total Recoverable	Water	6010C	259529
490-160702-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010C	259529

### Analysis Batch: 259998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-5	MW-5	Total Recoverable	Water	6020A	259530
490-160702-6	MW-6	Total Recoverable	Water	6020A	259530
490-160702-7	MW-7	Total Recoverable	Water	6020A	259530
490-160702-8	MW-8	Total Recoverable	Water	6020A	259530
490-160702-9	MW-10	Total Recoverable	Water	6020A	259530
490-160702-10	DUPE	Total Recoverable	Water	6020A	259530
490-160702-11	FIELD BLANK	Total Recoverable	Water	6020A	259530
MB 180-259530/1-A	Method Blank	Total Recoverable	Water	6020A	259530
LCS 180-259530/2-A	Lab Control Sample	Total Recoverable	Water	6020A	259530
490-160702-B-2-C MS	Matrix Spike	Total Recoverable	Water	6020A	259530

TestAmerica Nashville

# QC Association Summary

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

## Metals (Continued)

### Analysis Batch: 259998 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-B-2-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	6020A	259530

## General Chemistry

### Analysis Batch: 548691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-6	MW-6	Total/NA	Water	SM 2540C	
490-160702-7	MW-7	Total/NA	Water	SM 2540C	
490-160702-9	MW-10	Total/NA	Water	SM 2540C	
490-160702-10	DUPE	Total/NA	Water	SM 2540C	
490-160702-11	FIELD BLANK	Total/NA	Water	SM 2540C	
MB 490-548691/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 490-548691/2	Lab Control Sample	Total/NA	Water	SM 2540C	
490-160557-E-1 DU	Duplicate	Total/NA	Water	SM 2540C	
490-160702-9 DU	MW-10	Total/NA	Water	SM 2540C	

### Analysis Batch: 548839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-5	MW-5	Total/NA	Water	SM 2540C	
490-160702-8	MW-8	Total/NA	Water	SM 2540C	
MB 490-548839/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 490-548839/2	Lab Control Sample	Total/NA	Water	SM 2540C	
490-160702-F-1 DU	Duplicate	Total/NA	Water	SM 2540C	
590-9580-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	

### Analysis Batch: 549239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-5	MW-5	Total/NA	Water	SM 2320B	
490-160702-6	MW-6	Total/NA	Water	SM 2320B	
490-160702-7	MW-7	Total/NA	Water	SM 2320B	
490-160702-8	MW-8	Total/NA	Water	SM 2320B	
490-160702-9	MW-10	Total/NA	Water	SM 2320B	
490-160702-10	DUPE	Total/NA	Water	SM 2320B	
490-160702-11	FIELD BLANK	Total/NA	Water	SM 2320B	
MB 490-549239/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 490-549239/6	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 490-549239/21	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
490-160702-8 DU	MW-8	Total/NA	Water	SM 2320B	

### Analysis Batch: 549726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-5	MW-5	Total/NA	Water	9040C	
490-160702-6	MW-6	Total/NA	Water	9040C	
490-160702-7	MW-7	Total/NA	Water	9040C	
490-160702-8	MW-8	Total/NA	Water	9040C	
490-160702-9	MW-10	Total/NA	Water	9040C	
490-160702-10	DUPE	Total/NA	Water	9040C	
LCS 490-549726/1	Lab Control Sample	Total/NA	Water	9040C	
490-160702-F-1 DU	Duplicate	Total/NA	Water	9040C	

# QC Association Summary

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

## General Chemistry (Continued)

### Analysis Batch: 549727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-11	FIELD BLANK	Total/NA	Water	9040C	
LCS 490-549727/1	Lab Control Sample	Total/NA	Water	9040C	
490-160702-11 DU	FIELD BLANK	Total/NA	Water	9040C	

## Rad

### Prep Batch: 394396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-5	MW-5	Total/NA	Water	PrecSep-21	
490-160702-6	MW-6	Total/NA	Water	PrecSep-21	
490-160702-7	MW-7	Total/NA	Water	PrecSep-21	
490-160702-8	MW-8	Total/NA	Water	PrecSep-21	
490-160702-9	MW-10	Total/NA	Water	PrecSep-21	
490-160702-10	DUPE	Total/NA	Water	PrecSep-21	
490-160702-11	FIELD BLANK	Total/NA	Water	PrecSep-21	
MB 160-394396/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-394396/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
600-174075-A-1-B DU	Duplicate	Total/NA	Water	PrecSep-21	

### Prep Batch: 394403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-160702-5	MW-5	Total/NA	Water	PrecSep_0	
490-160702-6	MW-6	Total/NA	Water	PrecSep_0	
490-160702-7	MW-7	Total/NA	Water	PrecSep_0	
490-160702-8	MW-8	Total/NA	Water	PrecSep_0	
490-160702-9	MW-10	Total/NA	Water	PrecSep_0	
490-160702-10	DUPE	Total/NA	Water	PrecSep_0	
490-160702-11	FIELD BLANK	Total/NA	Water	PrecSep_0	
MB 160-394403/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-394403/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
600-174075-A-1-D DU	Duplicate	Total/NA	Water	PrecSep_0	

# Lab Chronicle

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: MW-5**  
**Date Collected: 10/03/18 15:23**  
**Date Received: 10/08/18 14:48**

**Lab Sample ID: 490-160702-5**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			549904	10/13/18 22:42	JHS	TAL NSH
Total/NA	Analysis	9056A		5			549981	10/14/18 14:44	JHS	TAL NSH
Total/NA	Analysis	9056A		50			549981	10/14/18 14:56	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	259529	10/11/18 12:22	NAM	TAL PIT
Total Recoverable	Analysis	6010C		1			259893	10/15/18 20:47	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	259530	10/11/18 12:25	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1			259729	10/12/18 15:47	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	259530	10/11/18 12:25	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1	1.0 mL	1.0 mL	259998	10/15/18 23:50	WTR	TAL PIT
Total/NA	Analysis	9040C		1			549726	10/12/18 18:17	MXX	TAL NSH
Total/NA	Analysis	SM 2320B		1	35 mL	35 mL	549239	10/09/18 17:22	MSP	TAL NSH
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	548839	10/09/18 21:20	AEC	TAL NSH
Total/NA	Prep	PrecSep-21			750.07 mL	1.0 g	394396	10/11/18 11:13	JLC	TAL SL
Total/NA	Analysis	903.0		1			399190	11/04/18 09:36	MAR	TAL SL
Total/NA	Prep	PrecSep_0			750.07 mL	1.0 g	394403	10/11/18 11:43	JLC	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	398411	10/31/18 10:05	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			400041	11/08/18 16:41	RTM	TAL SL

**Client Sample ID: MW-6**  
**Date Collected: 10/04/18 11:05**  
**Date Received: 10/08/18 14:48**

**Lab Sample ID: 490-160702-6**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			549904	10/13/18 22:53	JHS	TAL NSH
Total/NA	Analysis	9056A		50			549981	10/14/18 15:19	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	259529	10/11/18 12:22	NAM	TAL PIT
Total Recoverable	Analysis	6010C		1			259893	10/15/18 20:52	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	259530	10/11/18 12:25	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1			259729	10/12/18 15:50	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	259530	10/11/18 12:25	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1	1.0 mL	1.0 mL	259998	10/16/18 00:04	WTR	TAL PIT
Total/NA	Analysis	9040C		1			549726	10/12/18 18:17	MXX	TAL NSH
Total/NA	Analysis	SM 2320B		1	35 mL	35 mL	549239	10/09/18 17:30	MSP	TAL NSH
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	548691	10/11/18 21:59	AEC	TAL NSH
Total/NA	Prep	PrecSep-21			749.85 mL	1.0 g	394396	10/11/18 11:13	JLC	TAL SL
Total/NA	Analysis	903.0		1			399190	11/04/18 09:36	MAR	TAL SL
Total/NA	Prep	PrecSep_0			749.85 mL	1.0 g	394403	10/11/18 11:43	JLC	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	398411	10/31/18 10:05	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			400041	11/08/18 16:41	RTM	TAL SL

# Lab Chronicle

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: MW-7**  
**Date Collected: 10/04/18 12:53**  
**Date Received: 10/08/18 14:48**

**Lab Sample ID: 490-160702-7**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			549904	10/13/18 23:05	JHS	TAL NSH
Total/NA	Analysis	9056A		50			549981	10/14/18 15:54	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	259529	10/11/18 12:22	NAM	TAL PIT
Total Recoverable	Analysis	6010C		1			259893	10/15/18 20:58	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	259530	10/11/18 12:25	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1			259729	10/12/18 15:53	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	259530	10/11/18 12:25	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1	1.0 mL	1.0 mL	259998	10/16/18 00:09	WTR	TAL PIT
Total/NA	Analysis	9040C		1			549726	10/12/18 18:17	MXX	TAL NSH
Total/NA	Analysis	SM 2320B		1	35 mL	35 mL	549239	10/09/18 17:36	MSP	TAL NSH
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	548691	10/11/18 21:59	AEC	TAL NSH
Total/NA	Prep	PrecSep-21			750.01 mL	1.0 g	394396	10/11/18 11:13	JLC	TAL SL
Total/NA	Analysis	903.0		1			399190	11/04/18 09:36	MAR	TAL SL
Total/NA	Prep	PrecSep_0			750.01 mL	1.0 g	394403	10/11/18 11:43	JLC	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	398411	10/31/18 10:05	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			400041	11/08/18 16:41	RTM	TAL SL

**Client Sample ID: MW-8**  
**Date Collected: 10/03/18 13:20**  
**Date Received: 10/08/18 14:48**

**Lab Sample ID: 490-160702-8**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			549904	10/13/18 23:16	JHS	TAL NSH
Total/NA	Analysis	9056A		20			549981	10/14/18 16:05	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	259529	10/11/18 12:22	NAM	TAL PIT
Total Recoverable	Analysis	6010C		1			259893	10/15/18 21:03	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	259530	10/11/18 12:25	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1			259729	10/12/18 15:56	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	259530	10/11/18 12:25	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1	1.0 mL	1.0 mL	259998	10/16/18 00:13	WTR	TAL PIT
Total/NA	Analysis	9040C		1			549726	10/12/18 18:17	MXX	TAL NSH
Total/NA	Analysis	SM 2320B		1	35 mL	35 mL	549239	10/09/18 17:43	MSP	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	548839	10/09/18 21:20	AEC	TAL NSH
Total/NA	Prep	PrecSep-21			749.86 mL	1.0 g	394396	10/11/18 11:13	JLC	TAL SL
Total/NA	Analysis	903.0		1			399190	11/04/18 09:37	MAR	TAL SL
Total/NA	Prep	PrecSep_0			749.86 mL	1.0 g	394403	10/11/18 11:43	JLC	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	398411	10/31/18 10:05	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			400041	11/08/18 16:41	RTM	TAL SL

# Lab Chronicle

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: MW-10**

**Lab Sample ID: 490-160702-9**

**Date Collected: 10/05/18 09:12**

**Matrix: Water**

**Date Received: 10/08/18 14:48**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			549904	10/13/18 23:28	JHS	TAL NSH
Total/NA	Analysis	9056A		5			549982	10/14/18 19:11	JHS	TAL NSH
Total/NA	Analysis	9056A		50			549982	10/14/18 19:22	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	259529	10/11/18 12:22	NAM	TAL PIT
Total Recoverable	Analysis	6010C		1			259893	10/15/18 21:08	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	259530	10/11/18 12:25	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1			259729	10/12/18 15:59	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	259530	10/11/18 12:25	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1	1.0 mL	1.0 mL	259998	10/16/18 00:18	WTR	TAL PIT
Total/NA	Analysis	9040C		1			549726	10/12/18 18:17	MXX	TAL NSH
Total/NA	Analysis	SM 2320B		1	35 mL	35 mL	549239	10/09/18 17:55	MSP	TAL NSH
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	548691	10/11/18 21:59	AEC	TAL NSH
Total/NA	Prep	PrecSep-21			749.66 mL	1.0 g	394396	10/11/18 11:13	JLC	TAL SL
Total/NA	Analysis	903.0		1			399190	11/04/18 09:37	MAR	TAL SL
Total/NA	Prep	PrecSep_0			749.66 mL	1.0 g	394403	10/11/18 11:43	JLC	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	398411	10/31/18 10:05	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			400041	11/08/18 16:41	RTM	TAL SL

**Client Sample ID: DUPE**

**Lab Sample ID: 490-160702-10**

**Date Collected: 10/04/18 13:28**

**Matrix: Water**

**Date Received: 10/08/18 14:48**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			549904	10/13/18 23:40	JHS	TAL NSH
Total/NA	Analysis	9056A		50			549982	10/14/18 19:57	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	259529	10/11/18 12:22	NAM	TAL PIT
Total Recoverable	Analysis	6010C		1			259893	10/15/18 21:14	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	259530	10/11/18 12:25	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1			259729	10/12/18 16:02	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	259530	10/11/18 12:25	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1	1.0 mL	1.0 mL	259998	10/16/18 00:23	WTR	TAL PIT
Total/NA	Analysis	9040C		1			549726	10/12/18 18:17	MXX	TAL NSH
Total/NA	Analysis	SM 2320B		1	35 mL	35 mL	549239	10/09/18 18:02	MSP	TAL NSH
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	548691	10/11/18 21:59	AEC	TAL NSH
Total/NA	Prep	PrecSep-21			1000.16 mL	1.0 g	394396	10/11/18 11:13	JLC	TAL SL
Total/NA	Analysis	903.0		1			399190	11/04/18 09:37	MAR	TAL SL
Total/NA	Prep	PrecSep_0			1000.16 mL	1.0 g	394403	10/11/18 11:43	JLC	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	398411	10/31/18 10:05	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			400041	11/08/18 16:41	RTM	TAL SL



# Lab Chronicle

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

**Client Sample ID: FIELD BLANK**

**Lab Sample ID: 490-160702-11**

**Date Collected: 10/05/18 10:17**

**Matrix: Water**

**Date Received: 10/08/18 14:48**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			549904	10/14/18 00:14	JHS	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	259529	10/11/18 12:22	NAM	TAL PIT
Total Recoverable	Analysis	6010C		1			259893	10/15/18 21:19	RJG	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	259530	10/11/18 12:25	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1			259729	10/12/18 16:05	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	259530	10/11/18 12:25	NAM	TAL PIT
Total Recoverable	Analysis	6020A		1	1.0 mL	1.0 mL	259998	10/16/18 00:27	WTR	TAL PIT
Total/NA	Analysis	9040C		1			549727	10/12/18 18:28	MXX	TAL NSH
Total/NA	Analysis	SM 2320B		1	35 mL	35 mL	549239	10/09/18 18:07	MSP	TAL NSH
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	548691	10/11/18 21:59	AEC	TAL NSH
Total/NA	Prep	PrecSep-21			999.91 mL	1.0 g	394396	10/11/18 11:13	JLC	TAL SL
Total/NA	Analysis	903.0		1			399190	11/04/18 09:37	MAR	TAL SL
Total/NA	Prep	PrecSep_0			999.91 mL	1.0 g	394403	10/11/18 11:43	JLC	TAL SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	398411	10/31/18 10:05	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			400041	11/08/18 16:41	RTM	TAL SL

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

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

# Method Summary

Client: Big Rivers Electric Corporation  
Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
SDG: Wilson Station, Wilson Phase II - Landfill

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL NSH
6010C	Metals (ICP)	SW846	TAL PIT
6020A	Metals (ICP/MS)	SW846	TAL PIT
9040C	pH	SW846	TAL NSH
SM 2320B	Alkalinity	SM	TAL NSH
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL NSH
3005A	Preparation, Total Recoverable or Dissolved Metals	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 NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

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

# Accreditation/Certification Summary

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

## Laboratory: TestAmerica Nashville

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Kentucky (UST)	State Program	4	19	06-30-19
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.				
Analysis Method	Prep Method	Matrix	Analyte	
9040C		Water	pH	
9040C		Water	Temperature	
9056A		Water	Chloride	
9056A		Water	Fluoride	
9056A		Water	Sulfate	
SM 2320B		Water	Alkalinity	
SM 2320B		Water	Bicarbonate Alkalinity as CaCO3	
SM 2320B		Water	Carbonate Alkalinity as CaCO3	
SM 2540C		Water	Total Dissolved Solids	

## Laboratory: TestAmerica Pittsburgh

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-19
California	State Program	9	2891	04-30-19
Connecticut	State Program	1	PH-0688	09-30-20
Florida	NELAP	4	E871008	06-30-19
Illinois	NELAP	5	200005	06-30-19
Kansas	NELAP	7	E-10350	01-31-19
Louisiana	NELAP	6	04041	06-30-19
Nevada	State Program	9	PA00164	07-31-19
New Hampshire	NELAP	1	2030	04-04-19
New Jersey	NELAP	2	PA005	06-30-19
New York	NELAP	2	11182	03-31-19
North Carolina (WW/SW)	State Program	4	434	12-31-18
Oregon	NELAP	10	PA-2151	01-28-19
Pennsylvania	NELAP	3	02-00416	04-30-19
South Carolina	State Program	4	89014	04-30-19
Texas	NELAP	6	T104704528-15-2	03-31-19
US Fish & Wildlife	Federal		LE94312A-1	07-31-19
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-19
Virginia	NELAP	3	460189	09-14-19
West Virginia DEP	State Program	3	142	01-31-19
Wisconsin	State Program	5	998027800	08-31-19

## Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-19
ANAB	DoD ELAP		L2305	04-06-19
Arizona	State Program	9	AZ0813	12-08-18 *
California	State Program	9	2886	06-30-19
Connecticut	State Program	1	PH-0241	03-31-19

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

## Accreditation/Certification Summary

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

### Laboratory: TestAmerica St. Louis (Continued)

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

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

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

## COOLER RECEIPT FORM



Cooler Received/Opened On 10/8/2018@ 1448 490-160702 Chain of Custody

Time Samples Removed From Cooler \_\_\_\_\_ Time Samples Placed In Storage \_\_\_\_\_ (2 Hour Window)

- 1. Tracking # N/A (last 4 digits, FedEx) Courier: Client  
IR Gun ID\_31470368 \_\_\_\_\_ pH Strip Lot \_\_\_\_\_ Chlorine Strip Lot \_\_\_\_\_
- 2. Temperature of rep. sample or temp blank when opened: 4.2 Degrees Celsius
- 3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA
- 4. Were custody seals on outside of cooler? YES...NO...NA  
If yes, how many and where: 2 front
- 5. Were the seals intact, signed, and dated correctly? YES...NO...NA
- 6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) EA

- 7. Were custody seals on containers: YES NO and Intact YES...NO...NA  
Were these signed and dated correctly? YES...NO...NA
- 8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None
- 9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None
- 10. Did all containers arrive in good condition (unbroken)? YES...NO...NA
- 11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA
- 12. Did all container labels and tags agree with custody papers? YES...NO...NA
- 13a. Were VOA vials received? YES NO...NA
- b. Was there any observable headspace present in any VOA vial? YES...NO...NA



- 14. Was there a Trip Blank in this cooler? YES NO...NA If multiple coolers, sequence # NA

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

- 15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA
- b. Did the bottle labels indicate that the correct preservatives were used? YES...NO...NA
- 16. Was residual chlorine present? YES NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) EA

- 17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA
- 18. Did you sign the custody papers in the appropriate place? YES...NO...NA
- 19. Were correct containers used for the analysis requested? YES...NO...NA
- 20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) EA

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

- 21. Were there Non-Conformance issues at login? YES NO Was a NCM generated? YES...NO...# \_\_\_\_\_

**COOLER RECEIPT FORM**

Cooler Received/Opened On 10/8/2018@ 1448

Time Samples Removed From Cooler \_\_\_\_\_ Time Samples Placed In Storage \_\_\_\_\_ (2 Hour Window)

1. Tracking # N/A (last 4 digits, FedEx) Courier: Cl'eat  
 IR Gun ID\_31470368 \_\_\_\_\_ pH Strip Lot \_\_\_\_\_ Chlorine Strip Lot \_\_\_\_\_

2. Temperature of rep. sample or temp blank when opened: 3.3 Degrees Celsius

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

4. Were custody seals on outside of cooler? YES...NO...NA  
 If yes, how many and where: 2 front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) EA

7. Were custody seals on containers: YES  NO  and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used?  Bubblewrap  Plastic bag  Peanuts  Vermiculite  Foam Insert  Paper  Other None

9. Cooling process:  Ice  Ice-pack  Ice (direct contact)  Dry ice  Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES  NO  NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA



14. Was there a Trip Blank in this cooler? YES  NO  NA  If multiple coolers, sequence # NA

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

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used? YES...NO...NA

16. Was residual chlorine present? YES  NO  NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) EA

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) EA

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

21. Were there Non-Conformance issues at login? YES  NO  Was a NCM generated? YES  NO  # \_\_\_\_\_

BIS = Broken in shipment  
 Cooler Receipt Form.doc

**COOLER RECEIPT FORM**

Cooler Received/Opened On 10/8/2018 @ 1448

Time Samples Removed From Cooler \_\_\_\_\_ Time Samples Placed In Storage \_\_\_\_\_ (2 Hour Window)

1. Tracking # N/A (last 4 digits, FedEx) Courier: Clont  
 IR Gun ID\_31470368 \_\_\_\_\_ pH Strip Lot \_\_\_\_\_ Chlorine Strip Lot \_\_\_\_\_
2. Temperature of rep. sample or temp blank when opened: 2.1 Degrees Celsius
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA
4. Were custody seals on outside of cooler? YES...NO...NA  
 If yes, how many and where: 2 front
5. Were the seals intact, signed, and dated correctly? YES...NO...NA
6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) EA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA  
 Were these signed and dated correctly? YES...NO...NA
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None
9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)? YES...NO...NA
11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA
12. Did all container labels and tags agree with custody papers? YES...NO...NA
- 13a. Were VOA vials received? YES...NO...NA  
 b. Was there any observable headspace present in any VOA vial? YES...NO...NA



14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # NA

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

- 15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA  
 b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA
16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) EA

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA
18. Did you sign the custody papers in the appropriate place? YES...NO...NA
19. Were correct containers used for the analysis requested? YES...NO...NA
20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) EA

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

21. Were there Non-Conformance issues at login? YES...NO... Was a NCM generated? YES...NO...# \_\_\_\_\_

BIS = Broken in shipment  
 Cooler Receipt Form.doc



## COOLER RECEIPT FORM

Cooler Received/Opened On 10/8/2018@ 1448

Time Samples Removed From Cooler \_\_\_\_\_ Time Samples Placed In Storage \_\_\_\_\_ (2 Hour Window)

1. Tracking # N/A (last 4 digits, FedEx) Courier: Client  
IR Gun ID\_31470368 \_\_\_\_\_ pH Strip Lot \_\_\_\_\_ Chlorine Strip Lot \_\_\_\_\_
2. Temperature of rep. sample or temp blank when opened: 1.2 Degrees Celsius
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO... NA
4. Were custody seals on outside of cooler?  YES...NO...NA  
If yes, how many and where: 2 front
5. Were the seals intact, signed, and dated correctly?  YES...NO...NA
6. Were custody papers inside cooler?  YES...NO...NA
- I certify that I opened the cooler and answered questions 1-6 (initial) EA
7. Were custody seals on containers: YES  NO and Intact YES...NO... NA  
Were these signed and dated correctly? YES...NO... NA
8. Packing mat'l used?  Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None
9. Cooling process:  Ice Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)?  YES...NO...NA
11. Were all container labels complete (#, date, signed, pres., etc)?  YES...NO...NA
12. Did all container labels and tags agree with custody papers?  YES...NO...NA
- 13a. Were VOA vials received? YES... NO...NA
- b. Was there any observable headspace present in any VOA vial? YES...NO... NA



Larger than this.

14. Was there a Trip Blank in this cooler? YES  NO...NA If multiple coolers, sequence # N/A
- I certify that I unloaded the cooler and answered questions 7-14 (initial) EA
- 15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level?  YES...NO...NA
- b. Did the bottle labels indicate that the correct preservatives were used?  YES...NO...NA
16. Was residual chlorine present? YES... NO...NA
- I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) EA
17. Were custody papers properly filled out (ink, signed, etc)?  YES...NO...NA
18. Did you sign the custody papers in the appropriate place?  YES...NO...NA
19. Were correct containers used for the analysis requested?  YES...NO...NA
20. Was sufficient amount of sample sent in each container?  YES...NO...NA
- I certify that I entered this project into LIMS and answered questions 17-20 (initial) EA
- I certify that I attached a label with the unique LIMS number to each container (initial) EA
21. Were there Non-Conformance issues at login? YES... NO Was a NCM generated? YES...NO...# \_\_\_\_\_



**COOLER RECEIPT FORM**

Cooler Received/Opened On 10/8/2018@ 1446

Time Samples Removed From Cooler \_\_\_\_\_ Time Samples Placed In Storage \_\_\_\_\_ (2 Hour Window)

1. Tracking # NA (last 4 digits, FedEx) Courier: Client  
 IR Gun ID 31470368 pH Strip Lot \_\_\_\_\_ Chlorine Strip Lot \_\_\_\_\_
2. Temperature of rep. sample or temp blank when opened: 5.2 Degrees Celsius
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA
4. Were custody seals on outside of cooler? YES...NO...NA  
 If yes, how many and where: 2 front
5. Were the seals intact, signed, and dated correctly? YES...NO...NA
6. Were custody papers inside cooler? YES...NO...NA
- I certify that I opened the cooler and answered questions 1-6 (initial) ES
7. Were custody seals on containers: YES NO and Intact YES...NO...NA  
 Were these signed and dated correctly? YES...NO...NA
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None
9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)? YES...NO...NA
11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA
12. Did all container labels and tags agree with custody papers? YES...NO...NA
- 13a. Were VOA vials received? YES NO...NA
- b. Was there any observable headspace present in any VOA vial? YES...NO...NA



14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # NA
- I certify that I unloaded the cooler and answered questions 7-14 (initial) ES
- 15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA
- b. Did the bottle labels indicate that the correct preservatives were used? YES...NO...NA
16. Was residual chlorine present? YES NO...NA
- I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) ES
17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA
18. Did you sign the custody papers in the appropriate place? YES...NO...NA
19. Were correct containers used for the analysis requested? YES...NO...NA
20. Was sufficient amount of sample sent in each container? YES...NO...NA
- I certify that I entered this project into LIMS and answered questions 17-20 (initial) ES
- I certify that I attached a label with the unique LIMS number to each container (initial) ES
21. Were there Non-Conformance issues at login? YES...NO... Was a NCM generated? YES...NO...# \_\_\_\_\_



**TestAmerica Nashville**  
2960 Foster Creighton Drive

### Chain of Custody Record

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Nashville, TN 37204-3719  
phone 615.726.0177 fax 615.726.3404

Client Contact: Greg Dick  
Company: Big Rivers Electric Corporation  
Address: PO Box 24  
City/State/Zip: Henderson, KY 42419  
(270) 844-6010 Phone  
(xxx) xxx-xxxx FAX  
Project Name: WL CCR Groundwater  
Site: Wilson Station, Wilson Phase II - Landfill (WL)  
P O #: Purchase Order-see DOCs

Regulatory Program:  DW  NPDES  RCRA  Other: Coal Combustion Residuals (CCR)

Project Manager: Samantha Howard  
Tel/Fax: (270) 844-6027  
Date: 10/08/2018  
Carrier: FedEx

Site Contact: Greg Dick  
Lab Contact: Roxanne Cisneros  
COC No: 1 of 2 COCs

Sampler: Greg Dick  
For Lab Use Only:  
Walk-in Client:   
Lab Sampling:   
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (G=Comp, G=Grab)	Matrix	# of Cont.	Analysis Turnaround Time		Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	320B, 9040C, 9050A, 9056A, ORGFM	2540C, Calcd - TDS	Sample Specific Notes:
						CALENDAR DAYS	WORKING DAYS					
MW-5	10/3/18	1523	G	Water	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N	X	X	X	
MW-6	10/4/18	1105	G	Water	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N	X	X	X	
MW-7	10/4/18	1253	G	Water	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N	X	X	X	
MW-8	10/3/18	1320	G	Water	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N	X	X	X	
MW-10	10/5/18	0912	G	Water	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N	X	X	X	
DUPE	10/4/18	1328	G	Water	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N	X	X	X	
FIELD BLANK	10/5/18	1017	G	Water	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N	X	X	X	
						<input checked="" type="checkbox"/>	<input type="checkbox"/>		4	4	7	

**Preservation Used:** 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other, 7= None

**Possible Hazard Identification:**  
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

**Special Instructions/QC Requirements & Comments:** Standard TAT; Run samples per protocol/methodology prescribed in 40 CFR Part 257 (Federal CCR Regulations). See attached constituent list for analysis.

Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months

Custody Seal No.: \_\_\_\_\_  
 Relinquished by:  Yes  No  
 Relinquished by: \_\_\_\_\_  
 Relinquished by: *Greg Dick*  
 Date/Time: 10/8/18 1451  
 Date/Time: \_\_\_\_\_  
 Date/Time: 10/5/18 1451  
 Company: BREC  
 Company: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Date/Time: 10-5-18 1451



1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14

2 of 2

**40 CFR 257 Constituents  
Wilson Phase II Landfill Constituent List:**

**Appendix III**

- Boron
- Calcium
- Chloride
- Fluoride
- pH
- Sulfate
- Total Dissolved Solids (TDS)

*Muz Dib*  
BREC  
10/8/2018  
1451

**Appendix IV**

- Arsenic
- Cobalt
- Lithium
- Molybdenum
- Radium 226 & 228 combined

**Additional Constituents**

- Total Alkalinity
- Iron
- Magnesium
- Potassium
- Sodium

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



490-160702 Waybill

# TestAmerica

ENVIRONMENTAL TESTING



490-160519 Waybill

TEST AMERICA  
 2360 FOSTER CREIGHTON DR  
 NASHVILLE, TN 37204  
 UNITED STATES US

TO SHIPPING/RECEIVING  
 TESTAMERICA LABORATORIES, INC.  
 301 ALPHA DRIVE  
 RIDC PARK  
 PITTSBURGH PA 15238

SHIP DATE: 09OCT18  
 ACTWGT: 10.00 LB MAN  
 CAD: 820425/CAFE3211

(412) 968-7068  
 PO: YES

REF: S490-90440



490-160703 Waybill



WED - 10 OCT 10:30A  
 PRIORITY OVERNIGHT

PA-US 15238  
 PIT

TRK# 0201 4587 8110 3560  
**NA AGCA**

Uncorrected temp  
 Thermometer ID

Initials

24  
 9  
 °C

effective 7/28/13

TestAmerica  
 Temperature Control

THIS PACKAGE CONTAINS WET ICE REFRIGERATE

SHIP DATE: 10/10/18  
 10:30  
 RT 97  
 FZ

THIS PACKAGE IS DELAYED IN TRANSIT. GENERATED AT 10:30 C / 36° TO 47° F

TAL:0090(1016)

**fragile**  
 HANDLE WITH CARE

2960 Foster Creighton Drive  
Nashville, TN 37204  
Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>	Client Contact: TestAmerica Laboratories, Inc.	Phone: 13715 Rider Trail North, 11/22/2018	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 490-79979-1
Shipping/Receiving	Company: TestAmerica Laboratories, Inc.	Address: 13715 Rider Trail North, 11/22/2018	E-Mail: roxanne.cisneros@testamericainc.com	State of Origin: Kentucky	Page: Page 1 of 2
City: Earth City	State Zip: MO, 63045	TAT Requested (days):	Accreditations Required (See note): State Program - Kentucky (UST)	Job #:	490-160702-2
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	Project Name: WL 2nd Semi-Annual Groundwater	Project #: 49010431	Analysis Requested	Preservation Codes:	A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsN6O2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)
Email: Big Rivers CCR	Site: WL 2nd Semi-Annual Groundwater	SSOW#:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Soil, Overstall, BT-Tissue, A&M)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
MMW-1 (490-160702-1)	10/3/18	11:18	Central	Water		X	X	X	X	X	2	run once - run once - upload data 3 times
MMW-3 (490-160702-2)	10/5/18	13:05	Central	Water		X	X	X	X	X	2	run once - upload data twice
MMW-4 (490-160702-3)	10/5/18	11:09	Central	Water		X	X	X	X	X	2	run once - upload data twice
DUPE (490-160702-4)	10/5/18	13:29	Central	Water		X	X	X	X	X	2	run once - upload data twice
MMW-5 (490-160702-5)	10/3/18	15:23	Central	Water		X	X	X	X	X	2	run once - upload data twice
MMW-6 (490-160702-6)	10/4/18	11:05	Central	Water		X	X	X	X	X	2	run once - upload data twice
MMW-7 (490-160702-7)	10/4/18	12:53	Central	Water		X	X	X	X	X	2	run once - upload data twice
MMW-8 (490-160702-8)	10/3/18	13:20	Central	Water		X	X	X	X	X	2	run once - upload data twice
MMW-10 (490-160702-9)	10/5/18	09:12	Central	Water		X	X	X	X	X	2	run once - upload data twice

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. 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/estimates/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification

Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_

Relinquished by: *Walter J. [Signature]* Date/Time: *10-9-18 1335* Company: *TANAS*

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact: A Yes A No Custody Seal No.: \_\_\_\_\_

Received by: *Michael [Signature]* Date/Time: *10-10-18 0905* Company: *TA52*

Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_

TestAmerica Nashville  
 2960 Foster Creighton Drive  
 Nashville, TN 37204  
 Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier/Tracking No(s):	COC No:
Client Contact:	Shipping/Receiving	Phone:	E-Mail:	Sate of Origin:	490-79979.2
Company:	TestAmerica Laboratories, Inc.		roxanne.cisneros@lestamericainc.com	Kentucky	Page 2 of 2
Address:	13715 Rider Trail North,	Due Date Requested:	Accreditations Required (See note):	State Program - Kentucky (UST)	Job #:
City:	Earth City	11/2/2018			490-160702-2
State, Zip:	MO, 63045	TAT Requested (days):			Preservation Codes:
Phone:	314-298-8566(Tel) 314-298-8757(Fax)				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 M - Hexane N - None O - AsHNO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (Specify)
Project Name:	WL 2nd Semi-Annual Groundwater	Project #:	Field Filtered Sample (Yes or No)		Other:
Site:	Big Rivers CCR	49010431	Perform MS/MSD (Yes or No)		
		SSDW#:	903.0/PrecSep_21 Standard Target List		
			904.0/PrecSep_0 Standard Target List		
			Ra226Ra228_GFPC		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=C-comp, G=grab)	Matrix (Water, Soil, Over-sat, BT-tissue, A=Ab)	Preservation Code:	Analysis Requested				Total Number of containers	Special Instructions/Note:
						Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List		
DUPE (490-160702-10)	10/4/18	13:28	Central	Water		X	X	X	2	run once - upload data twice	
FIELD BLANK (490-160702-11)	10/5/18	10:17	Central	Water		X	X	X	2	run once - upload data twice	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

**Possible Hazard Identification**  
 Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_ Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client     Disposal By Lab     Archive For \_\_\_\_\_ Months

Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
<i>Matt BSA</i>	10-9-18 @ 1205	THNS	<i>Michael Flynn</i>	10-10-18 0845	THS2
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact:  Yes  No    Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

## Login Sample Receipt Checklist

Client: Big Rivers Electric Corporation

Job Number: 490-160702-6  
SDG Number: Wilson Station, Wilson Phase II - Landfill

**Login Number: 160702**

**List Number: 3**

**Creator: Hellm, Michael**

**List Source: TestAmerica St. Louis**

**List Creation: 10/10/18 12:21 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> 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.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	21.0
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 <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Tracer/Carrier Summary

Client: Big Rivers Electric Corporation  
 Project/Site: WL CCR Groundwater

TestAmerica Job ID: 490-160702-5  
 SDG: Wilson Station, Wilson Phase II - Landfill

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Ba Carrier (40-110)	Percent Yield (Acceptance Limits)
490-160702-5	MW-5	98.2	
490-160702-6	MW-6	104	
490-160702-7	MW-7	104	
490-160702-8	MW-8	99.4	
490-160702-9	MW-10	97.1	
490-160702-10	DUPE	104	
490-160702-11	FIELD BLANK	103	
600-174075-A-1-B DU	Duplicate	110	
LCS 160-394396/1-A	Lab Control Sample	103	
MB 160-394396/23-A	Method Blank	102	

**Tracer/Carrier Legend**  
 Ba Carrier = Ba Carrier

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Ba Carrier (40-110)	Y Carrier (40-110)	Percent Yield (Acceptance Limits)
490-160702-5	MW-5	98.2	80.4	
490-160702-6	MW-6	104	81.1	
490-160702-7	MW-7	104	83.4	
490-160702-8	MW-8	99.4	83.4	
490-160702-9	MW-10	97.1	80.0	
490-160702-10	DUPE	104	84.9	
490-160702-11	FIELD BLANK	103	82.6	
600-174075-A-1-D DU	Duplicate	110	82.6	
LCS 160-394403/1-A	Lab Control Sample	103	81.9	
MB 160-394403/23-A	Method Blank	102	81.5	

**Tracer/Carrier Legend**  
 Ba Carrier = Ba Carrier  
 Y Carrier = Y Carrier



**Attachment C**  
**Statistical Evaluation**

## **D.B. WILSON (PHASE II) LANDFILL STATISTICAL PROCEDURES AND RESULTS**

Following receipt of the 2018 Assessment groundwater monitoring results conducted under the requirements of the CCR rule (40 CFR257.95), Appendix III and IV groundwater quality data were evaluated using an interwell approach that statistically compared constituent concentrations at downgradient monitoring wells to those present at a background monitoring well. For the D.B. Wilson (Phase II) landfill, monitoring well MW-8 is designated as the background well because it is located upgradient, whereas monitoring wells MW-5, MW-6, MW-7, and MW-10 are designated as compliance wells because they are located downgradient.

The statistical analyses were performed in accordance with the U.S. Environmental Protection Agency's Final CCR Rule 40 CFR Parts 257.93(f), 257.93(g), and 257.93(h) and the Groundwater Monitoring System and Statistical Methods Certification. Prediction limits (i.e., parametric or nonparametric) with 1 of 2 retesting were developed for each constituent based on the frequency of non-detect values and whether the background data for that constituent exhibited a normal, lognormal, or nonparametric distribution. For the statistical analysis, non-detect values were represented as one-half the detection limit. No outliers were identified in the background data. Analytical data from the background monitoring well collected between April 2016 and July 2018 were used to develop an upper prediction limit (UPL) for the Appendix III and IV background data at 95 percent confidence. Data from the downgradient monitoring wells for the same time period were compared to the UPL to identify statistically significant increases (SSIs) over background. Mann-Kendall trend analysis was used to identify statistically significant increasing trends for constituents with SSIs. ProUCL Version 5.1 was used to store the data and run the statistical analyses. The results of the analyses, including the Appendix III and IV UPLs, are provided in Tables 1 and 2.

The statistical analysis results indicate that Appendix III constituents boron, calcium, chloride, pH, sulfate, and total dissolved solids (TDS) at monitoring well MW-5; boron calcium, sulfate and TDS at monitoring well MW-6; boron and chloride at monitoring well MW-7; and boron, calcium, chloride, sulfate, and TDS at monitoring well MW-10 have SSIs over background that were confirmed by subsequent sampling events (Table 3). pH at monitoring well MW-10 had a SSI below its lower prediction limit (LPL) that was confirmed by subsequent sampling events. Fluoride did not have any verified SSIs over background. Based on these results, Assessment monitoring is required to continue at the landfill on a semi-annual basis.

Statistical analysis of the April 2018 Appendix IV assessment monitoring results also indicate that cobalt and lithium at monitoring wells MW-5, MW-6, and MW-7 and cobalt at monitoring well MW-10 have SSIs over background that were confirmed by a subsequent re-sampling event in July 2018 (Table 4).

The Appendix IV constituents with SSIs were further evaluated to determine whether they are present at statistically significant levels (SSLs) over the groundwater protection standards (GWPS) by calculating the lower confidence limit (LCL) at 95% confidence for each well and constituent using the entire baseline, detection, and assessment monitoring results collected to date. For a constituent to be present at a SSL over the GWPS, its LCL must be greater than the GWPS. Table 5 provides a summary of the LCLs and GWPS for cobalt and lithium at monitoring wells MW-5, MW-6, MW-7, and MW-10. The results indicate that cobalt at monitoring well MW-10 (yellow highlight) is present as a SSL above the GWPS. The LCLs for the remaining wells and constituents are equal to or less than the GWPS and thus are not SSLs.

**Table 1. Well MW-8 Appendix III Constituents Background Upper Prediction Limits**

Parameter (Units)	Number of Samples	Percent Nondetects	Normal or Lognormal Distribution?	Statistical Test	Background Limit
Boron (mg/L)	10	0	Yes/No	Parametric	0.055
Calcium (mg/L)	10	0	No/No	Nonparametric	329
Chloride (mg/L)	10	0	Yes/Yes	Parametric	5.41
Fluoride (mg/L)	10	0	No/Yes	Parametric	0.91
pH (std units)	11	0	Yes/Yes	Parametric	6.15/6.75
Sulfate (mg/L)	10	0	Yes/Yes	Parametric	971
TDS (mg/L)	10	0	Yes/Yes	Parametric	1676

Note: pH has both a lower prediction limit (LPL) and upper prediction limit (UPL); all other constituents are represented as UPLs

**Table 2. Well MW-8 Appendix IV Constituents Background Upper Prediction Limits**

Parameter (Units)	Number of Samples	Percent Nondetects	Normal or Lognormal Distribution?	Statistical Test	Background Limit (mg/L)
Antimony (mg/L)	10	30	No/No	Nonparametric	0.002
Arsenic (mg/L)	10	0	Yes/Yes	Parametric	0.009
Barium (mg/L)	10	0	Yes/Yes	Parametric	0.026
Beryllium (mg/L)	10	100	No/No	Nonparametric	0.002
Cadmium (mg/L)	10	100	No/No	Nonparametric	0.001
Chromium (mg/L)	10	80	No/No	Nonparametric	0.03
Cobalt (mg/L)	10	10	Yes/Yes	Parametric	0.0016
Fluoride (mg/L)	10	0	No/Yes	Parametric	0.91
Lead (mg/L)	10	100	No/No	Nonparametric	0.005
Lithium (mg/L)	10	40	Yes/Yes	Parametric	0.0149
Mercury (mg/L)	10	100	No/No	Nonparametric	0.0002
Molybdenum (mg/L)	10	0	Yes/Yes	Parametric	0.019
Ra-226+228 (pCi/L)	10	0	Yes/Yes	Parametric	1.36
Selenium (mg/L)	10	90	No/No	Nonparametric	0.01
Thallium (mg/L)	10	100	No/No	Nonparametric	0.001

Note: The UPL for constituents with 100 percent nondetects (Be, Cd, Pb, Hg, and Tl) is established as the laboratory analytical reporting limit.


**Table 3 Big Rivers D.B. Wilson (Phase II) Landfill Appendix III SSI Summary**

Well	Location	B	Ca	Cl	F	pH (LPL/UPL)		SO4	TDS
MW-8	Upgradient	P	NP	P	P	P	P	P	P
MW-5	Downgradient								
MW-6	Downgradient								
MW-7	Downgradient								
MW-10	Downgradient								

**Notes:**

SSIs determined using interwell prediction limits; MW-8 is upgradient background well

P = parametric prediction limit; NP = nonparametric prediction limit

 Less than or equal to background upper prediction limit (UPL) or greater than lower prediction limit (LPL) for pH

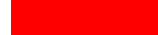
 Statistically significant increase (SSI) over background UPL or below background LPL for pH


Table 4 Big Rivers D.B. Wilson (Phase II) Landfill Appendix IV SSI Summary


Well	Location	Sb	As	Ba	Be	Cd	Cr	Co	F	Pb	Li	Hg	Mo	Ra-226+228	Se	Tl
MW-8	Upgradient	NP	P	P	NP	NP	NP	P	P	NP	P	NP	P	P	NP	NP
MW-5	Downgradient															
MW-6	Downgradient															
MW-7	Downgradient															
MW-10	Downgradient															

Notes:

SSIs determined using interwell prediction limits; MW-8 is upgradient background well

P = parametric prediction limit; NP = nonparametric prediction limit

 Less than or equal to background upper prediction limit (UPL) or greater than lower prediction limit (LPL) for pH

 Statistically significant increase (SSI) over background UPL or below background LPL for pH

**Table 5 Summary of LCLs and GWPS for Cobalt and Lithium**

<b>Well</b>	<b>Parameter</b>	<b>LCL</b>	<b>GWPS</b>
MW-5	Co	0.006	0.006
MW-6	Co	0.006	0.006
MW-7	Co	0.004	0.006
MW-10	Co	<b>0.081</b>	0.006
MW-5	Li	0.03	0.04
MW-6	Li	0.04	0.04
MW-7	Li	0.03	0.04

95%LCL = lower confidence limit at 95% confidence. Yellow highlighted results exhibit a statistically significant level (SSL) above the GWPS.